



Edited by
Theophilus Acheampong ·
Thomas Kojo Stephens

Petroleum Resource Management in Africa

Lessons from Ten Years
of Oil and Gas
Production in Ghana

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ISBN 978-3-030-83050-2 ISBN 978-3-030-83051-9 (eBook)
<https://doi.org/10.1007/978-3-030-83051-9>

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This Palgrave Macmillan imprint is published by the registered company Springer Nature Switzerland AG

The registered company address is: Gewerbestrasse 11, 6330 Cham, Switzerland

PREFACE

Ghana became an oil-producing country in December 2010 following the discovery of the play-opening Jubilee Field offshore Ghana in 2007 by a consortium of international oil companies (IOCs) and the Ghana National Petroleum Corporation (GNPC), Ghana's national oil company. Since then, oil and gas production and exports have become a fundamental component of the country's industrial economy and industrial strategy: crude oil currently accounts for about 25% of Ghana's exports by value while oil rents have increased to 3.63% of GDP between 2011 and 2019 from an average of 0.54% of GDP between 2000 and 2009.

Extractives, especially oil and gas extraction, are relevant to countries such as Ghana, which is continually looking to strengthen the contribution of the sector to national development, both from revenues generated and the associated direct and indirect impact value chain activities. However, the story of how well Ghana has managed this newfound wealth, after over a decade of production and exports, to drive inclusive growth and development, has not been fully and comprehensively told in a single volume. This is the gap that this book fills.

Thus, this book explores how Ghana has managed its newfound oil wealth and utilised the revenues to drive inclusive economic growth and development. This is particularly poignant given that Ghana's neighbours and peers, such as Nigeria, Angola, and Equatorial Guinea, which have been producing oil and gas for several decades, continue to suffer from

the “resource curse” or “paradox of plenty syndrome”, according to several established studies.

The opportunity to produce an edited volume on ten years of oil and gas production and exports in Ghana emerged from our various engagements in Ghana and sub-Saharan Africa’s extractives and development space over the period. We are privileged to have directly partaken in some of the policy discussions on the nascent oil and gas industry.

We express our sincere gratitude to all of the individual authors and contributors without whom this project would have remained a dream: Seyram Dzikunu; Fui S. Tsikata; Pierre Klein; Kweku Boateng; Tsatsu Tsikata; H.E. John Agyekum Kufuor; Jemima Nunoo; Nana Serwah Godson-Amamoo; Ferdinand D. Adadzi, Seth E. Terkper; Steve Manteaw; Emmanuel Graham; Austin Dziwornu Ablo; Abdallah Ali-Nakyea; Ishmael Ackah; Joseph Asenso; Benjamin Boakye; Jasper Abembia Ayelazuno; Ishmael Ayanoore; Victoria Nalule; Pauline Anaman; Berryl Claire Asiago; Hope Wanjira Miriti; and Kwamina Panford.

We are also grateful to the various peer reviewers and experts who helped sharpen the chapters. This includes Vivienne Gadzekpo, Former Head of Legal, Ministry of Energy; Kofi Mbiah, Former Chair of Legal Committee, International Maritime Organisation; Professor Alex Kemp, University of Aberdeen; Philip Liverpool, Former Commercial Director, Kosmos Ghana; Dr. Mohammed Amin Adam, Deputy Minister of Energy, Ghana, and Adwoa Wiafe, Head of Legal, GNPC.

A special thank you as well goes to Mrs. Mabel Andoh for proofreading the manuscript and suggesting writing enhancements.

We are eternally grateful to Palgrave Macmillan and the editorial team for the invitation to produce this volume. We acknowledge the encouragement and support from the very outset of this book project. In particular, we would like to thank Wyndham Hackett Pain, Economics Editor; Geetha Chockalingam, Project Coordinator; Srishti Gupta, Editorial Assistant; Lavanya Devgun, Editorial Assistant; Zobariya Jidda, and Anette Lindqvist.

We thank our families for the enormous support they provided to us while we worked strenuously on this important book project.

Above all, our thanks and appreciation go to God, the Almighty, for the gift of life and the successful publication of this book.

Aberdeen, Scotland
Accra, Ghana
August 2021

Theophilus Acheampong
Thomas Kojo Stephens

INTRODUCTION

Even without oil, we are doing so well... With oil as a shot in the arm, we're going to fly... We're going to really zoom... you come back in five years, and you'll see that Ghana truly is the African tiger, in economic terms for development... Oil is money, and we need money to do the schools, the roads, the hospitals... I assure you that if others failed, Ghana will succeed because this is our destiny to set the good pace for where we are. So, we're going to use it well.

—**John Agyekum Kufuor, Ghana's President (2001–2008), speaking at the formal announcement of the first commercial oil discovery in the country on 19 June 2007**

The above statement made by John Agyekum Kufuor, Ghana's former President, encapsulated the hopes and aspirations of many Ghanaian citizens following the discovery of commercial oil and gas resources off the country's coast in 2007. Commercial production of oil and gas in Ghana commenced in December 2010 following the discovery of the play-opening Jubilee Field offshore Ghana in 2007 by a consortium of international oil companies (IOCs) led by Tullow Ghana Limited, along with Kosmos Energy Ghana, Anadarko Petroleum Corporation, Sabre Oil and Gas Holdings Limited and the E.O. Group in conjunction with the

Ghana National Petroleum Corporation (GNPC), Ghana's national oil company.¹

Like many other petroleum-producing countries, the rapid growth of the upstream oil and gas industry in Ghana has been dependent on foreign direct investments led by IOCs and their partners with limited direct state participation, particularly in the exploration phase.² There has been a groundswell of exploration activity mostly located in the offshore Western Basin, with over 24 discoveries. As of end 2020, Ghana had signed eighteen (18) petroleum agreements with various contractors out of which there are three producing fields, namely Jubilee, Tweneboa Enyenra Ntomme (TEN) and Sankofa Gye Nyame (SGN). There are over ten petroleum agreements with limited or no exploration activity. Supplementing this are additional initiatives by GNPC and its partners to exploit onshore oil resources in the onshore Voltaian Basin, covering about 40% of Ghana's landmass.

Since the Jubilee discovery, Ghana's oil industry has grown despite significant headwinds such as the 2014–2017 slump in the world oil prices, a maritime boundary dispute with neighbouring Côte d'Ivoire, the coronavirus (COVID-19) pandemic, further slump in oil prices and now, a looming energy transition. The country has also sought to put in place several legislative and regulatory frameworks to ensure effective management of the industry and avoid the so-called resource curse and the Dutch disease which has afflicted several resource-rich countries, including several neighbouring ones.

¹ See <http://www.petrocom.gov.gh/discoveries.html>.

² The risks are highest in the exploration phase and so most governments in the developing world structure their petroleum agreements to have some sort of carried interest participation in which the state will bear its share of the exploration and development costs on successful discovery and appraisal. The state is sometimes even carried at the development phase and only begins to pay at the production stage.



Key milestones in Ghana's upstream oil and gas industry (*Source* Authors' construct)

Oil and gas production and exports have provided a critical boost to Ghana's economy over the past ten years. It has become a fundamental component of the country's industrial strategy and transition towards an upper-middle-income country, acting as the lever to provide jobs and energy security. For example, since 2010, Ghana has produced 453.89 million barrels of crude oil from three existing fields: Jubilee, Tweneboah Enyenra Ntomme (TEN) and Sankofa Gye Nyame (SGN). According to official statistics, Ghana has earned an estimated US\$6.55 billion in oil receipts from royalties, carried and participating interest (CAPI), corporate income taxes (CIT) and, to a lesser extent, surface rentals.³ Also, oil rents, which are the difference between the value of crude oil production at regional prices and total production costs, have increased to 3.63% of GDP between 2011 and 2019 from an average of 0.54% of GDP between 2000 and 2009, according to World Bank statistics.⁴

However, concerns have also been raised that Ghana, despite this newfound wealth, continues to grapple with poverty, inequality, lack of employment opportunities, conflicts over the use of maritime resources—especially for fishing—and a lack of linkages to help diversify the economy. Other negative externalities of Ghana's oil and gas industry often cited include rapid urbanisation of the Sekondi-Takoradi metropolis and the six coastal districts in the Western Region and oil discharges and pollution. These concerns raise both a philosophical and empirical question: how well have these panned out, and to what extent will they affect the future of oil and gas exploitation in Ghana? This question is also guided by recent literature which shows that countries can fall victim to the presource curse, whereby euphoria of, for example, bountiful natural revenues for development, is met with significant disappointment.⁵

³ See Ministry of Finance and the Public Interest and Accountability Committee (PIAC) reports. Available at: <https://mofep.gov.gh/publications/petroleum-reports> and <https://www.piacghana.org/portal/5/25/piac-reports>.

⁴ See <https://data.worldbank.org/indicator/NY.GDP.PETR.RT.ZS?end=2019&locations=GH&start=1971&view=chart>.

⁵ Bauer, A. and Mihalyi, D., 2018. Premature Funds: How Overenthusiasm and Bad Advice Can Leave Countries Poorer. NRG; Frynas, J.G. and Buur, L., 2020. The presource curse in Africa: Economic and political effects of anticipating natural resource revenues. *The Extractive Industries and Society*, 7(4), pp.1257-1270; Cust, J. and Mihalyi, D., 2017. The presource curse: Oil discoveries can lead first to jubilation then to economic

Against this background, we sought to document Ghana's recent oil and gas experiences into a comprehensive volume that captures the knowledge and expertise built since first oil in December 2010. This includes how global developments such as commodity price volatility and industry innovation have impacted in-country industrial development. It also touches on future events that are likely to impact Ghana and Africa's upstream oil and gas industry. This book is a compilation of leading work on petroleum resource management practices in an emerging petroleum-producing country context. We hope that this book will provide policymakers, industry and academia with a comprehensive distillation and synthesis of the operational context and the lessons learned. At the same time, the research findings in this book are articulated into a comprehensive series of core recommendations that serve as an international reference on Ghana's—and sub-Saharan Africa's—upstream oil and gas industry.

This book explores how Ghana has managed its newfound oil wealth and utilised the revenues to drive inclusive economic growth and development. This is particularly poignant given that Ghana's neighbours and peers, such as Nigeria, Angola and Equatorial Guinea that have been producing oil and gas for several decades, continue to suffer from the “paradox of plenty syndrome”. Extractives, especially oil and gas extraction, are relevant to countries such as Ghana, which is continually looking to strengthen the contribution that the sector can make to national development, from both revenues generated and the associated direct and indirect impact value chain activities.

A unique value add of this book is that it brings together active researchers, policymakers and practitioners in Ghana's oil and gas industry to comprehensively document the happenings in the industry over the past decade. It fills a significant gap in the existing literature; to the best of our knowledge, there is no such book currently available on the market that attempts to fully capture the range of issues that Ghana has faced as one of the newfound producer countries of the past decade. It also spans the gulf between academia and practice by being a well-referenced book, soundly underpinned by theory and practice.

jeopardy. *Finance & Development*, 54(004). Mihalyi, D. and Scurfield, T., 2020. How Africa's prospective petroleum producers fell victim to the presource curse. *The Extractive Industries and Society*.

The book covers the following broad themes split into four multi-disciplinary sections and eighteen (18) chapters with supporting appendices:

1. The industry developments during the past decade, and how they influence government, the IOCs and the sub-contractors operating in the country.
2. Channels that have been impacted by Ghana's economy and development outcomes.
3. Lessons from other petroleum-producing countries on petroleum sector management and governance during the last decade.

The **first part** of the book addresses issues of regulating and managing Ghana's upstream oil and gas industry. It begins with Chapter 1 by Thomas Kojo Stephens and Seyram Dzikunu, which assesses Ghana's upstream oil and gas licensing policies and legislative developments and how they have impacted the development of the oil industry. Tsatsu Tsikata follows this in Chapter 2, examining the GNPC and its contribution to Ghana's oil and gas industry. This chapter examines the current and historical political economy dynamics driving GNPC's overarching strategic objectives, including plans to become a world-class operator by 2027. Chapter 3, by John Agyekum Kufuor, examines his government's (2001–2008) role in Ghana's oil find. He recounts the strategy and policy changes adopted and the outcomes of these policies. The former includes targeting the right IOCs, block size management and focus on deepwater exploration, Board involvement in Joint Management Committee (JMC) meetings with the IOCs and retooling of GNPC staff and improvement in conditions of service.

In Chapter 4, Kwaku Boateng analyses how the Petroleum Commission, set up in 2011 and assuming responsibility as Ghana's upstream petroleum sector regulator, has performed on three core duties: regulatory, advisory and technocratic functions. Chapter 5 by Fui Tsikata examines the Ghana-Côte d'Ivoire maritime boundary dispute. It assesses what was at stake in the litigation—that is, more than 30,000 km² of maritime territory, a significant part of which Ghana had awarded exploration rights to oil companies over the years, and the resources contained therein. It also assesses the outcome of the ruling by the Special Chamber

of the International Tribunal of the Law of the Sea (ITLOS) which delimited the maritime boundary and pronounced on several related issues. In this same vein, Pierre Klein concludes the section in Chapter 6 by examining the teamwork and interaction between internal and external teams in the preparation and management of the Ghana-Côte d'Ivoire maritime boundary litigation. He argues that despite some linguistic hurdles and cultural differences, the close and constant cooperation between Ghana's internal and external teams ensured a very high degree of consistency and reliability of Ghana's position before the ITLOS Special Chamber.

Part two of this book assesses the impact of oil and gas on Ghana's socio-economy. Theophilus Acheampong and Abdallah Ali-Nakyea in Chapter 7 assess the competitiveness of Ghana's upstream petroleum fiscal regime vis-à-vis the twin goals of investment attraction and revenue maximisation. This chapter assesses the fiscal regime attractiveness against key features of optimal fiscal policy: efficiency of targeting economic rents, risk sharing, neutrality and progressiveness. In Chapter 8, Ishmael Ackah and Joe Asenso discuss the key fiscal policy implications of Ghana's continuous reliance on natural resource revenues. They also review the role of Ghana's fiscal institutions in managing the oil boom, the operational aspects and the political economy of fiscal policymaking in Ghana. In Chapter 9, Seth Terkper also reviews the fiscal framework and performance of Ghana's Petroleum Sovereign Wealth Fund (SWF). The arrangements under the petroleum revenue management law are to ensure a delicate but important balance of fiscal goals that include savings, spending, fiscal stabilisation, debt management, investment or development, and crisis management.

Austin Dziwornu Ablo, in Chapter 10, assesses the extent to which Ghana has gotten it right with local content and local participation, more so, given that in 2013, Ghana introduced a local content regulation (L.I. 2204) to help local participation in its nascent oil and gas sector as well as create other synergies with the broader economy. Ben Boakye, in Chapter 11, examines developments in Ghana's gas markets and how the burden of politics and institutional weaknesses continue to act as a constraint on unleashing the economic potential of gas for development.

Following this, **Part Three** of the book looks at the state of governance in Ghana's oil and gas industry. In Chapter 12, Ferdinand Adadzi, Nana Serwaa Godson-Amamoo, and Jemima Nunoo review Ghana's petroleum governance regime, identifying challenges and progress made. The chapter analyses and identifies the measures and institutions put in

place to ensure good governance, and outcomes of the country's oil and gas governance arrangements using industry metrics. The authors also use various case studies to illustrate how political economy and political settlement variables have impacted Ghana's oil industry governance outcomes. In Chapter 13, Steve Manteaw and Emmanuel Graham review the important role that civil society and other non-governmental organisations have played in the passage and implementation of policies and regulation and the social practices of oil and gas companies in Ghana. The chapter also analyses the Public Interest and Accountability Committee (PIAC), a citizens-led statutory body established under the petroleum revenue management law, to monitor and evaluate compliance by the government and other relevant institutions in managing and using petroleum revenue investments. Chapter 14, by Jasper Abembia Ayelazuno and Ishmael Ayanoore, examines social inequities and injustices of Ghana's oil and gas industry at two interrelated levels: global (international) and national (local). The chapter concludes by contemplating several radical interventions to address these inequities and injustices at both levels. Completing this section in Chapter 15 is Kwamina Panford who provides an overview of key developments and highlights of Ghana's oil and gas production from 2007 to 2020, major challenges and the policy and practical measures needed to optimise the use of these resources. The chapter stresses what Ghana has done right, what has not been done and/or done wrongly, and how this can be fixed.

The book's **final section** goes beyond Ghana to look at other petro-development issues in a wider African context. Victoria Nalule, Pauline Anaman and Theophilus Acheampong, in Chapter 16, assess the implications of the energy transition for the development of Africa's vast oil and gas resources. It further examines the existential question of how African nations would fund development if they are to give up on exploring newfound oil and gas resources due to climate concerns. In Chapter 17, Berryl Claire Asiago and Hope Wanjira Miriti document the experiences and lessons from other new African petroleum-producing nations on petroleum sector governance. The chapter reviews and compares the regulatory agents and bodies responsible for implementing local content policies to pursue equitable petroleum resource management in Uganda, Tanzania and Kenya.

The final chapter (Chapter 18) by Thomas Stephens and Theophilus Acheampong returns the gaze to Ghana and sub-Saharan Africa. It looks

more closely at the future of the oil and gas industry on the continent and the context for inclusive economic development and growth. The chapter draws on the main issues and recommendations arising from the preceding chapters. It then critically reflects on key aspects of petroleum resource management, including what revenue and non-revenue approaches could be adapted to not only enhance the value addition of Africa's petroleum industry, but critically, on inclusive development and poverty reduction.

CONTENTS

Part I Regulating and Managing Ghana’s Upstream Oil and Gas Industry	
1 Examining Ghana’s Petroleum Act, 2016 (Act 919) and Other Legislative Developments	3
Thomas Kojo Stephens and Seyram Dzikunu	
2 Role and Contribution of the Ghana National Petroleum Corporation (GNPC) as a National Oil Company: A Reflection	41
Tsatsu Tsikata	
3 On the Road to Ghana’s Jubilee Oil Discovery: Policy Actions and Initiatives	87
John Agyekum Kufuor	
4 Setting up a National Petroleum Regulator: The Petroleum Commission and Management of Ghana’s Petroleum Resources	101
Kwaku Boateng	
5 The Ghana-Côte D’Ivoire Maritime Boundary Dispute: A View from the Ghana Side	125
Fui S. Tsikata	

- 6 Teamwork and Interaction in the Preparation and Management of the Ghana-Côte D'Ivoire Maritime Boundary Litigation** 147
Pierre Klein

Part II Oil and Gas and Ghana's Economy

- 7 Competitiveness of Ghana's Upstream Petroleum Fiscal Regime: Fit for Purpose?** 157
Theophilus Acheampong and Abdallah Ali-Nakyea
- 8 Fiscal Policy and Petroleum Revenue Management: Is Ghana on the Path to Beating the Resource Curse?** 207
Joseph Kwadwo Asenso and Ishmael Ackah
- 9 The PRMA as Ghana's Petroleum-Based Sovereign Wealth Fund (SWF): Fiscal Framework and Performance** 255
Seth E. Terkper
- 10 Local Content and Local Participation in the Oil and Gas Industry: Has Ghana Gotten It Right?** 291
Austin Dziwornu Ablo and William Otchere-Darko
- 11 Utilising Ghana's Natural Gas Resources: Implications for Industrial Development and Inclusive Growth** 315
Benjamin Boakye

Part III Oil and Gas Governance and Lessons Learnt

- 12 The Ghanaian State and Governance of the Upstream Oil and Gas Industry** 349
Ferdinand D. Adadzi, Nana Serwah Godson-Amamoo, and Jemima Nunoo
- 13 Public Interest Organisations, Transparency Initiatives, and Petroleum Sector Oversight and Accountability** 403
Steve Manteaw and Emmanuel Graham
- 14 The Social Injustices of Ghana's Oil Industry** 449
Jasper Abembia Ayelazuno and Ishmael Ayanoo

15	Travails of Ghana’s Decade of Crude Oil Production and Exports: Lessons and Policy Prescriptions	483
	Kwamina Panford	
Part IV International Perspectives and Conclusions		
16	Energy Transition and Africa’s Oil and Gas Resources: Challenges and Opportunities	523
	Victoria R. Nalule, Pauline Anaman, and Theophilus Acheampong	
17	Use and Application of Local Content Policies to Pursue Equitable Petroleum Resource Management: Lessons from Other Producer Countries	573
	Berryl Claire Asiago and Hope Wanjira Miriti	
18	Conclusion: The Future of Ghana’s Petroleum Industry	607
	Thomas Kojo Stephens and Theophilus Acheampong	
	Index	627

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ABBREVIATIONS

ABFA	Annual Budget Funding Amount
ACEP	Africa Centre for Energy Policy
AETR	Average Effective Tax Rate
AOE	Additional Oil entitlement
AOGC	Accelerated Oil and Gas Capacity Building Programme
CEO	Chief Executive Officer
CQS	Common Qualification System
CSO	Civil Society Organisation
CSOs	Civil Society Organisations
CSR	Corporate Social Responsibility
DWT	Deepwater Tano
E&P	Exploration and Production
EDC	Enterprise Development Center
EITI	Extractive Industries Transparency Initiative
EPA	Environmental Protection Agency
EPC	Engineering, Procurement and Construction
EXPLORCO	Exploration and Production Company
FARI	Fiscal Analysis of Resource Industries
GHEITI	Ghana Extractive Industries Transparency Initiative
GHF	Ghana Heritage Fund
GMA	Ghana Maritime Authority
GNPC	The Ghana National Petroleum Corporation
GOGIG	Ghana Oil and Gas for Inclusive Growth
GOGIP	Ghana Oil & Gas Insurance Pool
GPF	Ghana Petroleum Funds
GRA	Ghana Revenue Authority

GSF	Ghana Stabilisation Fund
GUSIP	Ghana Upstream Sector Internship Programme
HSE	Health, Safety and Environment
ICJ	International Court of Justice
IGCs	Indigenous Ghanaian Companies
IOCs/FOCS	International Oil Companies/Foreign Oil Companies
ITLOS	International Tribunal of the Law of the Sea
JV	Joint Venture
KPIs	Key Performance Indicators
LNG	Liquefied Natural Gas
MET	Marginal Effective Tax Rate
MFAC	Marine Fisheries Advisory Committee
MoE	Ministry of Energy
MoF	Ministry of Finance
MoU	Memorandums of Understanding
NOC	National Oil Company
NPD	Norwegian Petroleum Directorate
NRGI	Natural Resource Governance Institute
OCTP	Offshore Cape Three Points
OECD	Organisation for Economic Co-operation and Development
OPCO	Operating Company
PA	Petroleum Agreement
PC	Petroleum Commission
PHF	Petroleum Holding Fund
PIAC	Public Interest and Accountability Committee
PIO	Public Interest Organisations
PNDCL	Provisional National Defence Council Law
PRMA	Petroleum Revenue Management Act
RGI	Resource Governance Index
SEC	State Enterprises Commission
SGN	Sankofa-Gye Nyame
SOE	State-Owned Enterprise
SOPCL	Saltpond Offshore Producing Company Limited
SSAF	Safe Sea Access Framework
SWF	Sovereign Wealth Fund
TEN	Tweneboa Enyenra Ntomme
TRADCO	Trading Company
UNCLOS	United Nations Law of the Sea Convention
UNCTAD	United Nations Conference on Trade and Development
WCTP	West Cape Three Points

LIST OF FIGURES

Chapter 2

- Fig. 1 Annual cumulative crude oil production (2010–2020)
(*Source* PIAC [2020]) 78
- Fig. 2 Ghana’s gas pricing for the different sources (*Source* 2021
Energy Outlook for Ghana, Energy Commission [2021,
p. 22]) 79
- Fig. 3 Annual petroleum receipts (2011–2020), US\$m (*Source*
PIAC [2020]) 83

Chapter 4

- Fig. 1 Evolution of regulatory developments (*Source* Author’s
construct) 104
- Fig. 2 Policy coordination of the petroleum commission (*Source*
Author’s construct) 110
- Fig. 3 Examples of in-country fabrication of equipment (*Source*
Subsea 7 Volta Contractors Limited) 114

Chapter 5

- Fig. 1 Offshore Oil & Gas Licenses awarded by Ghana in area
claimed by Côte d’Ivoire (*Credit* Nana Adusei Poku) 127
- Fig. 2 Islands & indentations relevant to the Guinea v
Guinea-Bissau maritime boundary delimitation (*Source*
myworldatlas.info) 133

Fig. 3	The relevant coasts in the Ghana – Côte d’Ivoire delimitation (<i>Source</i> ITLOS [2017: p. 107])	134
Fig. 4	The Judgment Delimitation Line & the Parties’ Claimed Lines (<i>Credit</i> International Mapping)	136
Fig. 5	Oil & Gas Activities on either side of Ghana’s Claimed Boundary (<i>Source</i> Ghana Memorial to ITLOS)	137
Fig. 6	The Parties’ lines in the course of negotiations (<i>Credit</i> Nana Adusei Poku)	141

Chapter 7

Fig. 1	Economic rent concepts	163
Fig. 2	Interaction of fiscal instruments, incentive measures and fiscal metrics (<i>Source</i> Authors’ depiction)	166
Fig. 3	Production profile for the three oilfields (small, medium and large)	178
Fig. 4	State share of profits with increasing oil price, Jubilee WCTP&DWT Unitised	186
Fig. 5	State share of profits with increasing oil price, Deepwater Cape Three Points	186
Fig. 6	Analysis of petroleum receipts, 2011–2020 (US\$ million) (<i>Data source</i> Ministry of Finance/Bank of Ghana/PIAC)	187
Fig. 7	Average government take for selected countries (2009–2014) and 2018 (<i>Note</i> Average government take is the NPV of the government take divided by the sum of the NPV of the free cashflow and the NPV of the government take. <i>Source</i> Martén et al. (2015) and Agalliu et al. [2018])	187
Fig. 8	Government take relative to remaining recoverable reserve ranking (<i>Source</i> Agalliu [2011, p.11])	188

Chapter 8

Fig. 1	Interest payment on external debt as a percentage of GNI (<i>Source</i> IMF [2020])	212
Fig. 2	Debt to GDP ratio (<i>Source</i> IMF [2020])	213
Fig. 3	Current year spending share (<i>Source</i> Ministry of Finance [2010])	213
Fig. 4	Treatment of expenditure	217
Fig. 5	Number of savings accounts to be established (<i>Source</i> Ministry of Finance [2010])	217
Fig. 6	General framework for petroleum revenue distribution (<i>Source</i> PIAC [2017])	218

Fig. 7	Various annual and reconciliation petroleum reports, 2011–2020 (<i>Source</i> Ministry of Finance) https://mofep.gov.gh/publications/petroleum-reports	221
Fig. 8	Brent crude oil price trend, 2011–2018 (<i>Source</i> Based on Bloomberg Data)	223
Fig. 9	BR, Revised BR and average achieved prices, 2011–2019 (<i>Source</i> Based on Ministry of Finance Data)	225
Fig. 10	BR and actual output, 2011–2019 (<i>Source</i> Based on Ministry of Finance Data)	226
Fig. 11	Projected and actual petroleum revenues, 2011–2019 (<i>Source</i> Based on Ministry of Finance Data)	227

Chapter 9

Fig. 1	Petroleum receipts into PHF (percent of total)	262
Fig. 2	Lifting and Brent price trends (<i>Source</i> Table 1 of petroleum report [2019])	263
Fig. 3	Petroleum receipts [GHC million] (<i>Source</i> MOF petroleum reports)	265
Fig. 4	Distribution of petroleum receipts (2011–2020) (%) (<i>Source</i> MOF petroleum reports)	266
Fig. 5	Priority sectors [% of totals]: 2011–2016	269
Fig. 6	Priority sectors (% of total): 2017–2020	270
Fig. 7	GNPC’s disbursement of PHF and other revenues (2012–2020, % of totals)	279
Fig. 8	Cumulative annual revenues and percent (%) of total	285
Fig. 9	Rate of Accumulation of Public Debt	287

Chapter 10

Fig. 1	Forms of linkages in the extractive sector (<i>Source</i> Extractives Hub https://www.extractiveshub.org/topic/view/id/47/chapterId/523)	296
Fig. 2	Analysis of petroleum receipts, 2011–2020 (US\$ million) (<i>Source</i> Ministry of Finance/Bank of Ghana)	297

Chapter 11

Fig. 1	West Africa gas pipeline schematic (<i>Source</i> West Africa Gas Pipeline Company [WAPCO]— https://www.wagpco.com/wagp/)	318
Fig. 2	Gas supply from WAGP (2012) (<i>Source</i> Energy Commission [2013])	319

Fig. 3	Gas supply from WAGP (2013) (<i>Source</i> Energy Commission [2014])	320
Fig. 4	Gas supply profile from Nigeria through WAGP. <i>Note</i> The most extended period of disruption that necessitated a force majeure between August 2012 and July 2013 is not accounted for (<i>Source</i> Energy Commission [2010–2020])	321
Fig. 5	Consequence of gas project delay on the power sector (<i>Source</i> Author’s construct)	326
Fig. 6	Gas supply profile from Atuabo gas processing plant (2015–2019)	328
Fig. 7	World Bank security structure for Sankofa field development (<i>Source</i> World Bank)	330
Fig. 8	Projected gas demand; base case and upper-case demand scenarios	336
Fig. 9	Strategy to meet base-case gas demand	337
Fig. 10	Strategy to meet upper-case gas demand	338
Fig. 11	Meeting gas demand shortfalls in the medium term	340
Fig. 12	Comparison of LNG price with OCTP gas and Nigeria gas	341
Fig. 13	LNG at varying Brent Crude prices compared with gas prices from N-Gas and OCTP	341

Chapter 12

Fig. 1	Oil and gas regulatory architecture (<i>Source</i> Author’s construct)	358
Fig. 2	EITI principles (<i>Source</i> : EITI International Secretariat [2003])	373
Fig. 3	Summary of Ghana’s 2017 and 2021 resource governance index (<i>Source</i> : NRGi)	375
Fig. 4	Policy perception index score—Africa (<i>Data Source</i> : Fraser Institute Global Petroleum Survey [2017])	376
Fig. 5	Small reserve holder comparisons (<i>Data Source</i> Fraser Institute Global Petroleum Survey [2017])	377
Fig. 6	PHF disbursements (<i>Source</i> : PIAC (2017, p. 17))	379

Chapter 13

Fig. 1	Social Accountability in Ghana’s Oil and Gas Sector (<i>Source</i> Author’s construct)	408
Fig. 2	PIOs and the creation of consensus on oil and gas governance (<i>Source</i> Author’ Construct)	412

Fig. 3	Issues for negotiation during the development of Ghana's oil and gas governance framework (<i>Source</i> Author's construct)	413
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Chapter 14

Fig. 1	Map showing the major oil fields of Ghana and exploratory activities (<i>Source</i> Ghana Petroleum Commission: https://www.petrocom.gov.gh/maps/)	456
Fig. 2	Map showing the Voltaian Basin (<i>Source</i> Ghana National Petroleum Commission: http://www.gnpcghana.com/operations.html)	457
Fig. 3	Analysis of petroleum receipts	465
Fig. 4	Petroleum receipts from 2011 to 2019 in percentage terms	469

Chapter 15

Fig. 1	Central entities involved in petroleum revenue management (<i>Source</i> Adapted from PIAC [2017b, p. 27])	492
Fig. 2	Leading oil and gas companies worldwide based on market capitalization as of April 2021 (billion USD) (<i>Source</i> Statista [2021])	504
Fig. 3	Ghana's GDP from 2011–2021 (<i>Source</i> World Bank, World Development Indicators)	504

Chapter 16

Fig. 1	Historical volatility of government budget in Chile (LHS) and Ghana (RHS) (<i>Source</i> Adam and Mihalyi [2017])	531
Fig. 2	Preparedness of fossil fuel economies for the energy transition highlighting a selection of African countries (<i>Source</i> FT; World Bank)	532
Fig. 3	Fiscal breakeven oil prices (<i>Data Source</i> EIA, IMF, Reuters, Ministry of Finance Ghana [2020])	532
Fig. 4	African liquids reserve resilience (<i>Source</i> Walters and Bostan [2020])	534
Fig. 5	Cumulative waste volumes of PV panels by 2050, by country (<i>Source</i> Authors, based on International Renewable Energy Agency (IRENA) data)	539
Fig. 6	Integrated sustainable waste management framework	540
Fig. 7	Electricity generation by source, Nigeria 1990–2019 (GWh) (<i>Data Source</i> IEA)	544

Fig. 8	Eni main decarbonisation target (<i>Source</i> Eni [2021]. Available at: https://www.eni.com/en-IT/low-carbon/strategy-climate-change.html [Accessed: 05 November 2021])	550
Fig. 9	Net electricity generation (GWh) in Senegal, 2019 (<i>Source</i> Cisse [2021])	552
Fig. 10	Egypt energy consumption by source, terawatt-hours (TWh)	556
Fig. 11	Annual metal demand from lithium-ion battery (<i>Source</i> Bloomberg NEF [2020]. Available: https://www.greencarcongress.com/2021/07/20210701-bnef.html [Accessed: 04 November 2021])	559
Fig. 12	Strategic options and policy trade-offs (<i>Source</i> Authors' construct)	560

LIST OF TABLES

Chapter 2

Table 1	Date of lifting, receipt date and date of distribution for Ghana's Petroleum Receipts (2020)	72
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Chapter 7

Table 1	Efficiency criteria of fiscal regimes	164
Table 2	Sources of revenue in Ghana's petroleum contracts	168
Table 3	Evolution of fiscal terms (2004–2006)	173
Table 4	Evolution of fiscal terms (2007–2014)	175
Table 5	Project assumptions	178
Table 6	Summary of modelled fiscal terms	180
Table 7	Summary of fiscal evaluation criteria	181
Table 8	Fiscal metrics at \$60/bbl	184
Table 9	Scale and timing of AOE revenues	193

Chapter 8

Table 1	Petroleum Funds and their purpose	220
Table 2	Annual allocations, withdrawals, and reserves of the GPFs	229
Table 3	Applicable Santiago Principles	232
Table 4	2019 EITI requirements	234
Table 5	Transparency and accountability benchmarks based on the natural resource benchmarking framework	236

Table 6	Transparency indicators adapted from the Action Plan for Implementing the Africa Mining Vision	238
Table 7	Performance of Ghana in relation to Global Disclosure Benchmarks	245

Chapter 9

Table 1	Distribution of petroleum revenues	258
Table 2	Details of petroleum receipts into the PHF (US\$ million)	261
Table 3	Distribution of petroleum receipts (US\$m): 2011–2020	264
Table 4	Petroleum revenue distribution (% of total)	265
Table 5	Nominal priority sector distribution (2011–2016 and 2017–2020)	268
Table 6	Allocation of ABFA (2011–2016, % of total)	269
Table 7	Allocation of ABFA (2017-date, % of total)	270
Table 8	Flows, returns, and allocations from the Stabilization Fund	272
Table 9	Flows and returns on the Heritage Fund	274
Table 10	Breakdown of PHF inflows to GNPC	275
Table 11	Disbursements of PHF for state and GNPC activities	277
Table 12	GNPC's disbursement of PHF and other revenues (2011–2020, US million)	278
Table 13	GNPC's disbursement of PHF and other revenues (2012–2020, % of totals)	280
Table 14	Public debt performance (2013–2020)	286

Chapter 10

Table 1	Local-content targets in Ghana's LCL	301
Table 2	Examples of sub-targets under L.I. 2204	302
Table 3	Value of contracts awarded in Ghana's oil and gas industry (2011–2020)	304
Table 4	Employment trend in Ghana's oil and gas industry (2017–2019)	306
Table 5	Indirect and induced employment (2017–2019)	306
Table 6	Ghana upstream sector internship programme placement	307

Chapter 11

Table 1	Supply profiles on the basis of domestic gas reserves and resources	321
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Chapter 12

Table 1	International governance protocols	371
Table 2	Key state agents and their responsibilities	380

Chapter 13

Table 1	A summary of a decade of PIOs activities in the oil and gas sector	416
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Chapter 14

Table 1	Summary of oil production and revenues accrued from Ghana's oil sector from 2011 to 2018	462
Table 2	Inequality of ownership of three oil fields	466

Chapter 15

Table 1	Ghana's petroleum earnings 2011–2019	494
Table 2	State participation in Ghana's four oil fields	505

Chapter 16

Table 1	Fossil fuel reserves in some East African countries	542
Table 2	Clean Technology Funds (CTF) Projects in Nigeria	546
Table 3	Trends in GHG emission by sectors	547
Table 4	Emission breakdown by sector, Angola (2015)	552
Table 5	Angola—Conditional interventions towards 2025 emissions target	554

Chapter 18

Table 1	Ghana's pre-oil and post-oil and gas development indicators	609
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PART I

Regulating and Managing Ghana's Upstream
Oil and Gas Industry



CHAPTER 1

Examining Ghana's Petroleum Act, 2016 (Act 919) and Other Legislative Developments

Thomas Kojo Stephens and Seyram Dzikunu

1 INTRODUCTION

Historically, Ghana's petroleum industry consisted mainly of oil trading "based on the importation of refined petroleum products under contractual agreements with multinational companies such as Shell plc and Total

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Switzerland AG 2022

T. Acheampong and T. Kojo Stephens (eds.), *Petroleum Resource
Management in Africa*,

https://doi.org/10.1007/978-3-030-83051-9_1

plc.”¹ The first known activities in respect of exploration of oil and gas in Ghana were in 1896. Exploration activities from 1896 to 1956 were based on wildcatting/chasing of seepages. In 1970, Ghana made a small-scale discovery of oil in the Saltpond Field when it drilled its first offshore well.²

When petroleum exploration activities commenced in Ghana, the country did not have any specific legislation for the petroleum industry. The upstream petroleum industry was subsumed under the general legislation governing the mining industry.³ Ghana started production from this Saltpond Field in 1978 and this, coupled with the worldwide oil shocks of 1978–1979, aroused a conscious effort towards making commercial discoveries in order to cushion the country from any further oil shocks. Thus, the government at the time, the Provisional National Defence Council (PNDC), enacted the *Ghana National Petroleum Corporation Act, 1983* (PNDCL 64) (**GNPC Act**),⁴ which established a national oil company, the Ghana National Petroleum Corporation (**GNPC**), to undertake the exploration, development, production and

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¹ Memorandum to *Petroleum (Exploration and Production) Bill*, 2016, i.

² GNPC, E&P Operations & History, available at: <http://www.gnpcghana.com/operations.html>, last accessed on 27 September 2020.

³ Concessions Act, 1939 (Cap 136), Section 49.

⁴ The Laws of Ghana had different suffixes depending on the epoch in which the law was made. It was deemed desirable to have them revised so as to have them all bear the same suffix, “Act.” The *Laws of Ghana (Revised Edition) Act, 1998* (Act 562) was passed, and the Statutory Law Revision Commissioner took office and carried out his mandate under that Act. Thus, Professor V.C.R.A.C. Crabbe, Statute Law Revision Commissioner, notes in the preface to the *Laws of Ghana (Revised Edition) Act, 1998* (Act 562), “Over the years, the Laws of the Republic have borne different short titles: Ordinances in the pre-independence era, Acts and Codes under constitutional rule, Decrees and Laws under the military regimes. One term has been used in this Edition, namely Act.” Pursuant to this Act, the Statute Law revision began and when completed, the *Laws of Ghana Revised Instrument 2007* came into force.

disposal of petroleum, and to ensure the Republic obtained the greatest possible benefit from the development of its petroleum resources.⁵ In that same year, the *Petroleum (Exploration and Production) Act, 1983* (PNDCL 68), was enacted to provide legislation on operations but was repealed the following year and replaced with the *Petroleum (Exploration and Production) Act, 1984* (PNDCL 84) (**Petroleum Act, 1984**). In 1986, the *Petroleum Income Tax Act, 1986* (PNDCL 185), was enacted to govern taxation in the industry but was repealed the following year by the *Petroleum Income Tax Act, 1987* (PNDCL 188) (**Petroleum Income Tax Act, 1987**).⁶ In 2007, therefore, when a consortium of companies made a large-scale commercial discovery in the Jubilee Field, these three (3) pieces of legislation and a Model Petroleum Agreement governed the industry.⁷

At the time of the commercial discovery in 2007, it became obvious that the *Petroleum Act, 1984*, was inadequate and not robust enough to properly govern the industry. There was, therefore, the need to develop a more robust regime for the industry. There were concerted efforts to repeal and replace the *Petroleum Act, 1984*, which led to the drafting of a number of Bills and eventually the 2016 Bill, which was passed into law as the *Petroleum (Exploration and Production) Act, 2016* (Act 919) (**Petroleum Act, 2016**). Section 97 of the *Petroleum Act, 2016*, titled *Repeal and Savings*, states, “Despite the repeal of PNDCL 84, the Regulations, rules, by-laws, notices, orders, directions, appointments or any act lawfully made or done under the repealed enactment and in force immediately before the commencement of this Act shall continue to have effect until revoked, cancelled or terminated.”

2 LEGISLATION GOVERNING PETROLEUM EXPLORATION AND PRODUCTION POST THE LARGE-SCALE DISCOVERY

After 2007, other pieces of legislation were enacted to deal with the gaps and inadequacies in the law. As such, the *Petroleum Revenue Management Act, 2011* (Act 815),⁸ as amended by the *Petroleum Revenue*

⁵ Section 2(2) of the *Ghana National Petroleum Corporation Act, 1983* (PNDCL 64).

⁶ This repealed the *Petroleum Income Tax Act, 1986* (P.N.D.C.L 185), which had in turn repealed the *Mineral Oil Taxation Ordinance, 1956* (No. 17), as amended by the *Mineral Oil Taxation Ordinance (Amendment) Decree, 1968* (N.L.C.D. 307).

⁷ Model Petroleum Agreement, 2000.

⁸ The Regulations appertaining to this Act are the *Petroleum Revenue Management Regulations, 2019* (L.I. 2381).

Management (Amendment) Act, 2015 (Act 893), was enacted to govern petroleum revenue management. The *Petroleum Commission Act*, 2011 (Act 821), was also enacted and established the Petroleum Commission, a technocratic, regulatory, managerial and advisory body which, inter alia, took over the de facto regulatory functions that GNPC had been performing. Part VI of the *Income Tax Act*, 2015 (Act 896), as amended,^{9,10} covers petroleum operations. The *Income Tax Act*, 2015 (Act 896), co-existed with the *Petroleum Income Tax Act*, 1987, but to the extent of any inconsistency between these two pieces of legislation, the *Income Tax Act*, 2015 (Act 896), superseded. The *Revenue Administration Act*, 2016 (Act 915), which provides for the administration and collection of tax revenue, repealed the *Petroleum Income Tax Act*, 1987 (PNDCL 188). The *Petroleum Act*, 2016, repealed the *Petroleum Act*, 1984, and set out the detailed rules governing petroleum operations in the country.

Regulations have also been passed. These include the:

- *Ghana Maritime Authority (Fees and Charges) Regulations*, 2012 (L.I. 2009)
- *Ghana Shipping (Protection of Offshore Operations and Assets) Regulations*, 2012 (L.I. 2010)
- *Natural Gas Pipeline Safety (Construction, Operation and Maintenance) Regulations*, 2012 (L.I. 2189)
- *Petroleum (Local Content and Local Participation) Regulations*, 2013 (L.I. 2204)
- *Petroleum Commission (Fees and Charges) Regulations*, 2015 (L.I. 2221) and the
- *Petroleum (Exploration and Production) (Measurement) Regulations*, 2016 (L.I. 2246), which was passed under the *Petroleum (Exploration and Production) Act*, 1984 (PNDCL 84).

A number of Regulations have been passed under the *Petroleum Act*, 2016. These are:

⁹ *Income Tax (Amendment) Act*, 2015 (Act 902).

¹⁰ *Income Tax (Amendment) Act*, 2016 (Act 907).

- *Petroleum (Exploration and Production) (Data Management) Regulations, 2017* (L.I. 2257)
- *Petroleum (Exploration and Production) (Health, Safety and Environment) Regulations, 2017* (L.I. 2258) and the
- *Petroleum (Exploration and Production) (General) Regulations, 2018* (L.I. 2359) as amended by the *Petroleum (Exploration and Production) (General) (Amendment) Regulations, 2019* (L.I. 2390).

Further, under the *Petroleum Revenue Act, 2011* (Act 815) as amended by Act 893, the *Petroleum Revenue Management Regulations, 2019* (L.I. 2381), was passed.

These pieces of legislation directly related to petroleum activities also operate in conjunction with relevant enactments which whilst not specifically enacted for the petroleum industry have significant applicability. These would include the:

- *Maritime Zones (Delimitation) Act, 1986* (P.N.D.C.L 159)
- *Customs, Excise and Preventive Service (Management) Act, 1993* (P.N.D.C.L 330) as amended
- *Environmental Protection Agency Act, 1994* (Act 490) along with the *Environmental Assessment Regulations, 1999* (L.I 1652) as amended by the *Environmental (Assessment) (Amendment) Regulations, 2002* (L.I. 1703)
- *Labour Act, 2003* (Act 651)
- *Ghana Maritime Security Act, 2004* (Act 675) as amended
- *Alternative Dispute Resolution Act, 2010* (Act 798)
- *Public Financial Management Act, 2016* (Act 921); and the
- *Companies Act, 2019* (Act 992).

Currently, the principal legislation directly governing the regulation of operations in the industry is mainly limited to the *Petroleum (Exploration and Production) Act, 2016* (Act 919) and the *Petroleum (Exploration and Production) (General) Regulations, 2018* (L.I. 2359), as amended by the *Petroleum (Exploration and Production) (General) (Amendment) Regulations, 2019* (L.I. 2390).

3 THE PETROLEUM ACT, 2016 (ACT 919)

The *Petroleum Act*, 2016, assented to on 19 August 2016, consists of 97 Sections and categorized into broad groupings. Sections 1–5 are on *General Provisions*, 6–8 on *Area Management*, 9 on *Reconnaissance License*, 10–20 on *Petroleum Agreement*, 21–25 on *Exploration*, 26–37 on *Exploration and Development*, 38–42 on *Transportation, Treatment and Storage*, 43–49 on *Cessation, Decommissioning and Removal of Facilities*, 50–72 on *General Requirements for Petroleum Activities*, 73–80 on *Health and Safety, Security and Environment*, 81–84 on *The Environment and Liability for Pollution Damage*, 85–89 on *Fiscal Provisions* and 90–97 on *Miscellaneous Provisions*.

The Preamble of the Act states that it is “AN ACT to regulate petroleum activities and to provide for related matters.” Its scope is petroleum activities within the jurisdiction of Ghana, “including activities in, under and upon its territorial land, inland waters, territorial sea, exclusive economic zone and its continental shelf.”¹¹ Its object is stated as “to provide for and ensure safe, secure, sustainable and efficient petroleum activities in order to achieve optimal long-term petroleum resource exploitation and utilization for the benefit and welfare of the people of Ghana.” The guiding tenets for the management of Ghana’s petroleum resources are “principles of good governance, including transparency and accountability and the object of [the] Act.”¹²

3.1 *Changes Made by the Petroleum Act, 2016, as Juxtaposed Against the Petroleum Act, 1984*

The *Petroleum Act*, 1984, stated in Section 1 that all petroleum in its natural state was the property of the Republic of Ghana and vested in the Provisional National Defence Council (PNDC) on behalf of the people. It did not categorically define oil and gas as a mineral. Article 257(6) of Ghana’s constitution, 1992, states:

¹¹ Section 1—*Scope of the Act*.

¹² Section 4—*Management of Petroleum Resources*.

Every mineral in its natural state in, under or upon any land in Ghana, rivers, streams, water courses throughout Ghana, the exclusive economic zone and any area covered by the territorial sea or continental shelf is the property of the Republic of Ghana and shall be vested in the President on behalf of, and in trust for the people of Ghana.

Thus, at the time of the large-scale commercial discovery, an issue was whether oil and gas could be classified as “minerals.” Ghana’s Institute of Economic Affairs (IEA), for instance, noted in 2010 that the interpretation of minerals was problematic and the issue was whether it included oil and gas.¹³ It then went on to suggest that the clause be amended to read as “all extractive natural resources in their natural state...”¹⁴ It opined that this would provide clarity and certainty on whether Article 257(6) covered oil and gas.¹⁵ There were implications in terms of the classification of oil and gas. If oil and gas were not classified as minerals, it would not come under the ambit of Article 257(6) with the implication being that an individual who found petroleum on his/her land could assert ownership, and thus the benefits arising therefrom as done in certain jurisdictions, particularly, Texas, USA. If it was classified as a mineral, then the State would for all intents and purposes be the owner and no individual could claim ownership even if discovered on his/her land. This issue had not yet become a matter before the courts because all operations were being done offshore where no individual could claim ownership, but could potentially be an explosive issue when operations commenced onshore. The need to clarify the position of the law and more importantly, for the government to assert ownership of any discovery, was imperative.

¹³ Institute of Economic Affairs, “Natural Resource Management in Ghana: A Case for Constitutional Amendment” (Institute of Economic Affairs, 2010), 12–13, www.ieagh.org/images/pdf/crs-8.pdf, accessed 28 March 2021.

¹⁴ *Ibid.*, 13.

¹⁵ *Ibid.* In an attempt to further safeguard the interests of the Ghanaian people, the Institute makes the further suggestion that a clause be inserted that, “The ownership rights of the people of Ghana of all natural resources shall not be varied or qualified under any transaction, contract or undertaking, and or by any other person or body of persons.”

The Constitution Review Commission of 2011, which was constituted by the *Constitution Review Commission of Enquiry Instrument*, 2010 (C.I. 64) to, amongst others, make recommendations to the government for possible amendments to the 1992 Constitution,¹⁶ also noted that, "... 'mineral' is not defined in the Constitution, leaving unanswered the question as to whether oil, gas and water are minerals...Water and oil, and still more strongly, gas, may be classed by themselves, if the analogy be not too fanciful, as minerals *ferae naturae*."¹⁷ Section 3 of the *Petroleum Act*, 2016, headed, *Title to Petroleum*, resolved this issue. Section 3 explicitly states:

Petroleum existing in its natural state, in, under or upon any land in Ghana, rivers, streams, water courses throughout Ghana, the exclusive economic zone and any area covered by the territorial sea or continental shelf, is the property of the Republic of Ghana and is vested in the President on behalf of and in trust for the people of Ghana.

Section 3 removes the ambiguity as to whether oil and gas existing in its natural state belongs to the state.

Under Section 4(4) of the *Petroleum Act*, 1984, the decision of the Secretary (Minister) to close or redefine the boundaries of open blocks was not to become operative until after the expiration of ninety days after such notice had been published in the Gazette or in such manner as the Secretary saw fit. Under the *Petroleum Act*, 2016 (Act 919), this period has been shortened to sixty days.¹⁸

Under the *Petroleum Act*, 1984, provision was made for competitive bidding for the acquisition of acreage to explore, develop and produce petroleum.¹⁹ However, in practice, Ghana engaged in direct negotiation/open door in respect of its granting of acreage mainly because its prospectivity had not yet been established and getting international oil companies (IOCs) to come and explore its acreage was a challenge. After the large-scale commercial discovery of 2007, the open door policy

¹⁶ Constitution Review Commission, "Report of the Constitution Review Commission: From a Political to a Developmental Constitution" (Republic of Ghana 2011), 10, para 1.2.3.

¹⁷ *Ibid.*, 594–595, para 53.

¹⁸ Section 8—*Closure and Redefinition of Area*.

¹⁹ Section 2(2).

came under criticism as creating room for the award of blocks to some companies that were not technically qualified or financially resourced. There was agitation by stakeholders such as civil society groups for the country to engage in competitive bidding as it was believed that it was more transparent and would produce more desirable results. As such, when the *Petroleum Act*, 2016, was enacted, it made competitive bidding the first port of call/the default system with direct negotiation to be engaged in only when it would “represent the most efficient manner to achieve optimal exploration, development and production of petroleum resources in a defined area.”²⁰ It bears noting that despite this provision for competitive bidding as the mainstay, even in the competitive bidding process, there is an element of direct negotiation as the parties selected through the competitive bidding process negotiate with the government on the terms of the petroleum agreement not already stipulated by law.²¹

Under Section 9(2) of the *Petroleum Act*, 1984,²² the Contractor or GNPC, as the case may be, had to notify the Secretary (Minister) and the now defunct National Energy Board within a period of thirty days after the date of a discovery.²³ This has been modified under the *Petroleum Act*, 2016. The Contractor is now required to “within forty-eight hours after the discovery submit written notification to the Minister before notification to a third party.”²⁴ A Contractor is defined under the Act as “a body corporate which has entered into a petroleum agreement with the Republic and the Corporation [GNPC].”²⁵ This is to be distinguished from a licensee which refers to “any person, firm, body corporate or other entity which has been granted a reconnaissance license or a license for transportation, treatment or storage of petroleum” under the Act.²⁶

²⁰ Section 10(9)—*Petroleum Agreement*.

²¹ Ghana engaged in its maiden licensing round in 2019/2020, with mixed results. There were 43 Expressions of Interest and pre-qualification applications received from 15 companies. Two companies were disqualified.

²² Section 9—*Notification and Appraisal of Petroleum Discovery*.

²³ Under Article 8.1 of the Model Petroleum Agreement 2000, titled *Commerciality*, the Contractor was mandated to notify the Minister and GNPC in writing as soon as possible in the event of a commercial discovery “but in any event not later than thirty (30) days, after such Discovery...”

²⁴ Section 25(2)(a)—*Notification of Petroleum Discovery and Appraisal*.

²⁵ Section 95—*Interpretation*.

²⁶ *Ibid*.

Under the *Petroleum Act*, 1984, the period of validity of a petroleum agreement was for a total period not exceeding thirty (30) years.²⁷ This has been reduced by the *Petroleum Act*, 2016, to a term of not more than twenty-five (25) years.²⁸ This inures to the benefit of Ghana as when the term elapses, the country has a choice as to whether to approve an extension of the petroleum agreement on the terms agreed to by the parties,²⁹ or execute a new petroleum agreement by direct negotiations.³⁰ Furthermore, as the Field will most likely be one that is still producing at a profitable rate and further away from depletion, the Contractor would want to remain and continue producing; thus, the country will be able to negotiate better terms than when the initial agreement was entered into.

Under the *Petroleum Act*, 1984, there was some confusion as to whether Contractors were required to incorporate a company in Ghana or only register a branch of a foreign incorporated company.³¹ Some Contractors used external companies for their business because of this ambiguity. Section 23(15)(a) stipulated that they were required to “register an incorporated company in Ghana...” To clear this confusion, the *Petroleum Act*, 2016, requires that any person who wants to engage in petroleum activity in Ghana should “incorporate in this country [Ghana]”³² a company solely for petroleum activities. It is categorical that the entity must be incorporated in Ghana. The *Companies Act*, 2019 (Act 992), makes a distinction between registration of a branch and an incorporation.

Bonuses were introduced under the *Petroleum Act*, 2016.³³ The *Petroleum Act*, 1984, did not make provision for bonuses. It must be further noted that the *Petroleum Act*, 2016, unlike the *Petroleum Act*, 1984, makes provision for Capital Gains Tax. The *Petroleum Act*, 1984, did not have this provision so when the EO Group sold its interest in the Jubilee Field to Tullow, when the State attempted to impose Capital Gains

²⁷ Section 12—*Period of Validity of Petroleum Agreement*.

²⁸ Section 14—*Duration*.

²⁹ Section 14(2)(a).

³⁰ Section 14(1)(b).

³¹ Section 23(15).

³² Section 70(1)(a).

³³ Section 88—*Bonus Payments*.

Tax on the transaction, it realized that there was nothing in the law—either under the *Petroleum Act*, 1984, or the *Petroleum Income Tax Act*, 1987, which permitted it so to do. The *Internal Revenue Act*, 2000 (Act 592), had provisions on Capital Gains, and there was an attempt to apply it as the general law of the land. However, it was not applicable. It was only the administrative procedures of the *Internal Revenue Act* that was applicable to the Contractors per the provisions of the *Petroleum Income Tax Act*. As such, the State lost a whooping amount of approximately \$35 million which would have accrued as Capital Gains Tax.

Prior to the passage of the *Petroleum Act*, 2016, the norm as depicted in the petroleum agreements was a minimum carried interest of 10% for GNPC. This has been enhanced under the *Petroleum Act*, 2016, to at least fifteen per cent (15%).³⁴ Thus, it is not possible to find any petroleum agreement after 2016 that has a carried interest of less than fifteen per cent (15%). That would be unlawful.

Under the *Petroleum Act*, 1984, in respect of relinquishment provisions, though it stipulated that relinquishment be done, it did not categorically specify the mode. It stated: “A petroleum agreement shall provide for the relinquishment in a phased manner of portions of an area to which the agreement relates after the expiration of the initial exploration period specified in the agreement or after the expiration of the initial exploration period specified in the agreement or after the extension of any such period.”³⁵ Thus, the manner in which relinquishment was done varied from agreement to agreement and there was no uniformity. The *Petroleum Act*, 2016, stipulates that where the Contractor elects to enter into the first extension period, the contract area³⁶ shall be reduced by at least fifty per cent (50%).³⁷ Where the Contractor elects to enter into the second or third extension period, the retained area shall not exceed twenty-five per cent (25%).³⁸ It must be noted though that the Minister is empowered under the Act in exceptional cases, and in consultation with

³⁴ Section 10(14).

³⁵ Section 14—*Relinquishment of Portions of an Area*.

³⁶ The *Interpretation* Section of the Act defines “Contract Area” as “the area covered by the petroleum agreement in which a Contractor is authorized to explore for, develop and produce petroleum but excludes portions of the area in respect of which a Contractor’s rights are from time to time relinquished or surrendered.”

³⁷ Section 22(3).

³⁸ Section 22(4).

the Commission, to determine that the area to be relinquished shall be smaller than as set out.³⁹

Like the *Petroleum Act*, 1984, the *Petroleum Act*, 2016, has provisions relating to Local Content and Local Participation from Sections 60 to 69. It covers thematic areas such as Employment and Training,⁴⁰ Use of Ghanaian Goods and Services,⁴¹ and Technology Transfer.⁴² The *Petroleum Act*, 2016, unlike the *Petroleum Act*, 1984, establishes a Local Content Fund⁴³ with the object⁴⁴ to provide financial resources for citizens and indigenous Ghanaian companies.⁴⁵ The moneys from the Fund must be applied to education, training, research and development in petroleum activities for Ghanaian citizens, indigenous Ghanaian companies and Ghanaian institutions of learning,⁴⁶ as well as to provide loans on a competitive basis to small and medium-scale enterprises⁴⁷ to support their participation in petroleum activities.⁴⁸ Sources of money to the Fund include contributions from a Contractor as agreed in a petroleum agreement,⁴⁹ contributions from a Sub-Contractor⁵⁰ of one per cent (1%) of the total consideration payable by the Contractor or licensee for

³⁹ Article 22(6).

⁴⁰ Section 60—*Employment and Training of Ghanaian Citizens*.

⁴¹ Section 61—*Use of Ghanaian Goods and Services*.

⁴² Section 62—*Technology Transfer*.

⁴³ Section 64—*Establishment of the Local Content Fund*.

⁴⁴ Section 65(1)—*Object of the Fund*.

⁴⁵ An indigenous Ghanaian company is defined under the *Interpretation* Section of the Act as “a company incorporated under the [since repealed] Companies Act, 1963 (Act 179) which i. has at least fifty-one percent of its equity owned by a citizen of Ghana; and ii. has Ghanaian citizens holding at least eighty percent of executive and senior management positions and one hundred percent of the non-managerial positions and other positions.”

⁴⁶ Section 65(2)(a).

⁴⁷ “Small and medium enterprises” is defined under the Act as “an industry, project, undertaking or economic activity that employs not more than one hundred persons with an asset base that is not more than the Ghana cedi equivalent of two million United States dollars excluding land or buildings.”

⁴⁸ Section 65(2)(b).

⁴⁹ Section 66(1)(a)—*Sources of Money for the Fund*.

⁵⁰ A “Sub-Contractor” is defined under the *Interpretation* Section of the Act as, “a third party with whom the Corporation or a Contractor has entered into a petroleum contract for the provision of goods and services for petroleum activities.”

every contract,⁵¹ moneys approved by Parliament,⁵² and grants.⁵³ As of December 2020, a Local Content Fund Secretariat had been established at the Petroleum Commission, draft Local Content Fund Operational Guidelines had been developed by the Commission for the administration of the Fund, and two bank accounts—a cedi and a dollar account—had been created at the Bank of Ghana for the purposes of collections.⁵⁴

Under the *Petroleum Act*, 1984, there were hardly any provisions on the environment. On at least three occasions—December 2009, March and May 2010—Kosmos Energy spilled barrels of Low Toxicity Oil Based Mud (LTOBM) in marine waters whilst conducting its operations in the Jubilee Field.⁵⁵ The then Minister for Environment, in March 2010,⁵⁶ set up a Committee chaired by her Deputy, to investigate the incidents. The Committee found Kosmos culpable of negligently spilling toxic substances in Ghana's waters⁵⁷ and recommended a fine of GH¢40 million (\$35 million).⁵⁸ Kosmos disputed this and argued that the Minister had no power under the Constitution or any other law to impose such a fine in the event of an oil spill. After a legal tussle, a *Settlement Agreement* was entered into between Kosmos, GNPC and the government.⁵⁹ Partly arising from this experience, cognizance was taken of the need to throw a spotlight on environmental regulation. Thus, under the *Petroleum Act*, 2016, there is an entire section titled *The Environment and Liability for Pollution Damage*. It covers Sections 81–84 and provides for matters such as Environmental Principles

⁵¹ Section 66(1)(b).

⁵² Section 66(1)(c).

⁵³ Section 66(1)(d).

⁵⁴ Public Interest and Accountability Committee, “Annual Report on Management of Petroleum Revenues for Year 2020”, 11.

⁵⁵ Ministry of Environment, Science and Technology, “Report of the Committee on the Spillage of Low Toxicity Oil Based Mud by Kosmos Energy Ghana HC in the Jubilee Field, Offshore, Ghana” (Ministry of Environment, Science and Technology, 2010), v.

⁵⁶ 30 March 2010, Reference No. MEST/GA/16, app 3 of Report.

⁵⁷ Ministry of Environment (n 56), vi.

⁵⁸ *Ibid.*, ix.

⁵⁹ In the said Agreement, the payment was staggered, and in actual fact, the stipulated sum was not only for the spillage of toxic but also for the breach of the confidentiality clause pertaining to data.

and Protection,⁶⁰ Impact Assessment,⁶¹ Liability for Pollution Damage,⁶² and Compensation for Pollution Damage.⁶³

Further, the *Petroleum Act*, 1984, had barely any provisions on decommissioning. Section 28, titled *Restoration of Affected Lands*, stated that after the termination of petroleum operations in any area, GNPC was to restore the affected areas and remove all causes of damage or danger to the environment. Such restoration included removal of things brought into the affected area, the plugging or closing of all abandoned wells, and the conservation and protection of natural resources in that area. Beyond this, there were no provisions which even alluded to decommissioning.

The *Petroleum Act*, 2016, has a whole section on decommissioning, from Sections 43 to 49, which is headed, *Cessation, Decommissioning and Removal of Facilities*, and gives a broad overview of Ghana's position of the law on decommissioning. Ghana followed the example of Norway in respect of its provisions on decommissioning. Thus, Section 5-1 of the *Norwegian Act*, titled *Decommissioning Plan*, is manifest in the *Petroleum Act*, 2016, in Section 43 for instance, where there are very similar requirements such as that the decommissioning plan be submitted not more than five (5) years and not later than two (2) years before the date on which either the use of the petroleum facility is expected to cease operation, or the petroleum agreement to which the decommissioning plan relates will expire.⁶⁴ This Act, unlike its predecessor, requires the establishment of a decommissioning fund⁶⁵ for the inevitable occasion when decommissioning has to be undertaken. The details are expected to be spelt out in Regulations. Liability in respect of decommissioning is strict.⁶⁶ Further, an assignor has secondary liability for the financial obligations for the cost of implementing a decommissioning plan⁶⁷ but the obligation is limited to costs related to petroleum facilities, including wells, which existed at

⁶⁰ Section 81.

⁶¹ Section 82.

⁶² Section 83.

⁶³ Section 84.

⁶⁴ Section 43(2)(a) and (b); *Petroleum (Exploration and Production) Act*, 2016 (Act 919).

⁶⁵ Section 45—*Decommissioning Fund*.

⁶⁶ Section 48—*Liability for Decommissioning*.

⁶⁷ Section 44(7).

the time it made the assignment, and limited to a share of the costs calculated on the basis of the size of the interest assigned.⁶⁸

It must be noted that under the *Petroleum Act*, 1984, it was the Secretary (Minister) that could authorize any person to inspect any petroleum operations, and such person had the right at all reasonable times to enter any area, structure, platform, facilities, installations, vehicles, offices and buildings.⁶⁹ Such person also had the right to inspect, test and audit, works, equipment, operations and financial books of account,⁷⁰ take and remove, for the purpose of analysis or testing, sample of petroleum, water or other substance from a well,⁷¹ inspect, take extracts from and make copies of any document relating to such operations,⁷² as well as make examinations and inquiries as was necessary to ensure that the provisions of the Law and Regulations were complied with.⁷³ Under the *Petroleum Act*, 2016, the right to authorize any person to inspect any petroleum operations is explicitly vested in the Petroleum Commission.⁷⁴

Further, under the *Petroleum Act*, 1984, it was to GNPC that a Contractor or Sub-Contractor was to furnish “performance bonds and guarantees...in order to ensure the fulfilment of the obligations undertaken by such Contractor or Sub-Contractor or the discharge of liabilities arising out of the operations under such petroleum agreement or petroleum sub-contract...”⁷⁵ Under the *Petroleum Act*, 2016, it is to the Minister that such performance bonds or guarantees are furnished.⁷⁶

It must be noted that under the *Petroleum Act*, 1984, unitization was mentioned only in the context of two fields extending into the boundaries of each other.⁷⁷ The *Petroleum Act*, 2016, includes a provision that takes

⁶⁸ Section 44(8).

⁶⁹ Section 27(2)(a)—*Inspection*.

⁷⁰ Section 27(2)(b).

⁷¹ Section 27(2)(c).

⁷² Section 27(2)(d).

⁷³ Section 27(2)(e).

⁷⁴ Section 51—*Supervision and Inspection*.

⁷⁵ Section 23(8)—*Obligations of Contractors and Sub-Contractors*.

⁷⁶ Section 58—*Security for Fulfilment of Obligations*.

⁷⁷ Section 4(7).

cognizance of a situation where a discovery extends onto the land or the continental shelf of another country.⁷⁸

Further, under the *Petroleum Act*, 1984, data was the property of GNPC.⁷⁹ However, under the *Petroleum Act*, 2016, data is the “property of the Republic.”⁸⁰

3.2 *Other Provisions in the Petroleum Act, 2016*

The litmus test for the grant of a petroleum agreement under the *Petroleum Act*, 2016, is the “technical competence and financial capacity”⁸¹ of the company. This was not stated explicitly under the *Petroleum Act*, 1984, though it was contained in the Model Petroleum Agreement.⁸² A petroleum agreement is defined as “an agreement entered into between the Republic, the Corporation and a Contractor... for the exploration, development and production of petroleum.”⁸³

Provision has been made under the *Petroleum Act*, 2016, for a reconnaissance license which basically grants to the licensee, a non-exclusive right to undertake data collection and seismic surveying and shallow drilling,⁸⁴ as well as processing and evaluation of data.⁸⁵

The *Petroleum Act*, 1984, also mandated that it be the locally incorporated company and not the parent company that should be the signatory to the petroleum agreement or petroleum sub-contract.⁸⁶ Thus, a petroleum agreement entered into between the Government of Ghana (GoG) and GNPC (10%), Aker ASA⁸⁷ (85%) and Chemu Power

⁷⁸ Section 35—*Cross-Border Cooperation and Unitization*.

⁷⁹ Section 23(2).

⁸⁰ Section 52(1).

⁸¹ Section 10(10) of the Petroleum Act, 2016, titled *Petroleum Agreement*.

⁸² Preamble, Clause 6.

⁸³ Section 95—*Interpretation*.

⁸⁴ Section 9(2)(a).

⁸⁵ Section 9(2)(b).

⁸⁶ Section 23(15)(a).

⁸⁷ ASA means “allmennaksjeselskap” in Norwegian. It is a suffix/abbreviation attached to a company name to indicate that the entity is listed on the stock exchange.

Company Limited (5%)⁸⁸ in respect of the acreage South Deepwater Tano (SDWT) was unanimously ratified by Parliament⁸⁹ on 5 November 2008⁹⁰ after receiving the requisite approvals from the Ministry of Energy and GNPC. The agreement was however challenged in January 2009 that contrary to Section 23(15)⁹¹ of the *Petroleum Act*, 1984,⁹² which requires as the signatory to every petroleum agreement a locally incorporated company, this agreement was signed by the parent company—Aker ASA—and hence was ultra vires, null and void. The then Minister for Energy terminated the agreement and directed GNPC to reimburse Aker with the cost of acquiring data, since such data belonged to the State. This position that the locally incorporated company be the signatory to the petroleum agreement has been maintained under the *Petroleum Act*, 2016.⁹³

The *Petroleum Act*, 1984, contained an equilibrium balancing clause.⁹⁴ The Act provided that the terms of a petroleum agreement could be reviewed when there was a material change in the circumstances that prevailed at the time the agreement was entered into, or at the last review of the agreement. Though the *Petroleum Act*, 1984, only made provision for economic equilibrium and not freezing stabilization clauses, the latter was included in the petroleum agreements entered into prior to the discovery of petroleum and in the immediate aftermath of commercial production in 2010. Thus, these clauses were triggered by Aker for instance, in 2020, in respect of its acreage in the Deepwater Tano/Cape Three Points to insist—under its freezing stabilization clause—that changes in the law did not apply to it whilst at the same

⁸⁸ Chemu Power Company Limited was incorporated in Ghana on 7 February 2008 and issued with its Certificate to Commence Business on 8 February 2008.

⁸⁹ The Parliament of the Republic of Ghana, Parliamentary Debates (Official Report, Fourth Series), 5 November 2008, vol. 61(20), 1469–1470.

⁹⁰ The then Minister for Energy moved the motion to ratify the agreement.

⁹¹ In this case, the court did not pay attention to the important distinction under the *Companies Act*. However, the ruling will still be same even if it made that distinction because the external company was registered after the signing of the PA.

⁹² Note that Clause 1.46 of the Definition Section of Ghana's MPA states that, "'Petroleum Law [Act]" means the *Petroleum (Exploration and Production) Law [Act]*, 1984 (PNDCL 84)."

⁹³ Section 70(1)(a)(ii).

⁹⁴ Section 13—*Review of Terms and Conditions*.

time, successfully having terms in the agreement reviewed based upon its economic equilibrium clause. The *Petroleum Act*, 2016, like that of the *Petroleum Act*, 1984, contains an economic equilibrium clause⁹⁵ and not a freezing one. However, the practice now, unlike earlier times, is a move away from the freezing stabilization clauses to an exclusive focus on economic equilibrium clauses. A petroleum agreement reviewed due to an economic equilibrium clause is subject to ratification by Parliament.⁹⁶

The *Petroleum Act*, 1984, had a provision to the effect that where there was war or other emergency affecting energy supplies, the Secretary (Minister) could require a Contractor to sell all or part of the petroleum produced at the prevailing market price to the Republic.⁹⁷ The *Petroleum Act*, 2016, has a similar provision,⁹⁸ aptly titled *Domestic Supply Requirement*.⁹⁹

The *Petroleum Act*, 1984, mandated that a petroleum agreement could not be assigned directly or indirectly, without the prior consent in writing of the Secretary (Minister),¹⁰⁰ a position maintained under the *Petroleum Act*, 2016.¹⁰¹

Like Section 25 of the *Petroleum Act*, 1984,¹⁰² which deals with transactions between Contractor and Affiliates, Section 91 of the *Petroleum Act*, 2016, similarly titled *Transactions Between Contractor and Affiliates*, also deals with the problem of transfer pricing. It states, “Subject to this Act, a transaction between a Contractor or Sub-Contractor and an affiliate in relation to petroleum activities to be carried out under this Act shall be on the basis of prevailing international competitive prices and other terms and conditions that would be fair and reasonable if the transaction had taken place between the Contractor or Sub-Contractor and

⁹⁵ Section 20—*Review of Terms and Conditions*.

⁹⁶ Section 20(2).

⁹⁷ Section 24(3).

⁹⁸ Section 71—*Domestic Supply Requirement*.

⁹⁹ Further detail has been provided under Regulation 32 of the *Petroleum (Exploration and Production) (General) Regulations*, 2018 (L.I. 2359), with an amendment by the insertion of Regulation 6A, through the *Petroleum (Exploration and Production) (General) (Amendment) Regulations*, 2019 (L.I. 2390).

¹⁰⁰ Section 8—*Non-Assignment of Petroleum Agreement*.

¹⁰¹ Section 16—*Assignment*.

¹⁰² Section 25—*Transactions Between Contractor and Affiliates*.

a non-affiliate.” An affiliate is defined as “a shareholder of a Contractor or Sub-Contractor who owns fifty per cent or more of the shares in the business of the Contractor or Sub-Contractor or an entity which controls, is controlled by or is under common control with the Contractor or Sub-Contractor.”¹⁰³

As was the situation under the *Petroleum Act*, 1984, where the “Secretary [Minister] for Fuel and Power” represented the Republic in negotiation of petroleum agreements,¹⁰⁴ the “Minister responsible for Petroleum,”¹⁰⁵ hereinafter referred to as the “Minister for Energy,” represents the Republic in the negotiation of the terms of a petroleum agreement.¹⁰⁶ Under the *Petroleum Act*, 1984, such agreement was deemed to be approved by the Executive (Council) within a month of entry by the Secretary unless disallowed by the Executive. Under the *Petroleum Act*, 2016, however, a petroleum agreement is not effective unless ratified by Parliament in accordance with Article 268¹⁰⁷ of the Constitution.¹⁰⁸

Further, the *Petroleum Act*, 2016, requires that any borrowing exceeding the cedi equivalent of thirty million US dollars for the purpose of exploration, development and production must be approved by Parliament.¹⁰⁹ This provision arose partly out of events that transpired in the industry where in 2014, GNPC sought to contract a loan facility of about \$700 million from external lenders for oil and gas exploration and development operations. The then Chief Executive Officer of GNPC relied on Section 15 of the *GNPC Act*, titled *Borrowing Powers*, to

¹⁰³ Section 95—*Interpretation*.

¹⁰⁴ Section 1(2).

¹⁰⁵ *Ibid*.

¹⁰⁶ Section 10(12).

¹⁰⁷ Article 268—*Parliamentary Ratification of Agreements Relating to Natural Resources*.

Any transaction, contract or undertaking involving the grant of a right or concession by or on behalf of any person including the Government of Ghana, to any other person or body of persons howsoever described, for the exploitation of any mineral, water or other natural resource of Ghana made or entered into after the coming into force of this Constitution shall be subject to ratification by Parliament.

¹⁰⁸ Section 10(13).

¹⁰⁹ Section 10(15).

justify the Corporation's decision to seek the loan without Parliamentary approval.¹¹⁰ The Attorney-General also opined that Parliamentary approval was not needed for the loan. The New Patriotic Party, then in opposition, argued inter alia, that Parliamentary approval was required in accordance with Article 181 of the Constitution, titled *Loans*. Taking into consideration the fierce debate that arose out of all this, Section 10(15) of the *Petroleum Act*, 2016, was intended to remove any sense of ambiguity and stipulates; "Any borrowing exceeding the cedi equivalent of thirty million United States Dollars for the purpose of exploration, development and production shall be approved by Parliament and shall be in consonance with the *Petroleum Revenue Management Act*, 2011 (Act 815)."

Section 18 of the *Petroleum Act*, 2016, provides GNPC a pre-emption right in respect of any future disposal of a Contractor's interest in a petroleum agreement. Thus, where a Contractor enters into an agreement to dispose of all or part of its interest, GNPC is given the right¹¹¹ to acquire that interest on the same terms as agreed with the potential buyer. Where the consideration agreed is not monetary, GNPC may pay the corresponding monetary value.¹¹² This was precipitated by an event which occurred in 2009 when Kosmos Energy attempted to sell its interest in the Jubilee Field to ExxonMobil for \$4 billion without the prior consent of and without first offering it to Ghana. The government objected and was of the view that Ghana had a pre-emption right so Kosmos could not sell its interest in the manner which it purported

¹¹⁰ Section 15—*Borrowing Powers*.

(1) Subject to subsection (2), the Corporation may borrow sums required for the purpose of meeting any of its obligations or performing any of its functions.

(2) The power of the Corporation to borrow money shall be exercisable only on the recommendation of the Secretary and with the approval of the Secretary responsible for Finance as to the amount, source of the loan and the terms and conditions under which the loan may be effected.

(3) An approval given for the borrowing of money under subsection (2) may be general or limited to a particular borrowing and may be with or without conditions.

(4) The Minister responsible for Finance may approve the guarantee on the conditions the Minister thinks fit of the repayment of principal and the payment of interest on the authorized borrowing made under this section.

¹¹¹ Section 18(1).

¹¹² Section 18(2).

to do,¹¹³ without government consent. After a back and forth between Kosmos and the government, Kosmos, on 18 August 2010, finally announced the termination of the *Sale and Purchase Agreement* with ExxonMobil.¹¹⁴ Thus, this provision in the *Petroleum Act, 2016*, pre-empts the occurrence of such a tussle between a Contractor and the State over the right of the State to purchase an interest that a Contractor intends to sell.

In 2011, there were faults with the flow meters on the FPSO in the Jubilee Field requiring removal for calibration. Thus, the oil being lifted was measured through ullaging where a dipstick was used to manually calculate the amount being lifted. This was heavily criticized by the public as not being accurate enough and the Ghana Revenue Authority (GRA) also reported that in its annual review as one of the challenges it was facing in its mandate to ensure that the country was not being short-changed in terms of revenue due the State. Pressure was mounted on the government by the media and civil society organizations and the problem was rectified shortly thereafter. Thus, Section 37 of the *Petroleum Act, 2016*, titled *Measurement of Petroleum Obtained*, provides for the measurement and analyses of petroleum produced and the procedure for verification of the measurement system.

Section 84 of the *Petroleum Act, 2016*, is titled *Compensation for Pollution Damage*. Section 84(3) states:

- (3) Where an event of force majeure results in pollution damage, the Minister shall on the advice of the Commission assess the damage taking into account:
- (a) the scope of the activity,
 - (b) the measures taken to avoid or mitigate the effects of the force majeure event,
 - (c) the situation of the party that has sustained the damage as a result of the force majeure event and
 - (d) the insurance opportunities of each party.

¹¹³ Ibid., 1639. See Articles 16.4 and 16.5 of Model Petroleum Agreement. It is instructive to note that the petroleum agreement between Kosmos and the State does not contain an explicit provision for “Right of First Refusal.”

¹¹⁴ Kosmos Energy, “Kosmos Energy Agreement to Sell Ghana Business Terminated” (Kosmos Energy, 2010), www.kosmosenergy.com/press/kosmos_PR_081810.pdf, last accessed 25 April 2021.

However, Section 84(4) states that, “On the basis of the assessment, the Minister shall require the person liable for the pollution damage to pay compensation.” This provision is problematic as a party cannot “be liable” for force majeure. As aptly defined under the Act, force majeure means “any event beyond reasonable control of the party claiming to be affected by the event which has not been brought at the instance of the party including, earthquake, storm, flood, lightning or other adverse weather conditions, war, acts of terrorism, embargo, blockade, riot or civil disorder.”¹¹⁵ This provision requires amendment.

Sections 85–89 of the *Petroleum Act*, 2016, under the broad heading *Fiscal Provisions*, cover an aspect of the fiscal regime of Ghana’s petroleum industry and include royalties,¹¹⁶ surface rentals,¹¹⁷ tax,¹¹⁸ bonus payments,¹¹⁹ and additional oil entitlement.¹²⁰ It should be noted that not every single aspect of Ghana’s fiscal regime—in the sense of how Ghana derives revenue—is contained under that broad heading *Fiscal Provisions*. Carried Interest for instance is contained under Section 10(14)(a), whilst Additional Participating Interest under Section 10(14)(b).

Contractor parties are jointly and severally responsible for the financial and other obligations and liabilities arising out of petroleum activities.¹²¹ Contractors and licensees are, however, not jointly and severally liable for payment of taxes, royalties in cash and additional oil entitlement.¹²²

It is worth noting that the *Petroleum Act*, 2016, extrapolates from the Norwegian Act in some respects, particularly in respect of the technical rules. The 2013 Bill had language which mirrored that of the *Norwegian Petroleum Act*¹²³ but was watered down over time such that the language was less similar though the import remained the same when the *Petroleum Act*, 2016, was finally enacted. The Norwegian influence is

¹¹⁵ Section 95—*Interpretation*.

¹¹⁶ Section 85—*Payment of Royalties*.

¹¹⁷ Section 86—*Annual Fee in Respect of Acreage*.

¹¹⁸ Section 87—*Tax*.

¹¹⁹ Section 88—*Bonus Payments*.

¹²⁰ Section 89—*Additional Oil Entitlement*.

¹²¹ Section 59(1)—*Liabilities*.

¹²² Section 59(2).

¹²³ *Act 29 November 1996 No. 72 Relating to Petroleum Activities*.

not surprising as the Norwegians assisted Ghana in the development of its industry, including legislation. In the 2011 *Oil for Development Annual Report*, Norad comments that, “Assistance was provided to the Ministry of Energy on drafting the new Petroleum (Exploration and Production) Bill and the Petroleum Commission Bill.”¹²⁴

4 ROLE OF GNPC, MINISTER FOR ENERGY AND PETROLEUM COMMISSION UNDER THE PETROLEUM ACT, 2016

It is to be noted that prior to the 2007 large-scale commercial discovery, there was no separate regulatory entity for the upstream petroleum industry so GNPC performed some quasi-regulatory functions ostensibly for and under the supervision of the Ministry of Energy. With the formation of the Petroleum Commission (**The Commission**) in 2011, GNPC was to shed all vestiges of regulatory powers and to perform strictly as a commercial entity. The role that GNPC plays under the *Petroleum Act*, 2016, is commercial unlike the *Petroleum Act*, 1984, that accorded it some quasi-regulatory functions. GNPC may undertake petroleum activities in an open area not covered by a petroleum agreement¹²⁵ and in those circumstances, is subject to virtually all the obligations imposed on a Contractor.¹²⁶ GNPC is required to be a party to all petroleum agreements entered into by the State.¹²⁷ Further, where third-party liability is

¹²⁴ Norad, “Oil for Development Annual Report 2011” (Norad, May 2011), 36, www.Norad.no/en/tools-an.d-publications/publications/publication?key=392371, last accessed 13 April 2021.

¹²⁵ Section 11(1)—*Petroleum Activities by the Corporation*.

¹²⁶ Section 24(6)—*Exploratory Drilling*, Section 25(17)—*Notification of Petroleum Discovery and Appraisal*, Section 26(4)—*Prudent Exploitation*, Section 27(15)—*Plan of Development and Operation*, Section 28(5)—*Restrictions on Approval of Plan of Development and Operation*, Section 29(3)—*Postponement of Development*, Section 30(3)—*Commencement of Petroleum Production*, Section 31(12)—*Production Programme and Permits*, Section 32(2)—*Utilization of Associated Natural Gas*, Section 33(5)—*Restrictions on Flaring*, Section 36(6)—*Third Party Use of Production Facilities*, Section 37(11)—*Measurement of Petroleum Obtained*, Section 43(8)—*Decommissioning Plan*, Section 46(5)—*Plugging and Abandonment of Well*, Section 47(2)—*Restoration of Affected Areas*, Section 48(2)—*Liability for Decommissioning*, Section 54(2)—*Reporting*, Section 61(2)—*Use of Ghanaian Goods and Services*, Section 83(1)—*Liability for Pollution Damage*, Section 86(3)—*Annual Fee in Respect of Acreage*.

¹²⁷ Section 10(1)—*Petroleum Agreement*.

incurred by a person who undertakes a task on its behalf, like a licensee, Contractor or Sub-Contractor, it is liable for damages to the same extent as, and jointly and severally with the person undertaking the task and if applicable, the person's employer.¹²⁸

GNPC, as the national oil company, as well as the holder of Ghana's interest in the petroleum blocks,¹²⁹ also has certain "special rights." In respect of ownership of physical assets purchased, installed or constructed by a Contractor for petroleum activities, it must be transferred to GNPC at its option either when the full cost has been recovered or when the petroleum agreement terminates.¹³⁰ Where at least fifty per cent of the cost of a physical asset has been recovered, GNPC can have the title transferred to it by the Contractor upon payment by GNPC of the unrecovered portion of the cost of the asset.¹³¹ Assets rented or leased by the Contractor which are of the type customarily leased for use in accordance with petroleum industry practice are not required to be transferred to GNPC.¹³² A licensee, Contractor or a Sub-Contractor must keep the State and GNPC, indemnified against claims arising from their operations, brought by a third party.¹³³ Where there is hindrance to acquisition of property, it may be acquired for GNPC, which will bear the cost.¹³⁴

Thus, as noted, after the formation of the Commission, GNPC is to play a purely commercial role whilst the Commission is to take over any vestiges of regulatory power that GNPC previously wielded. The Commission performs a technocratic, regulatory and advisory role¹³⁵ to the Minister for Energy which is manifested in the functions ascribed to it under the *Petroleum Act, 2016*.

¹²⁸ Section 59(3).

¹²⁹ A "Block" is defined under the *Interpretation* Section of the Act as, "an area that is approximately six hundred and eighty-five square kilometres as depicted on the reference map prepared by the Minister in accordance with the provisions of this Act."

¹³⁰ Section 19(1)—*Transfer of Assets to the Corporation*.

¹³¹ Section 19(5).

¹³² Section 19(6).

¹³³ Section 59(3)—*Liabilities*.

¹³⁴ Section 72(2)—*Interference with Lawful Activities, Compensation and Access to Land*.

¹³⁵ Section 3 of the *Petroleum Commission Act – Functions of the Commission*.

It is the Commission that grants permits to undertake exploration drilling,¹³⁶ and assigns designations to each well or field.¹³⁷ A Contractor cannot change the designation, classification or status of a well without its written approval.¹³⁸ The Commission is mandated to recommend to the Minister to grant an extension of the appraisal period beyond two years in special cases and may stipulate conditions for the extension.¹³⁹ A Contractor is also not permitted to commence an appraisal programme or enter into binding obligations until such a programme has been approved by the Commission.¹⁴⁰ The results of the appraisal programme stating whether the discovery is commercial or not and the basis for such a decision must also be submitted to the Commission.¹⁴¹ Where the discovery is not commercial and thus relinquishment must take place, the Commission must be notified in writing.¹⁴² The Commission is mandated to approve the delineation of the contract area and the relinquishment takes effect from the date of notification by the Contractor as approved by the Commission.¹⁴³ When a Contractor wishes to relinquish a Contract area or part thereof, it must submit a proposal to the Commission for approval.¹⁴⁴

A Contractor or Sub-Contractor cannot enter into a petroleum sub-contract without the Commission's written approval.¹⁴⁵ A Contractor cannot award a petroleum sub-contract to a company that is not registered with the Commission.¹⁴⁶ Further, it is the Commission which is mandated to approve the threshold for the value of petroleum sub-contracts.¹⁴⁷ A Contractor can also not enter into an agreement with an affiliate for the lease of a petroleum facility to be used for petroleum

¹³⁶ Section 24(2)—*Exploration Drilling*.

¹³⁷ Section 24(4).

¹³⁸ Section 24(5).

¹³⁹ Section 25(10)—*Notification of Petroleum Discovery and Appraisal*.

¹⁴⁰ Section 25(12).

¹⁴¹ Section 25(13).

¹⁴² Section 25(14).

¹⁴³ Section 15(16).

¹⁴⁴ Section 22—*Relinquishment of Contract Area*.

¹⁴⁵ Section 17(1)—*Sub-Contracting*.

¹⁴⁶ Section 17(4).

¹⁴⁷ Section 17(2).

activities without the Commission's written approval¹⁴⁸ and can also not directly or indirectly assign, whether in whole or part, a right or obligation under a petroleum sub-contract¹⁴⁹ to a third person or affiliate, without the Minister's written approval.¹⁵⁰

Production of petroleum cannot commence without the approval of the Commission.¹⁵¹ Annual permits for production or injection of petroleum,¹⁵² as well as authorization for flaring or venting petroleum, are granted by the Commission in consultation with the Environmental Protection Agency.¹⁵³ Matters in relation to third-party use of production facilities,¹⁵⁴ as well as third-party use of transportation, treatment and storage facilities,¹⁵⁵ are regulated by the Commission. The measurement system for production of petroleum is approved by the Commission after consultation with the Standards Authority.¹⁵⁶ The Commission, in consultation with the Minister, as a condition for approval of an agreement on the use of transportation, treatment and storage facilities, may, change the tariffs and other conditions agreed to between the parties having due regard to resource management risks, whilst allowing the owner reasonable returns taking into account, investment and risks.¹⁵⁷ Where permissions are needed due to the fact that the conduct of petroleum activities is likely to affect a lawful economic or social interest or activity of the inhabitants of an area, the Commission is mandated under the Act to negotiate the appropriate permission required from the relevant authorities.¹⁵⁸

¹⁴⁸ Section 17(5).

¹⁴⁹ A "petroleum sub-contract" is defined as "a contract between the Corporation and a third party or between a Contractor and a third party for the provision of goods and services for petroleum activities, but does not include a petroleum agreement."

¹⁵⁰ Section 17(6).

¹⁵¹ Section 30—*Commencement of Petroleum Production*.

¹⁵² Section 31(1)—*Production Programme and Permits*.

¹⁵³ Section 33(2)—*Restrictions on Flaring*.

¹⁵⁴ Section 36—*Third Party Use of Production Facilities*.

¹⁵⁵ Section 42—*Third Party use of Transportation, Treatment and Storage Facilities*.

¹⁵⁶ Section 37(2)—*Measurement of Petroleum Obtained*.

¹⁵⁷ Section 42(9)—*Third Party use of Transportation, Treatment and Storage Facilities*.

¹⁵⁸ Section 72(1)—*Interference with Lawful Activities, Compensation and Access to Land*.

Notice to plug or abandon a well must also be submitted to the Commission.¹⁵⁹ Supervision and inspection of petroleum activities are generally overseen by the Commission.¹⁶⁰ The Commission receives and stores petroleum data¹⁶¹ and all parties including GNPC must provide to the Commission its data and information as well as reports, studies, interpretations and analysis.¹⁶² The Commission is vested with the power to permit an entity to market its data, interpretations and analysis,¹⁶³ and can also provide any data or information to GNPC for its use.¹⁶⁴ One cannot export or permit the retention or exportation of data, documents and reservoir samples without its written approval.¹⁶⁵ Where it is so exported, it shall be returned forthwith at the Commission's written request.¹⁶⁶ The Commission is empowered to establish and maintain a register of petroleum agreements, permits, licenses and authorizations.¹⁶⁷ The Commission is in charge of promoting local content and participation,¹⁶⁸ and licensees, Contractors and Sub-Contractors must submit a local content plan to the Commission for approval.¹⁶⁹ It is also the Commission that is in charge of delimiting safety zones and it does so in consultation with the relevant authorities.¹⁷⁰ When a party fails to conduct activities in a safe manner, the Commission is empowered to take necessary measures to ensure safety and may recover the costs and expenses of doing so, from the party.¹⁷¹ The Commission in consultation with the National Insurance Commission can also give approval to a Contractor or licensee to arrange another form of security other

¹⁵⁹ Section 46—*Plugging and Abandonment of Well*.

¹⁶⁰ Section 51—*Supervision and Inspection*.

¹⁶¹ Section 3(g) of the *Petroleum Commission Act – Functions of the Commission*.

¹⁶² Section 52(3)—*Ownership of Petroleum Data*.

¹⁶³ Section 52(4).

¹⁶⁴ Section 52(5).

¹⁶⁵ Section 53(2)—*Samples, Data and Information*.

¹⁶⁶ Section 53(4).

¹⁶⁷ Section 56(1)—*Petroleum Register*.

¹⁶⁸ Section 3(f) of the *Petroleum Commission Act—Functions of the Commission*.

¹⁶⁹ Section 63(2)—*Local Content Plan*.

¹⁷⁰ Section 77(2)—*Safety Zones*.

¹⁷¹ Section 79(1)—*Measures to Ensure Safety*.

than insurance cover.¹⁷² Further, it is to the Commission that various administrative penalties are to be paid.¹⁷³

It bears noting that under the *Petroleum Act*, 2016, the Minister for Energy is vested with considerable powers. The Minister, in consultation with the Commission, prepares a reference map that shows areas of possible accumulation of petroleum.¹⁷⁴ The Minister makes the decision as to whether to open an area for petroleum activities,¹⁷⁵ close an area,¹⁷⁶ or redefine the boundaries of an area declared open but not yet covered by an existing petroleum agreement.¹⁷⁷ The Minister has the power to reserve a block, part of a block or a number of blocks in an open area for GNPC,¹⁷⁸ which power he exercised in Ghana's first competitive bidding licensing. The Minister can request that a consortium be formed as a condition for entering into a petroleum agreement.¹⁷⁹ The Minister in consultation with the Commission can determine that a petroleum agreement be entered into by direct negotiations, without public tender, where it represents the most efficient manner to achieve optimum results.¹⁸⁰ The Minister represents the Republic in negotiation of petroleum agreements and licensing in general,¹⁸¹ and grants reconnaissance licenses in consultation with the Commission.¹⁸² The Minister has the power to grant an exclusive right to undertake reconnaissance activities in an area not covered by an existing reconnaissance license but which right does not affect any proprietary rights of the State to data or preclude it from undertaking reconnaissance or other petroleum activities

¹⁷² Section 92(5)—*Insurance*.

¹⁷³ Section 93—*Offences and Penalties*.

¹⁷⁴ Section 6—*Reference Map*.

¹⁷⁵ Section 7—*Opening of an Area*.

¹⁷⁶ Section 8(1)(a)—*Closure and Redefinition of Area*.

¹⁷⁷ Section 8(1)(b).

¹⁷⁸ See Sections 7(9) and 11(1).

¹⁷⁹ Section 10(11)—*Petroleum Agreement*.

¹⁸⁰ Section 10(9).

¹⁸¹ Section 10.

¹⁸² Section 9(1)—*Reconnaissance License*.

within that area.¹⁸³ He may decline on stated reasons not to enter into a petroleum agreement.¹⁸⁴

The Minister approves the Operator.¹⁸⁵ He can also appoint an Operator if the parties cannot agree on one,¹⁸⁶ or even in consultation with the Commission, change an Operator where it fails to meet material requirements of the Act.¹⁸⁷ An Operator can be a Contractor (Oil Company), the Corporation (GNPC), a body corporate owned by the Corporation such as Explorco¹⁸⁸ or a body corporate owned by the Contractor and the Corporation such as Saltpond Offshore Producing Company Limited (SOPCL).¹⁸⁹ A Contractor cannot transfer a share of the incorporated company in Ghana to a third party without the Minister's written approval,¹⁹⁰ and a Contractor can also not assign directly or indirectly,¹⁹¹ or mortgage its interest without the Minister's approval.¹⁹² A mortgage lapses if the facility is decommissioned.¹⁹³

It is the Minister in consultation with the Commission that is empowered under the Act to extend the exploration period¹⁹⁴ for a company beyond the stipulated seven years.¹⁹⁵ It is the Minister as well who, in exceptional cases and in consultation with the Commission, makes that determination that the area to be relinquished be smaller than as set out in the Act.¹⁹⁶ Where a Contractor fails to fulfil its minimum work obligation

¹⁸³ Section 9(3).

¹⁸⁴ Section 10(4)—*Petroleum Agreement*.

¹⁸⁵ Section 13(1)—*Operator*.

¹⁸⁶ Section 13(2).

¹⁸⁷ Section 13(5).

¹⁸⁸ Exploratory arm of GNPC.

¹⁸⁹ GNPC and Lushann-Eternit Energy Limited formed SOPCL as the joint venture vehicle and local operator of the Saltpond Field.

¹⁹⁰ Section 15—*Change of Ownership*.

¹⁹¹ Section 16—*Assignment*.

¹⁹² Section 57(1)—*Mortgaging of Participating Interest*.

¹⁹³ Section 57(6).

¹⁹⁴ "Exploration Period" is defined under the *Interpretation* Section of the Act as "the period commencing on the effective date and continuing during the time within which the Contractor is authorized to carry out exploration operations."

¹⁹⁵ Section 21(5)—*Exploration Period and Extension*.

¹⁹⁶ Section 22(6).

stipulated in the petroleum agreement and no extension has been granted to it, it is the Minister who terminates the petroleum agreement.¹⁹⁷

It is to the Minister that a Plan of Development is submitted¹⁹⁸ and it is he who sets a deadline for the submission of the Plan.¹⁹⁹ A Plan of Development only becomes effective upon the Minister's prior written approval.²⁰⁰ He can refuse to approve it²⁰¹ and can also demand that changes be made. In consultation with the Commission, the Minister can, in the national interest, limit the approval to the development and production of individual reservoirs or phases, and the development and production may be subject to conditions determined by him.²⁰² The Minister can revise the long-term production schedule if he feels it is "warranted by resource management considerations or significant socio-economic considerations."²⁰³ A Contractor must notify the Minister if there is a deviation from the assumptions and preconditions on which a Plan was submitted or has been approved,²⁰⁴ and any alteration requires the written approval of the Minister,²⁰⁵ who can require a new or amended Plan of Development to be submitted.²⁰⁶ Where public or national interest requires, the Minister may, after consultation with the Contractor, postpone a Field's development.²⁰⁷

The Minister can authorize that contract areas be unitized,²⁰⁸ and stipulate conditions and make directions thereof.²⁰⁹ It is the Minister who

¹⁹⁷ Section 23(3)—*Minimum Work Obligation*.

¹⁹⁸ Section 27(1)—*Plan of Development and Operation*.

¹⁹⁹ Section 27(2).

²⁰⁰ Section 27(10).

²⁰¹ Section 28—*Restrictions on Approval of Plan of Development and Operation*.

²⁰² Section 27(7).

²⁰³ Section 27(8).

²⁰⁴ Section 27(11).

²⁰⁵ Section 27(12).

²⁰⁶ Section 27(13).

²⁰⁷ Section 29—*Postponement of Development*.

²⁰⁸ Section 34(1).

²⁰⁹ Section 34(5).

grants a license to install or operate a facility for transportation, treatment or storage of petroleum,²¹⁰ and it is to him that prior written approval must be sought when there is a material deviation or alteration of the terms and preconditions on which the application was approved.²¹¹ The Minister may stipulate tariffs set by the Commission for use of the facility²¹² and make further directions thereof in respect of the facility.²¹³ It is also the Minister who in consultation with the Petroleum Commission makes the determination as to the manner and place in which petroleum is delivered by the Contractor and GNPC.²¹⁴ Where petroleum is needed to meet domestic supply requirements, it is the Minister that makes the determination as to the percentage of petroleum required.²¹⁵ It is to the Minister that a decommissioning plan is submitted²¹⁶ and who makes a decision as to its approval,²¹⁷ after a statutory obligation to seek the advice of the Commission.²¹⁸ It is also the Minister to whom performance bonds or guarantees are furnished, for the fulfilment of obligations.²¹⁹ Further, where natural resources other than petroleum are discovered in an area, it is the Minister, in consultation with the relevant authorities, who makes that determination as to which of the activities to be postponed.²²⁰ It is also the Minister who by legislative instrument has the power to make Regulations to prescribe for matters necessary for giving effect to the Act.²²¹

²¹⁰ Section 38—*License to Install and Operate Facilities for Transportation, Treatment and Storage of Petroleum.*

²¹¹ Section 39(5)—*Application to Install and Operate Facilities.*

²¹² Section 40(2)(a).

²¹³ Section 40(2)(b).

²¹⁴ Section 41—*Landing of Petroleum.*

²¹⁵ Section 71(2)—*Domestic Supply Requirements.*

²¹⁶ Section 43—*Decommissioning Plan.*

²¹⁷ Section 44—*Decision on the Decommissioning Plan.*

²¹⁸ Section 43(1).

²¹⁹ Section 58—*Security for Fulfilment of Obligations.*

²²⁰ Section 90(3)—*Natural Resources Other than Petroleum Resources.*

²²¹ Section 94—*Authority to Issue Regulations, Guidelines and Stipulate Conditions.*

5 SUBSIDIARY LEGISLATION

The power to pass regulations was hardly utilized by the Minister under the Petroleum Act, 1984. This is however not the case after the large-scale discovery in 2007. As enumerated earlier, there are a number of regulations currently in force in respect to Ghana's upstream petroleum industry. These regulations were passed pursuant to the power granted to the Minister under the Petroleum Act, 1984, the Petroleum Commission Act, 2011 (Act 821), the Petroleum Revenue Management Act, 2011 (Act 815) as amended by Act 893 and the Petroleum Act, 2016. Some key ones are discussed below.

5.1 *Petroleum (Local Content and Local Participation) Regulations, 2013 (L.I. 2204)*

The *Local Content Regulations* came into force on 20 November 2013. The purpose of the *Local Content Regulations* is to ensure maximum level of participation by Ghanaians in the upstream petroleum industry. Thus, it requires Contractors, Sub-Contractors, licensees and other participants in the petroleum sector to make local content a focal part of their operations through the use of local expertise, goods and services, development of local capacities through skills and technology transfer, know-how and active research and development programmes. Also, the *Local Content Regulations* aim to create petroleum and related supportive industries in order to sustain economic development, and achieve and maintain some degree of control for Ghanaians in the upstream petroleum industry.²²²

With respect to equity participation and ownership of petroleum operations, the Local Content Regulations provide that preference must be given to indigenous Ghanaian Companies (IGC) in the grant of a petroleum agreement.²²³ It also provides that in addition to the interest provided GNPC by law, there must be at least five percent (5%) equity participation of an IGC in every petroleum agreement that is executed. The interest held by an IGC in a petroleum agreement is not transferable to a non-IGC.²²⁴ An IGC is defined as a company incorporated in Ghana

²²² *Local Content Regulations* 1.

²²³ *Ibid.*, Regulation 4(1).

²²⁴ *Ibid.*, Regulations 4(2) and (5).

that has at least fifty percent (50%) of its equity owned by Ghanaian citizens and has Ghanaian citizens holding at least eighty percent (80%) of executive and senior management positions and hundred percent (100%) non-managerial and other positions.²²⁵

Where a non-IGC wants to provide services in the upstream petroleum sector, that non-IGC must incorporate a joint venture company with an IGC, and the IGC must be afforded at least ten percent (10%) equity participation in the company.²²⁶

To ensure full compliance with local content, a Contractor, Sub-Contractor, licensee or other allied entity is required to prepare and submit a local content plan for approval before it engages in any petroleum activity in the country.²²⁷ The local content plan is required to have sub-plans for employment and training, research and development, technology transfer, legal and financial services.²²⁸

In addition to the local content plan, a Contractor, Sub-Contractor, licensee or other allied entity is required to establish and implement a bidding process for acquisition of goods and services. This process must give preference to IGCs. Thus, they must not award contracts solely on the principle of the lowest bidder. Hence, an IGC that is qualified to execute a job must be awarded a contract if that company's bid is not more than ten percent (10%) of the value of the lowest bidder (foreign Sub-Contractor).²²⁹

5.2 Petroleum (Exploration and Production) (Measurement) Regulations, 2016 (LI 2246)

The *Petroleum (Measurement) Regulations* came into force after November 2016. It was passed under the Petroleum (Exploration and Production) Act, 1984 (PNDCL 84). It remains in effect even though the Petroleum Act, 1984 has been repealed because Section 97 of the Petroleum Act, 2016 states; "Despite the repeal of PNDCL 84, the Regulations, rules, by-laws, notices, orders, directions, appointments or

²²⁵ Ibid., Regulation 49.

²²⁶ Ibid., Regulation 4(6).

²²⁷ Ibid., Regulation 7.

²²⁸ Ibid., Regulation 9(3).

²²⁹ Ibid., Regulations 11 and 12.

any act lawfully made or done under the repealed enactment and in force immediately before the commencement of this Act shall continue to have effect until revoked, cancelled or terminated.” Its objective is to ensure that an accurate measurement system is in place for petroleum resources produced thereby ensuring that the basis of sharing petroleum revenue accruing from the country’s resources between Contractors and the Republic is accurate.²³⁰ The *Petroleum (Measurement) Regulations* apply to planning, design, testing, calibration, operation and maintenance of a metering system, equipment and methods for measuring, allocating and determining quantities of petroleum produced, transported, sold, used for fuel or flaring gas in petroleum activities.²³¹ It gives the Commission power to conduct the supervision and inspection of any metering and allocation system from the design to the operation stage or in consultation with the Standard Authority, to appoint an independent person to carry out this function on its behalf.²³²

5.3 *Petroleum (Exploration and Production) (Data Management) Regulations, 2017 (LI 2257)*

The *Petroleum (Data Management) Regulations* applies to the reporting and management of petroleum data obtained from conducting petroleum operations in the Republic.²³³ It also specifies the format, contents and standards required for the preparation and submission of geophysical, geological and production data related to petroleum activities to support the efficient exploitation of petroleum resources in the country.²³⁴ It provides that the State owns all petroleum data related to petroleum activities in the country.²³⁵ All Contractors, Sub-Contractors, GNPC and all their agents, affiliates or persons, who act directly or indirectly for them, are required to comply with the *Petroleum (Data Management) Regulations*.²³⁶

²³⁰ *Petroleum Measurement Regulations*, Regulation 2.

²³¹ *Ibid.*, Regulation 1.

²³² *Ibid.*, Regulation 4(1).

²³³ *Petroleum Data Management Regulations*, Regulation 1.

²³⁴ *Ibid.*, Regulation 2.

²³⁵ *Ibid.*, Regulation 3.

²³⁶ *Ibid.*, Regulation 4.

5.4 *Petroleum (Exploration and Production) (Health, Safety and Environment) Regulations, 2017 (L.I. 2258)*

The *Petroleum (Health, Safety and Environment) Regulations* aim to promote high standards for health, safety and the environment in respect of the conduct of petroleum activities in the country. To achieve these standards, it provides minimum health, safety and environmental requirements that persons engaged in petroleum activities must comply with in order to prevent adverse effects of petroleum activities on health, safety and the environment. It further aims to ensure systematic implementation of measures to comply with requirements and achieve set goals in an applicable working environment and safety standards.²³⁷ The *Petroleum (Health, Safety and Environment) Regulations* impose a duty to develop and update a management system, health and safety plan and an emergency preparedness plan for dealing with any risks, hazards, accidents and pollution that may arise during the course of petroleum operations.²³⁸

5.5 *Petroleum (Exploration and Production) (General) Regulations, 2018 (L.I. 2359) as amended by the Petroleum (Exploration and Production) (General) (Amendment) Regulations, 2019 (L.I. 2390)*

The *Petroleum (General) Regulations* came into force on 26 July 2018. The Minister and the Commission are responsible for implementing and enforcing the *General Regulations*. The *General Regulations* supplement the *Petroleum Act, 2016*, by providing further details and guidelines on the implementation of the *Petroleum Act, 2016*. The *General Regulations*

²³⁷ *Petroleum HSE Regulations*, Regulation 1.

²³⁸ *Ibid.*, Regulations 3, 8, 9, 157 and 9.

broadly deal with Area Management,²³⁹ Grant of Petroleum Agreement,²⁴⁰ Petroleum Agreement,²⁴¹ Petroleum Activities by the Corporation,²⁴² Management of Petroleum Activities,²⁴³ Exploration,²⁴⁴ Development and Production,²⁴⁵ Transportation, Treatment and Storage of Petroleum,²⁴⁶ Cessation, Decommissioning and Removal of Facilities,²⁴⁷ Information and Reporting,²⁴⁸ Fiscal Provisions,²⁴⁹ and Miscellaneous Provisions (Offences and Penalties, Interpretation).²⁵⁰

The *(General) (Amendment) Regulations* make changes to the *General Regulations* and amend provisions pertaining to *Invitation to Tender, Direct Negotiations, Petroleum Register, Joint Operating Agreements, Application for an Extension of a new petroleum agreement, Grant of Extension or a new petroleum agreement, Domestic Supply Requirement, Relinquishment of Contract Area, Additional Oil Entitlement*, as well as the *Interpretation*.

Thus, it bears noting for instance that under the *General Regulations*, GNPC and the other parties were mandated to enter into a Joint Operating Agreement²⁵¹ in accordance with a Model Agreement provided by the Minister.²⁵² Beforehand, GNPC was not a party and the Minister had no say concerning this private contract. However, under the *General Regulations*, the Minister was granted extensive powers in respect of decision-making of what was essentially a private contract between the

²³⁹ Regulation 2–8.

²⁴⁰ Regulation 9–21.

²⁴¹ Regulation 22–33.

²⁴² Regulation 34–37.

²⁴³ Regulation 38.

²⁴⁴ Regulation 39–42.

²⁴⁵ Regulation 43–50.

²⁴⁶ Regulation 51–60.

²⁴⁷ Regulation 61–65.

²⁴⁸ Regulation 66–70.

²⁴⁹ Regulation 71–78.

²⁵⁰ Regulation 79, 80.

²⁵¹ Regulation 25.

²⁵² Regulation 25(2).

Contractor parties on how to regulate the relationship amongst themselves. The *(General) (Amendment) Regulations*, repealed the provision granting such powers to the Minister. The current position is that GNPC and its subsidiary are required to be parties to the Joint Operating Agreement if they acquire a commercial interest in a petroleum agreement.²⁵³

The *(General) (Amendment) Regulations* insert provisions pertaining to *Submission of Work Program and Budget, Decommissioning of a petroleum facility*, as well as *General Requirement on the issue of performance bond or guarantee*.

6 CONCLUSIONS

The *Petroleum Act, 2016*, was largely enacted to deal with the inadequacies of the *Petroleum Act, 1984*. It sets out the broad framework for managing petroleum operations from exploration to production. Whilst the Petroleum (Exploration and Production) Bill remained a work in progress, Ghana decided to use contractual means to bridge the gap in the law. As such, many of the proposed provisions were incorporated in the petroleum agreements granted after the large-scale discovery of 2007, to deal with the inadequacies in the law. These modifications to the petroleum agreements were concretized into statute when the *Petroleum Act, 2016*, was enacted. Hence, a great deal of the provisions in the current Model Petroleum Agreement are covered by statute and the Agreement has been modified to make references to the applicable statutory provisions.

The laws governing Ghana's petroleum industry in general are still a work in progress as evidenced by the many Regulations enacted under the *Petroleum Act, 2016*. There is the intention to enact additional Regulations under the *Petroleum Act, 2016* to deal specifically with various matters requiring further regulation, for instance, decommissioning. Although the petroleum industry legislation is work in progress, there is sufficient legislation to guide effective operation of the industry as it stands. Failure to achieve the noble objectives that the *Petroleum Act, 2016*, seeks to achieve will lie not so much in any inadequacies or

²⁵³ Regulation 4 of *Petroleum (Exploration and Production) (General) (Amendment) Regulations, 2019* (L.I. 2390).

limitations in the laws but a failure of duty bearers to implement them proactively and effectively.

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Role and Contribution of the Ghana National Petroleum Corporation (GNPC) as a National Oil Company: A Reflection

Tsatsu Tsikata

1 INTRODUCTION

The Ghana National Petroleum Corporation (GNPC) was established by the Provisional National Defence Council (PNDC Law 64¹) as part of a determination to pursue more actively the potential for oil production in Ghana. Though in the 1890s oil seeps onshore in the western coastal area of the then Gold Coast (near Half Assini) attracted some international investor interest to this area, leading to a few exploration wells being drilled near the seeps,² it was the yellow metal exported from these shores,

¹ All the Laws of Ghana bear the suffix “Act” due to the Laws of Ghana (Revised Edition) Act, 1998 (Act 562). PNDC laws will hereafter be referred to as Acts.

² Ghana Geological Survey Bulletin No. 40.

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not the “black gold,” that was the focus of international interest. The pre-independence name, “Gold Coast,” reflected that.

The sporadic oil exploration efforts after the 1890s, including the period between 1909 and 1913 when the French oil company, Societe Francaise de Petrole, drilled shallow wells in the onshore Tano area and flowed seven barrels of oil a day from one of the wells, and the period 1956–1957 when Gulf Oil (later Chevron) drilled four deep wells in that same area, led only to the very limited commercial production from the offshore Saltpond field. Discovered by the Signal Oil/Amoco consortium in 1970 and soon relinquished by them as sub-commercial, production from the field was only undertaken from 1978 by a small US company, Agripetco.³ Production peaked at about four thousand five hundred barrels a day. Other discoveries in the late 1970s by Phillips Petroleum to the west (North and South Tano, as well as the oil discoveries Phillips Petroleum made in neighbouring Cote d’Ivoire) generated more interest in Ghana’s oil potential.

Part of the impetus for intensifying oil exploration in Ghana in the 1980s came from the disruption to Ghana’s crude oil imports from Nigeria as a result of the hostile reaction of the existing military Government of Nigeria to the 31st December 1981 revolution and the new Provisional National Defence Council (PNDC) regime in Ghana led by Flight-Lieutenant Jerry John Rawlings. As a result, the PNDC began to prioritise Ghana becoming less dependent on Nigeria for oil and, altogether, on imports of oil which were using up the major part of Ghana’s scarce foreign exchange resources.

GNPC was set up in the context of the Economic Recovery Programme (ERP) of the PNDC that was to begin to reverse the steep decline that had occurred in the fortunes of the nation and transform the Ghanaian economy.⁴ The 1991–1993 Public Investment Programme, published by the Ministry of Finance and Economic Planning in April 1991, captures how “*with the initiation of the ERP in 1983, and as a first*

³ Agripetco assigned its interest in 1984 to another small US company, Primary Fuels, whose entry led to the first petroleum agreement and GNPC participation negotiated under Section 35(1) and (2) of the new Petroleum (Exploration and Production) Law, 1984, PNDC Law 84. Primary Fuels also relinquished the block in 1985. <https://www.petrocom.gov.gh/exploration-history> (Accessed: 21 June 2021).

⁴ Republic of Ghana, Economic Recovery Programme, 1983.

step towards improving the prospects for hydrocarbon exploration and development in Ghana, the Government modernised the legislative framework for hydrocarbon exploration and created a statutory organisation, the Ghana National Petroleum Corporation, to assume responsibility for hydrocarbon exploration, development and production.”⁵

2 CORPORATISATION AND GNPC MANDATE

The opening provision of the GNPC statute established the new corporate body:

1 (1) There is hereby established a body corporate to be known as the Ghana National Petroleum Corporation. (2) The Corporation shall have perpetual succession and a common seal and may sue and be sued in its corporate name.

The commercial character of the Corporation is explicitly stated in Section 4(1) of the Act, with the heading, “*Corporation set up as a commercial venture,*” where the Corporation is required to operate “*on sound commercial lines and, in particular, shall take the necessary steps to ensure that, taking one year with another, its revenues are sufficient to produce on the fair value of its assets, a reasonable return.*” As a consequence, the Corporation is liable to tax like other companies registered under the Companies Act, 2019 (Act 992).⁶

By the nature of its establishment as a commercial venture, therefore, the Corporation is not part of “[t]he Public Services of Ghana” under the 1992 Constitution, Article 190(1) of which defines these to “include (b) public corporations other than those set up as commercial ventures.”

The Corporation is granted borrowing powers under Section 15 of the GNPC Act, subject to the approval of the Minister for Finance on the recommendation of the Minister of Energy. It is also allowed to open and operate “Special Foreign Exchange Accounts” under Section 19, subject to the regulatory oversight of the Bank of Ghana.

The mandate of GNPC, as expressed in Section 2(1) of the GNPC Act, was “*to undertake the exploration, development, production and disposal of*

⁵ Page 42, 1991–1993 Public Investment Programme, Ministry of Finance and Economic Planning.

⁶ Section 20 GNPC Law, PNDC Law 64, 1983.

petroleum.” This was in line with the mandate of National Oil Companies (NOCs) which were, by then, gaining increasing significance, particularly in oil-producing developing countries seeking to strengthen their position in an industry dominated by International Oil Companies (IOCs).

The inclusion of “disposal of petroleum” in this section reflects the fact that marketing and downstream activities were part of the mandate. There is also, in that regard, Section 2(3)(d), under the heading, “[o]bjects and functions of the Corporation”: “*Subject to this Act and any other enactment the Corporation may(d) alone or in association with others, buy, sell, trade, store, exchange, import or export petroleum and for this purpose, acquire or operate any installations, facilities or means of transportation.*”

The broad mandate cut across the whole industry value chain—upstream, midstream and downstream. In the final subsection of that section, the Corporation was, furthermore, authorised to:

- (f) engage in any other activities, alone or in association with others, as may be necessary or desirable for the carrying out of petroleum operations.

Included in the powers of the Corporation under Section 3 of the Act were powers to:

- (c) purchase, lease, establish, complete, expand, repair and manage factories, plants, installations and facilities that are necessary in connection with the exploration, development, production and disposal of petroleum and subject to the approval required by an enactment, provide and manage road, marine and aviation communications as well as means of transport and any other facilities.

The initial organisational structure of the Corporation, adopted by its first Board of Directors (chaired by a member of the Provisional National Defence Council, Alhaji Mahama Iddrisu), had five divisions—Exploration and Production, Drilling and Engineering, Marketing, Finance and Administration and Research and Development—headed by directors, reflecting the broad mandate. This was based on advice from a technical assistance team from the international subsidiary of the Brazilian national petroleum company, Petrobras (Braspetro), under the auspices of the United Nations Development Programme (UNDP).

2.1 *Oil Exploration, Development and Production Focus*

Since establishing oil production in Ghana was the driving ambition behind the creation of GNPC, Section 2(2) sets out these key objects of the Corporation (Box 1).

Box 1: Key Objects of the Corporation

2. (2) the Corporation shall:

- a. promote the exploration and orderly and planned development of the petroleum resources of Ghana.
- b. ensure that Ghana obtains the greatest possible benefits from the development of its petroleum resources.
- c. obtain the effective transfer to Ghana of appropriate technology relating to petroleum operations.
- d. ensure the training of citizens of Ghana and the development of national capabilities in all aspects of petroleum operations; and
- e. ensure that petroleum operations are conducted in such manner as to prevent adverse effects on the environment, resources and people of Ghana.

The need to “**promote**” exploration and development was obviously a recognition of the reality that Ghana was seeking to attract risk capital from the international oil industry rather than, on its own, taking up, unduly, the risks of exploration. At the same time, the language of Section 2(2)(a) of the GNPC Law underlined, from the very subsection, the national perspective of “**orderly and planned development** of the petroleum resources of Ghana” (emphasis supplied) which was also to be promoted as the expected outcome of exploration.

Section 2(b), in the same vein, requires the Corporation to “*ensure .. the greatest possible benefits for Ghana*” from the development of its resources.⁷ Obviously, this did not confer sole responsibility on the

⁷ It is claimed in a 2019 Ghana Petroleum Industry Report of the Chamber of Bulk Oil Distributors (CBOD) that the provision in Section 2(2)(e) of the GNPC Law that

Corporation to ensure maximum national benefits. Regulatory institutions would also, naturally, play their roles.

GNPC was to activate the interest of the international oil industry in partnering to invest in exploration, having regard to national objectives highlighted in all the subparagraphs of Section 2(2) of the statute. The Corporation is designed to be an active participant in petroleum operations, associating itself with industry players, ensuring the transfer of appropriate technology and developing local expertise and capabilities. By its establishment, for the first time, a national institution would be operationally involved in petroleum exploration, development and production.

Section 2(3)(b) of the GNPC statute proceeds as follows: “*Subject to this Act and any other enactment, the Corporation may ...engage in petroleum operations, alone or in association with others.*” The requirement for any person interested in oil exploration and production to associate with the Corporation was also made clear in Section 2(1) of the Petroleum (Exploration and Production) Act, 1984 (PNDCL 84), the original statutory framework that set apart petroleum exploration and production activities from the rest of the mineral sector: “*2(1) No person other than the Ghana National Petroleum Corporation established under the Ghana National Petroleum Corporation Law, 1983 (PNDCL 64), in this Law referred to as ‘the Corporation’, shall engage in the exploration, development or production of petroleum except in accordance with the terms of a petroleum agreement entered into between that person, the Republic and the Corporation pursuant to subsection (4) of Section 5 of this Law*

the Corporation is to ensure that petroleum operations are conducted in such manner as to prevent adverse effects on the environment, resources and people of Ghana can no longer be within the mandate of GNPC because “this mandate has now shifted to the Petroleum Commission, following the decision to separate regulation from the GNPC’s commercial operations” (Paragraph 1.5 at p. 49). This is surely an erroneous position. As is evident in the international oil industry and in international corporate practice, generally, commitment to environmental goals, notably addressing climate change, and having beneficial social impacts are not considered as regulatory matters outside the commercial perspectives of companies. The regulatory functions of the Petroleum Commission do not require an exclusion from the mandate of GNPC of responsibilities similar to those that companies the world over are expressing a commitment to. GNPC is to conduct its operations in line with its statutory mandate even as the Petroleum Commission also performs its regulatory role as provided for in the Petroleum Commission Act, 2011, Act 821.

or any other authority granted or recognised under this Law” (Emphasis supplied).

That “the Corporation” and “the Republic” are distinct is not without significance. The Corporation, a commercial venture, associates with other commercial corporate bodies in the anticipated petroleum activities. The Republic has title to the resources under Article 257(6) of the 1992 Constitution which states: *“Every mineral in its natural state in, under or upon any land in Ghana, rivers, streams, water courses throughout Ghana, the exclusive economic zone and any area covered by the territorial sea or continental shelf is the property of the Republic of Ghana and shall be vested in the President on behalf of, and in trust for the people of Ghana.”*

2.2 *Framework for Association with Industry Partners*

Section 5(4) of the Petroleum (Exploration and Production) Act, 1984 (PNDC Law 84) provided that:

Where the exploration, development and production of petroleum is carried out by the Corporation in association with a contractor, such Contractor shall first enter into a petroleum agreement, in accordance with subsection (1) of section 2 of this Law, with the Republic and the Corporation to specify the terms and conditions under which such petroleum operations shall be carried out. Any such petroleum agreement shall include such provisions as maybe required by Part II of this Law.

The Corporation was to be a necessary partner to any person interested in undertaking petroleum exploration and production in Ghana while also being able to proceed on its own, by virtue of Section 5(1) of PNDC Law 84. Though PNDC Law 84 was repealed and replaced by the Petroleum (Exploration and Production) Act, 2016 (Act 919), Section 10 of the new statute maintained this need for “a contractor” to partner with GNPC.⁸ Section 10(14) goes on to establish a minimum GNPC participation in a petroleum agreement:

⁸ “10(1) A body corporate shall not, unless otherwise provided in this Act, engage in the exploration, development and production of petroleum except in accordance with the terms of a petroleum agreement entered into between that body corporate, the Republic of Ghana and the Corporation.” In Section 95: “the Corporation” means the Ghana National Petroleum Corporation”. The distinctness of “the Corporation” from “the Republic” is maintained in this Act.

10 (14) A petroleum agreement shall contain a term that the Corporation shall:(a) hold an initial participating carried interest of at least fifteen percent for exploration and development.

The newly legislated 15% GNPC initial participating interest soon came up for consideration in relation to the petroleum agreement involving ExxonMobil which was ratified by Parliament on 3rd April 2019. In the Report of the Parliamentary Select Committee on Mines and Energy, which recommended the agreement for ratification by Parliament, it is noted that the enactment of the Petroleum (Exploration and Production) Act, 2016 (Act 919), as well as the Income Tax Act, 2015 (Act 896), had affected some key terms agreed earlier in a Memorandum of Understanding signed on 30th April 2015 among the Government of Ghana, GNPC, ExxonMobil and GNPC subsidiary, Explorco. An account is then given of negotiations between the Government negotiating team and ExxonMobil to address concerns raised by ExxonMobil about this. The Report then states: “The participating interest of Explorco was ceded to ExxonMobil to partly restore the fiscal terms agreed under the MOU due to the introduction of the 15% Initial Participating (carried) Interest under the Petroleum (Exploration and Production) Act, 2016 (Act 919).”⁹

The giving up of the Explorco paying interest in favour of the higher GNPC carried interest reflected the preference for laying off exploration risk to the international oil company partnering GNPC. The new level of GNPC Initial Carried Interest that was statutorily in force had to be accepted by ExxonMobil as against what was in the signed MOU, which pre-dated the legislation.

The validity of earlier agreements with a lower than 15% GNPC initial participating interest is not put in question by any provision in the 2016 Petroleum (Exploration and Production) Act in view of the provision in Section 96(1) of the Act that “Petroleum agreements entered into before the commencement of this Act remain valid.” Section 97(2) also states that: “*Despite the repeal of PNDC Law 84, the Regulations, rules, by-laws, notices, orders, directions, appointments or any act lawfully made or done under the repealed enactment and in force immediately before the commencement of this Act shall continue to have effect until revoked, cancelled or terminated.*” Moreover, as the GNPC initial participating

⁹ Paragraph 4.2.9 of Select Committee Report signed on 30th March 2019.

carried interest is only applicable at the start of the petroleum agreement, Section 10(14) of the Petroleum (Exploration and Production) Act, 2016 (Act 919), does not justify a higher GNPC initial participating carried interest being introduced retroactively into earlier agreements with a lower GNPC initial participating carried interest which have moved beyond the initial phase.

Act 919 now provides in Section 10(3) that a petroleum agreement can be entered into “...only ...after an open, transparent and competitive tender process.”¹⁰ However, Section 10(9) allows the Minister “in consultation with the [Petroleum] Commission [to] determine that a petroleum agreement may be entered into by direct negotiations without public tender, where direct negotiations represent the most efficient manner to achieve optimal exploration, development and production of petroleum resources in a defined area.” The discretion of the Minister to avoid a public tender process is to be exercised in accordance with clearly set requirements and in consultation with the Petroleum Commission.

Several other provisions in the Petroleum (Exploration and Production) Act, 2016 (Act 919) have significance for the role of GNPC.

- Section 18(1) gives GNPC a pre-emption right “[w]here a contractor enters into an agreement to dispose of all or part of the interest of that contractor directly or indirectly under a petroleum agreement ... to acquire the interest on the same terms as agreed with the potential buyer.” The Contractor is to notify the Minister, the Petroleum Commission and GNPC “immediately of the consideration and other terms agreed” (Section 18(3)) and the Corporation has ninety days within which to exercise its right (Section 18(4)). A departing partner is, thus, not allowed to impose a new partner on GNPC. A chance is given to the Corporation to acquire the interest being disposed of.
- Section 19 gives the Corporation an option to have ownership of physical assets purchased, installed or constructed by a contractor for petroleum activities to be transferred to it when the full cost has been recovered in accordance with the terms of the petroleum

¹⁰ This provision was not adverted to in the Report of the Parliamentary Select Committee on Mines and Energy on the ExxonMobil agreement referred to earlier even though this provision in the legislation had come into effect and a competitive tender process was in fact launched by the Minister in October 2018.

agreement or when the agreement terminates. GNPC is also able to have the assets transferred after 50% of the costs have been recovered if the Corporation pays the unrecovered costs of the Contractor. The Contractor is still entitled, by Section 19(2), to further use of the asset for the purposes of operations and is liable for maintenance, insurance and other costs associated with the use of the asset. Decommissioning remains the Contractor's responsibility under Section 19(3).

These provisions are clearly designed to ensure that where an asset has value from a national point of view beyond the value for the operations of a particular contractor, GNPC has ownership options in respect of that asset. It is critical that the value of existing producing fields and infrastructure established for them is optimised for national benefit, as further considered in the conclusion below. Assets may, for instance, be used for additional field development or for continued production by GNPC beyond what the Contractor may consider the economic limit of a field.¹¹

Other provisions of the Petroleum (Exploration and Production) Act, 2016 (Act 919) that are significant for the role of GNPC include:

- Under Section 23(2), a contractor that has failed to meet its minimum work obligations is required to “*pay the Corporation the amount required to complete the unfulfilled portion of the work program for that working period.*” GNPC has the responsibility, therefore, to complete work programme commitments of its partners, who are to pay the Corporation to do so if they fail to live up to their obligations in the relevant period.
- In Section 34(4), “[w]here an accumulation of petroleum extends beyond the boundaries of a contract area into an area not covered by a petroleum agreement or an authorisation under Section 11(1), the Minister may authorise the Corporation to enter into a contract for the development and production of the accumulation of petroleum

¹¹ The provisions in Section 36 of the Petroleum (Exploration and Production) Act 2016, Act 919, which enable the Petroleum Commission to direct the use of facilities owned by “a contractor or the Corporation ... a) by others if warranted by considerations for efficient operation and resource management, or b) for the benefit of society...,” show how significant the issue of ownership of facilities may be in the quest to optimise resources and/or benefit society.

and require the accumulation of petroleum to be developed as a single unit.” Thus, GNPC can facilitate the development and production of a discovery that goes beyond the contract area of a Contractor and ensure unitised development if the Minister so authorises.

- Section 72(2) also provides that in a situation “*where there is hindrance to the acquisition of property, the property may be acquired for the Corporation under the State Lands Act, 1962, (Act 125) and the Corporation shall bear the cost.*” The Corporation is thus the entity on whose behalf the State’s power of compulsory acquisition is exercised, where necessary, to facilitate petroleum activities being carried out.
- By Section 85(5), GNPC is “*subject to the payment of royaltyat the rates that may be prescribed*” for any petroleum production when it operates on its own, just as in Section 20(2) of the earlier Petroleum (Exploration and Production) Act (PNDCL 84). This underscores the Corporation being a commercial corporate body separate from the Republic or Government.

2.3 Promoting Prospectivity and Ensuring Continuity of Exploration Activity

In seeking to promote the country’s oil production potential, an important initial focus of the Corporation was to assemble data from all previous petroleum exploration activities in Ghana and begin to make an independent assessment of prospectivity. The Corporation was able to obtain a more complete suite of data, including seismic and well data from the past operations, going beyond what had been deposited with the Geological Survey Department in Ghana, by engaging directly with the companies that had been involved.

An extensive speculative survey authorised by the then Ministry of Fuel and Power across Ghana’s offshore basins provided more modern data and prospects were developed from the new data that were marketed to the industry, initially through an international roadshow in 1984.

The Corporation also soon began to acquire new data, particularly with a view to embarking on oil production from relinquished discoveries, such as the South and North Tano discoveries and the Saltpond field. A highlight of this early phase of the Corporation gathering of new data was a collaboration with the Japan National Oil Corporation (JNOC),

which subsequently became the Japan Oil, Gas and Metals Corporation (JOGMEC), to conduct an extensive seismic data acquisition and interpretation project in the offshore central basin, which includes the area around the Saltpond field. Capacity-building for GNPC technical personnel, who worked with Japanese counterparts on all aspects of the project, and the promotion of Ghana's exploration potential to Japanese private oil companies, were important elements of the project.

Acquisition of state-of-the-art workstations and related facilities enabled GNPC geoscientists to begin the process of interpreting available data and putting forward new perspectives and prospects to the international industry. GNPC's exposure to data from Brazil through the institution-building technical relationship with Petrobras also proved invaluable in deepening the understanding of Ghana's offshore basins by reference to data from the analogous basins in Brazil. GNPC was able to make comprehensive assessments of the prospectivity of Ghana's sedimentary basins, backed by data and interpretations that it was able to make readily available to interested parties.

Data storage facilities were established by GNPC, initially through a collaboration with PetroCanada International Assistance Corporation (PCIAC), the international subsidiary of the Canadian national oil company, which also provided funding for drilling, with the objective of bringing the North and South Tano discoveries into production, particularly with a view to utilising the natural gas resources in those fields for power generation.

The promotion efforts in the earliest period led to two petroleum agreements being entered into, one with a consortium comprising Shell, Arco and Unocal in the Tano Basin to the West and the other with Amoco in the Accra-Keta Basin to the East. Subsequently, a number of other petroleum agreements were entered into with companies such as Hunt Oil, Dana Petroleum, Seafield Resources, Santa Fe, Devon Energy, Nuevo Energy, Fusion and Diamond Shamrock, which all partnered GNPC in its first decade of existence. Large amounts of new seismic and well data were acquired, mainly across the offshore areas.

The terms of the petroleum agreements required regular technical interactions between GNPC and its partners as well as Joint Management Committee meetings. Work being undertaken by the Contractor was shared in detail with GNPC. As technical staff of GNPC were seconded to the Head Offices of partner companies, close collaboration with partner technical staff took place. This intensive interaction also enabled GNPC to

make available to the Contractor companies, in legally appropriate ways, the benefits of work done in, and data from, other areas in the country that could be useful to the Contractor.

GNPC's constant involvement in all the exploration activities has provided continuity and consistency to the exploration efforts. This is illustrated by considering the build-up to the Mahogany and Hyedua discoveries—that became the Jubilee field—and other discoveries that followed in the Deepwater Tano and West Cape Three Points contract areas. Working with Hunt Oil in the West Cape Three Points Block and with Dana Petroleum and Seafeld Resources in the Deepwater Tano Block during the 1990s and building on work done previously in its partnering with Shell, Arco and Unocal as well as PCIAC, GNPC developed new insights into the prospectivity of the deepwater areas of the basin which had only previously been tested by one deepwater well (South Dixcove-1) drilled in 1978 by Phillips Petroleum.

Hunt Oil, working with GNPC, drilled a deepwater discovery well, WCTP-2X, that was considered sub-commercial, but which spurred further evaluation that incorporated the results of the well along with interpretation of new seismic data that had been acquired. Additional prospects were mapped, including what was to become the Mahogany discovery. After Hunt Oil relinquished the West Cape Three Points block in 2001, it was the mapped prospects that were the basis of promotional work by GNPC. With prospects already mapped and prospective volumes of oil already calculated from previous exploration activity, GNPC presentations enabled Kosmos Energy, then newly established by oil executives with funding to the tune of US\$300 million from the private equity groups, Blackstone Capital and Warburg Pincus, to appreciate promptly that this was a compelling proposition for their new venture. GNPC ensured the continuity of exploration effort from the relinquishment by Hunt Oil to the entry of Kosmos Energy.

Similarly, in the Deepwater Tano block, Dana Petroleum, together with GNPC, not only drilled a discovery well—West Tano-1—but also mapped prospects, including what was to become the Hyedua discovery. These prospects engaged the interest of a company like Occidental which, with active support and encouragement from GNPC, sought to farm-in to the Dana Petroleum interest in 1997 and drill a well. In the end, however, farm-in terms demanded by Dana Petroleum proved unacceptable to Occidental. Dana itself was unable to drill the deepwater well

and relinquished the block. Tullow Oil would, then, be attracted by the prospects already mapped by Dana and GNPC which GNPC presented.

As the previous work pointed to the likelihood that the prospects targeted by the Mahogany and Hyedua wells were one field straddling the two contract areas, it was proposed to the Contractor parties, and accepted by them, that they have cross-holdings in the two areas. This participation of the same partners in both areas facilitated the Mahogany and Hyedua wells being drilled back-to-back with the Belford Dolphin rig that was on a long-term lease to one of the Contractor parties, Anadarko, and on its way from India to the Gulf of Mexico. After the discoveries from the two wells and appraisal drilling, the cross-holdings of the Contractor parties also made the unitisation of the Jubilee field across the two contract areas readily acceptable to all parties, enabling accelerated conclusion of the unitisation agreement and rapid field development.

Significantly, by virtue of Section 23(2) of the Petroleum (Exploration and Production) Act, 1984, which was in operation at the time, the data obtained from all the petroleum operations in the two blocks belonged to GNPC which could now make the full suite of data available readily to others such as Kosmos Energy and Tullow Oil after relinquishments by Hunt Oil and Dana Petroleum.

It was also on the basis of this provision that GNPC, in 2009/2010, held Kosmos Energy accountable for making data from petroleum operations in the two contract areas available to over twenty companies worldwide, including ExxonMobil, as part of Kosmos Energy's strategic plan to be acquired. The approval of the Corporation had not even been sought by Kosmos Energy, rendering the provision of the data to the companies illegal. Ultimately, a settlement was reached shortly before commencement of oil production from the Jubilee field whereby, without an admission of liability, Kosmos Energy (on behalf of the partners and itself) paid GNPC an amount of US\$23 million to resolve this and other outstanding issues amicably.¹²

That provision in the Petroleum (Exploration and Production) Act, 1983, in respect of GNPC data ownership, is, however, no more in operation as that statute was repealed and replaced by the Petroleum

¹² 20 December 2010 Press Release by Kosmos Energy http://www.kosmosenergy.com/press/kosmos_PR_122010.pdf (Accessed: 28 July 2021); and US SEC Filing Amendment No. 6 to FORM S-1 <https://www.sec.gov/Archives/edgar/data/1509991/000104746911004044/a2203496zs-1a.htm> (Accessed: 28 July 2021).

(Exploration and Production) Act, 2016 (Act 919), which now makes all such data “*the property of the Republic*” (Section 52(1)). Section 52(3) of the 2016 Act further requires “[*t*]he licensee, contractor, sub-contractor or Corporation” to “*provide to the [Petroleum] Commission data and information as well as the reports, studies, interpretations and analyses under subsection (1).*” By Section 3(g) of the Petroleum Commission Act, 2011, (Act 821), it is the responsibility of the Commission to “*receive and store petroleum data, manage a national petroleum repository....*” Section 52(5) of the Petroleum (Exploration and Production) Act, 2016 (Act 919) also provides: “*The [Petroleum] Commission may provide any data or information to the Corporation for its use.*”

2.4 GNPC Exploration Promotion: Some Non-geoscience Elements

Promoting the hydrocarbon potential of Ghana is not only about developing and presenting prospects backed by geoscience data. Investor requirements for considering a country as a worthwhile destination for exploration risk capital to be invested include clarifying the legal, political, economic and socio-cultural framework within which investors will be operating. Promoting exploration thus includes promotion of the receptiveness of the country and its people and institutions to investments in exploration. Above ground risk evaluations that international oil companies typically undertake before venturing into a country necessitate GNPC, in its promotion efforts, making the industry familiar with Ghana and not only offering technical information about petroleum exploration prospects.

The legal framework in place to regulate activities and the national institutions that deal with basic issues such as immigration, imports of goods, banking arrangements and taxation, to name only a few, need to be made known and confidence generated in how things work in the country at large. The legal system needs to be seen as working transparently and fairly.

The readiness of GNPC to assist companies navigate local bureaucracy was expressed from the earliest days of the Corporation in provisions in the Model Petroleum Agreement requiring GNPC to use its best efforts to assist Contractor and its sub-contractors with local arrangements such as establishing supply bases and communications facilities, opening bank accounts, obtaining entry visas and work permits for expatriate staff

and their families, complying with customs procedures for imports and identifying qualified Ghanaians for employment by the Contractor.¹³

In respect of offshore activities, such as seismic data acquisition, GNPC also sought to assure industry partners of the ability to obtain cooperation from local fishing communities, for instance, to facilitate safe and unimpeded operations. More broadly, assurances of support from local stakeholders in respect of all aspects of the conduct of petroleum activities were also important elements of promoting investment in petroleum exploration.

Exposure of the country to the industry as a way of promoting investment was also the underlying reason for GNPC hosting the annual Oil and Gas Africa Conference in the 1990s after an initial West Africa conference supported by the erstwhile United Nations Centre for Transnational Corporations (UNCTC). The Oil and Gas Africa Conference brought to Ghana representatives of other national oil companies on the African continent and Ministers and Government officials from many African countries to interact with high-level international oil industry executives as well as other industry players, including bankers and representatives of international financial institutions. It became a much-anticipated industry event and afforded GNPC the opportunity to make presentations to generate more interest in the oil potential of Ghana. Such events demonstrated the country's increasing openness to, and involvement with, an industry which had previously not been actively engaged with the country.

2.5 Ministerial Authorisation Requirement for GNPC Activity and the Voltaian Basin Project

While the Petroleum (Exploration and Production) Act, 1984 (PNDCL 84), gave GNPC the broad power to undertake petroleum operations over all areas declared open by the Minister and not the subject of a petroleum agreement, there is now required, under the Petroleum (Exploration and Production) Act, 2016 (Act 919), authorisation by the Minister for GNPC to “undertake petroleum activities in an area opened under Section 7 but which is not covered by a petroleum

¹³ Clause 7.3 of Model Petroleum Agreement http://www.gnpcghana.com/files/ghana_model_petroleum_agreement1.pdf (Accessed: 15 June 2021).

agreement” (Section 11(1)). Ratification of the Ministerial authorisation by Parliament under article 268 of the Constitution is required by Section 11(2).

Section 9(1) of the Act provides for a petroleum reconnaissance licence to be granted over a defined area. The “licensed person” is granted under Section 9(2) “a non-exclusive right to undertake:

- a. *data collection including seismic surveying and shallow drilling, and*
- b. *processing and interpretation or evaluation of petroleum data in the area specified in the licence”* (Section 9(2)).

Section 9(6) is very significant as regards undertaking activities under a reconnaissance licence: “*A person shall not commence a reconnaissance activity in relation to petroleum unless that person has complied with:*

- a. *the relevant statutory requirements on environmental protection prescribed in the Environmental Protection Agency Act, 1994, Act 490; and*
- b. *any other applicable enactments.”*

GNPC, thus, not only requires ministerial authorisation but also has to comply with the relevant statutory requirements, particularly those that have to do with environmental protection, before commencing a reconnaissance activity.

The Voltaian Basin Project is described on the GNPC website as “GNPC’s flagship project.”¹⁴ However, authorisations required were clearly not obtained prior to the project being undertaken. According to Paragraph 3.6.5 of the 2020 Report of the Public Interest and Accountability Committee (PIAC), the authorisation given by the Energy Minister for the Project—by way of a reconnaissance licence—was only issued in March 2020.¹⁵ The 2017 PIAC Report had recorded the following significant facts: “*After the enactment of the Petroleum (Exploration and*

¹⁴ See <http://www.gnpcghana.com/operations.html> (Accessed: 25 June 2021).

¹⁵ Page 24 of PIAC 2020 Annual Report. Available at: https://www.piacghana.org/portal/files/downloads/piac_reports/piac_2020_annual_report.pdf (Accessed: 18 July 2021).

*Production) Act, 2016 (Act 919), the concept paper guiding the exploration activities was revised. The draft was completed in June 2017.*¹⁶ At the time when contracts were being entered into in October 2017 for project implementation based on the revised concept paper, the requisite authorisation had not been given for the project.

Phase 1 of the seismic acquisition programme is reported in the 2019 PIAC Report to have been completed in February 2019 while Phase 2 is reported in the 2020 Report to have been completed in March 2020, the month in which a licence was obtained. It is evident, therefore, that the project was being undertaken without the ministerial authorisation required by Section 9 of the Petroleum (Exploration and Production) Act, 2016 (Act 919).¹⁷

As the Voltaian Basin has also not been declared open for exploration by the Minister under Section 7 of Act 919, authorisation had also not been provided under Section 11. Yet, as the Annual Petroleum Reports of the Minister of Finance for 2018, 2019 and 2020 show, amounts of US\$21.62 million, 11.59 million and 8.86 million, respectively, were expended in those years on the Project from the allocations made to the Corporation out of the Petroleum Holding Fund established under the Petroleum Revenue Management Act, 2011 (Act 815), as amended by Act 893 of 2015.¹⁸

In the 2020 PIAC Report, frequent delays in the payment of invoices to the Contractor during the seismic acquisition programme are recorded as a major challenge. There were delays also, according to the Report, in the compensation payments that had to be made to over 1000 farmers in the project area because of delays in release of funds, leading to agitations in some areas. Nonetheless, after a description of what had been done

¹⁶ Paragraph 3.7 of 2017 PIAC Report. Available at: https://www.piacghana.org/portal/files/downloads/piac_reports/piac_2017_annual_report.pdf (Accessed: 18 July 2021).

¹⁷ Environmental and social impact assessments also had to be undertaken and approvals obtained before the commencement of the reconnaissance activity by virtue of Section 9(6) of Act 919 quoted above, and, for an onshore project in a basin which covers about 40% of the land mass of Ghana, these assessments are obviously critical.

¹⁸ 2018 Annual Petroleum Report paragraph 60 Table 11 at p. 17; 2019 Report paragraph 78 at p. 22; 2020 Report paragraph 119 Table 20 at p. 41. In 2015, 2016 and 2017 also, amounts of US\$1,525,016.43, US\$4,383,162.28 and US\$3,500,137.08 were expended by GNPC on the project. Between 2015 and 2020, therefore, a total of US\$51,499,38.28 was expended on the project by the Corporation.

during the year on the project, it is indicated that “[t]he acquisition of additional seismic data is expected to commence early 2021.”¹⁹

There is also an account in the same Report of “*presentations done by various companies on technologies [the project team] believe can help in further exploration of the basin*” and “*research on cost-effective technologies to complement the seismic data, locate anomalies or hydrocarbon pools and help define well locations.*” A procurement process for a particular technology that had been selected by the project team as suitable is said to have been halted “*pending Management approval for the way forward.*”²⁰

It has been stated more recently by a Deputy Minister of Energy-designate, Dr. Mohammed Amin Adam, during vetting before the Appointments Committee of Parliament, that a well is to be drilled in the Basin later this year.²¹

Before the Voltaian Basin can even be declared open by the Minister for exploration, Section 7(2) of the Act requires the Minister, “*in collaboration with the Commission and other agencies [to] undertake an evaluation of the various interests in the relevant area before the area is opened for petroleum activities.*” A report of the evaluation is to include “*a strategic assessment of*

- a. *the impact of the petroleum activities on local communities,*
- b. *the impact of petroleum activities on the environment, trade, agriculture, fisheries, shipping, maritime and other industries and the risk of pollution, and*

the potential economic social impact of the petroleum activities.”²² The Report of the Minister is to be published to enable any person who may

¹⁹ Paragraph 65 on p. 22 of PIAC 2020 Annual Report. Available at: https://www.piacghana.org/portal/files/downloads/piac_reports/piac_2020_annual_report.pdf (Accessed: 18 July 2021). This is further elaborated in paragraph 158 of the same report under the heading, “Achievements,” as follows: “Based on the results of the integration, GNPC will plan the acquisition of 3D seismic in the most prospective locations in the basin. The 3D seismic data acquisition is expected to commence early 2021.”

²⁰ Ibid. at paragraph 3.6.5 on p. 24.

²¹ Voltaian Basin promising—Dr. Mohammed Adam—Ghana MPS (2021). Available at: <https://ghanamps.com/voltaian-basin-promising-dr-mohammed-adam> (Accessed: 21 July 2021). A reconnaissance license only allows for “shallow drilling”—Section 9(2)(a) of the Petroleum (Exploration and Production) Act 2016, Act 919, quoted earlier.

²² Section 7(3) of the Petroleum (Exploration and Production) Act 2016, Act 919.

wish to express views on it to submit the views to the Minister before a decision whether to open the area or not is made.

If an exploration programme is to be pursued by GNPC in the basin, these steps towards opening up an area for exploration need to be taken by the Minister, particularly having regard to this being an onshore area where impacts on human activities have to be taken into account.²³ The reported delays in compensation payments to farmers in respect of GNPC's conduct of seismic data acquisition give more urgency to the need for compliance with requirements under the Environmental Protection Agency Act prior to a reconnaissance programme referred to in Section 9(6) of the Petroleum (Exploration and Production) Act, 2016 (Act 919).

The reconnaissance programme being undertaken is, clearly, a long way from any oil production and revenues for the Corporation. Yet the amounts expended on it have been the highest GNPC expenditures outside its equity payments for oil and gas production projects. The additional expenditures that are planned need to be re-assessed in terms of the objectives set for GNPC under its statute of incorporation and having regard to national and corporate priorities and the current global oil industry environment.

2.6 GNPC and the National Oil Import Function

While the upstream sector was the primary focus of the new Corporation, oil import and petroleum products marketing were also part of the Corporation's responsibilities from the onset, by virtue of Section 25 of the GNPC Act. The oil import function had previously been undertaken as a direct responsibility of a Department of Government, the Petroleum Department, but was now made part of the new corporate framework.

Section 25(1) transferred to the Corporation and vested in it, *“the assets and liabilities of the Petroleum Department of the then Ministry of Fuel and Power and the Corporation shall exercise the rights and discharge the*

²³ The December 2018 Report titled “Managing the Local Impacts of Potential Onshore Oil and Gas Development,” by Oxford Policy Management, under the Ghana Oil and Gas for Inclusive Growth (GOGIG) programme, raises many pertinent issues to be addressed in connection with exploration in the Voltaian Basin. These include land, livelihoods and residential displacements, community health and safety, and inter- and intra-community conflicts, among others.

obligations that are related to those assets and liabilities.” Section 25(2) provided that: *“On or after the coming into force of this Act, the Corporation is responsible for the discharge of the liabilities and contracts incurred or entered into by the Petroleum Department before the coming into force of this Act in respect of any of the functions to be performed by the Corporation under this Act, and the matters relating to those liabilities and contracts shall be carried out by the Corporation as if the Corporation incurred those liabilities or entered into those contracts.”*

Personnel from the Petroleum Department were transferred to the Corporation under Section 26, and staff involved in the oil import function were among the earliest staff of the Corporation. The assignment to the Corporation of responsibility for the importation of crude oil and petroleum products into Ghana and supply of petroleum products to the retail marketers for sale at the pump meant moving away from purely administrative handling of oil import and related activities in Ghana, taking these activities off the balance sheet of Government into a commercial corporate body, in line with the increasingly familiar mode of integrated national oil companies. GNPC combined the marketing functions of the former Petroleum Department and new exploration and production responsibilities.

The oil import responsibility assigned to the Corporation initiated the relationship between GNPC and its Nigerian counterpart, NNPC, (Nigeria being the main supplier of crude oil to Ghana), with corporate relations replacing Government to Government relations.

GNPC inherited from the Petroleum Department the arrangement whereby imported crude oil was refined on a tolling basis at the Tema Oil Refinery (TOR), formerly GHAIP refinery.

The commercial nature of the Corporation also soon led to GNPC establishing commercial banking and financing arrangements for oil imports independently of the Bank of Ghana through which the Petroleum Department had operated previously. The financing arrangements included a collaboration from 1993 with COCOBOD whereby GNPC, as borrower, raised foreign exchange from a syndicate of international banks in London to finance oil imports using receivables from cocoa export contracts as collateral. The transaction marked Ghana's return to the London syndication markets after a long absence. In return for COCOBOD making its contracts for the sale of cocoa available, GNPC provided local currency in an equivalent amount to COCOBOD for its cocoa purchases from farmers free of the high domestic interest

costs incurred from the financing previously available from the Bank of Ghana.

Such collaboration between two state-owned commercial corporate bodies to tap into international resources generated significant value for the nation and for each corporate body, including giving more scope for improving the price paid to farmers during a time when a firm policy of the farmer getting an increasing share of the revenues from cocoa was in place.²⁴ The GNPC financing arrangements for oil imports and the work of the Marketing Division of the Corporation, in collaboration with TOR, altogether ensured adequate and reliable supply of petroleum products for the country during the period the Corporation had this responsibility.

In 1996, the Government decided to heed the urging of the World Bank to take the crude oil import function away from GNPC on the basis that GNPC should not have a monopoly for crude oil imports and that TOR should itself have responsibility for importing its crude oil.²⁵ The GNPC Marketing Division, nonetheless, remained an essential part of the integrated national Corporation that was established under the GNPC Law and was expected to have a key role in marketing oil production expected to result from the exploration efforts then taking place. It would also enable the Corporation to compete for supply of crude oil to TOR.

However, decisions subsequently taken by the Government in 2001 did dismember the Marketing Division in GNPC, the Executive Director of the Division being moved to the Ministry of Energy.

The decision in 1996 to have TOR import crude oil for its own requirements would be the first time in its history that the refinery would be entering the international oil trading market itself. TOR had always previously operated on a tolling basis, refining crude oil imported by other entities and the new arrangements posed challenges for TOR which had

²⁴ As expressed in Republic of Ghana: National Programme for Economic Development (Revised) 1st July 1987 p. 10 paragraph 28: "Farmer confidence in the future of the industry will be sustained by an increasing share of the world market price going to him directly, not to Cocoa Board or to the Budget. This will also remove the temptation for cocoa to be smuggled to neighbouring countries." COCOBOD subsequently continued on its own annually with the London syndications to finance cocoa purchases and this remains the mode of funding for cocoa purchases.

²⁵ The statement on the GNPC website <http://www.gnpcghana.com/marketing.html> that, "[t]he Marketing Division was dismembered as a result" of this decision in 1996 does not accurately reflect the facts since the Division and its Director and other staff remained part of GNPC after that decision.

not established adequate capacity for this function. Government price-setting for petroleum products also contributed to the financial weakness of TOR,²⁶ as had previously also been experienced by GNPC and is currently a problem for Bulk Distribution Companies (BDCs) which became the main suppliers of petroleum products for the country as TOR was unable to meet national demand.

TOR's difficulties led to GNPC being requested by the Government to resume oil importation for refining by TOR from October 2009 to May 2012 when the build-up of TOR indebtedness ended this arrangement.²⁷

3 GNPC PRIORITISING NATURAL GAS: A NATIONAL IMPERATIVE

In Section 16(2) of the Petroleum (Exploration and Production) Act, 1984, GNPC was given the primary responsibility in respect of associated

²⁶ Oheneba Lovelace Prempeh, Finance Director of TOR from May 1988 to February 2001, notes in his "Ghana's Oil and Gas Industry: An Overview of Ghana's Petroleum Downstream sector, the implications for the upstream oil discovery and recommendations for the structural re-organisation of the oil and gas industry" report (2010) at p. 11 that "TOR never made a loss when it operated as a Tolling Refinery..." At pp. 17–18, he also notes "in September, 1996, after considerable pressure from the World Bank, and as part of the measures to accelerate the deregulation of the petroleum industry, the Ministries of Energy and Finance completely transferred the responsibility for the importation of crude oil and refined products and the marketing and sale of petroleum products from GNPC to TOR ...TOR was suddenly transformed from a tolling Refinery into a full time oil trader...When TOR assumed responsibility for oil trading in September, 1996, TOR's Processing Agreement with GNPC lapsed automatically leading to a cancellation of the processing fee. Consequently, TOR was left naked. No processing fees, no equity cash injection, no working capital and no power to fix the ex-refinery prices of its refined products. It was the genesis of TOR's problems." The author makes recommendations, summarised at p. 3, for "structural reorganization of Ghana's oil industry," including "...formation of a new Holding Company to oversee and co-ordinate the activities of GNPC as an international commercial trader, TOR as a Tolling Refinery earning "Processing Fees," GOIL as a local oil marketing company and BOST as the operator of the country's strategic stocks." The first part of Oheneba Lovelace Prempeh's report was published at <https://www.ghanaweb.com/GhanaHomePage/features/An-Overview-Of-Ghana-s-Petroleum-Downstream-Sector-187641> (Accessed: 28 June 2021).

²⁷ There are still outstanding debts of more than US\$58 million owed by TOR to GNPC from this supply of oil at Government request—captured in paragraph 9.3.2.11 Table 39 of the 2020 PIAC Report https://www.piacghana.org/portal/files/downloads/piac_reports/piac_2020_annual_report.pdf. The problems of TOR, unfortunately, remain <https://www.ghanaweb.com/GhanaHomePage/NewsArchive/TOR-plant-collapsing-Workers-insist-1277149> (Accessed: 28 June 2021).

gas as follows: “(2) *Any natural gas produced by a contractor in association with crude oil which is not used in petroleum operations pursuant to subsection (1) of this section and all natural gas produced other than in association with crude oil shall be the property of the Corporation except as may otherwise be agreed upon by the Corporation and the contractor in accordance with the terms of a petroleum agreement.*”

This was a recognition of the reality that the focus of attention for international oil companies in exploration ventures tends to be oil production, natural gas being more difficult to monetise, especially for domestic markets. The local gas infrastructure needed for supplying gas to domestic markets is of lower priority to international companies in allocating capital. A national corporation such as GNPC is best placed to derive the significant value that is available for the nation from natural gas by investment in infrastructure required for domestic gas utilisation.

In the specific context of Ghana at the time GNPC was established, the value of natural gas for electricity generation was evident. The country had depended on the hydroelectric dams on the Volta River—the first at Akosombo from 1966 and, the second, downstream at Kpong, from 1982—both under the Volta River Authority (VRA). Ghana’s eastern neighbours, Togo and Benin, were also dependent on electricity from Ghana; its western neighbour, Cote d’Ivoire, imported some electricity from Ghana. However, fluctuating levels of annual inflows into the dams, with uncertain rainfall, had begun to create power shortages for the country and its neighbours.

As these climate change realities were already being manifested in Ghana’s energy sector, and with demand for power increasing, GNPC, from its earliest days, sought to address the situation by close attention to the use of natural gas for electricity generation. A detailed review of the North and South Tano discoveries, made earlier by Phillips Petroleum, led to the formulation of plans to further appraise and then, develop these discoveries with the primary objective of using the natural gas for power generation, which were approved by the Government of Ghana and included in the Public Investment Programme of the Government, prepared by the Ministry of Finance and Economic Planning, from 1986. In the 1991–1993 Public Investment Programme, for instance, the Tano Fields Development project was thus featured, with stated economic benefits, which included the fact that gas production would “*help satisfy (in part) VRA’s need for thermal power generation to meet the growing*

*demand for electricity in both the domestic and export markets.*²⁸ The Main Report of the 1991–1993 Public Investment Programme, while highlighting the National Electrification Scheme as “*a phased programme for providing electricity to all parts of the country within 30 years for the rapid development of the country*”,²⁹ indicates, among strategies for attaining these and other Government objectives in the energy sector, “*securing future supply through complementation of hydropower generation by thermal, solar, and other cost-effective sources.*”³⁰

The hydropower system was proving inadequate for Ghana’s growing energy requirements as well as the requirements of neighbouring countries, and the use of natural gas to complement it was a national and regional imperative. Optimising the hydropower capacity itself required carefully managing the drawdown from the hydro-reservoir having in mind the uncertainty around annual inflows into the dam.

Studies conducted by the VRA about additional electricity generation upstream the Volta River—the Bui project—had also clearly established that the cost of electricity from Bui would be significantly higher than gas-fired electricity generation.

The GNPC programme of gas-fired power generation, however, faced resistance from the World Bank, which held the view that the additional demand for electricity in Ghana could be met by using crude oil, rather than natural gas, for thermal complementation. In an *Issues and Options in the Energy Sector of Ghana* publication in November 1986, the World Bank refers to an electricity investment study for the period 1983–2003 prepared by VRA’s consultants, Acres of Canada, and states: “*It is envisaged that the thermal complementation plant would only be used for base loading about one year in seven.*” The passage continued: “*Examination of the available all-hydro expansion options has shown that none offer the least-cost solution to generation expansion over the period to the year 2003, with combustion turbines and coal-fired steam plants having a lower cost than available hydro options, which excludes additional hydro from least-cost electricity investment planning over the next 20 years. Natural gas may also*

²⁸ Republic of Ghana, Public Investment Programme, Volume 2.6 Project Profiles and Summary Tables, Energy, April 1991, Prepared by Ministry of Finance and Economic Planning, p. 76.

²⁹ Republic of Ghana, Public Investment Programme, Volume 1, Main Report, p. 44.

³⁰ *Ibid.*, p. 45.

be a viable option depending on the commerciality of deposits. This conclusion appears robust under a variety of assumptions regarding costs and load growth.” Coal-fired plants had more attraction than natural gas in this passage, even as it is recognised in paragraph 1.18 at page 8 of the World Bank Report that “*Ghana does not have any known deposits of coal, lignite, or peat.*” The generation expansion programme recommended by Acres, as noted in paragraph 5.16 at page 85, “*consists of 50 MW tranches of combustion turbines to be commissioned in the early 1990s, followed by a 100 MW coal-fired steam plant in the mid-1990s.*”

The Acres outlook of a thermal plant being only used for base loading about one year in seven was relied on by the Bank through the 1990s. It was the basis of its resistance to GNPC plans to introduce gas-fired power generation into Ghana’s generation mix. It was the Bank’s view that VRA would be adversely impacted financially by long-term commitment to gas offtake as against a periodic need to import light crude oil for thermal complementation.³¹

Hence, the first thermal generation plant constructed by the VRA in partnership with the US-based power producer, CMS Generation, while having dual fuel capabilities (crude oil and natural gas), was designed to be initially fuelled by light crude oil. The plant thus started operations on light crude oil, the conversion of the first unit to natural gas taking place in April 2008.³² Gas imported from Nigeria through the West African

³¹ In its consideration of long-term thermal complementation options, the World Bank also stated that “[a]n economically attractive option over the longer term would be the proposed 330 kV West Africa Interconnection between Cote d’Ivoire, Ghana, Togo, Benin and Nigeria. This connection would provide access to any available low-cost, gas-generated electricity in Nigeria. ... The thermally-based Nigerian system and the hydro-based system in Ghana would complement each other well inasmuch as thermal generation could cover shortfalls of hydro in dry periods and increased use of hydro in wet years would allow fuel savings. Nigeria could absorb at least 2,000 GWh of hydropower that would otherwise be spilled in Ghana in wet years” (paragraph 5.23 on p. 88). Gas-fired power based on natural gas from Ghana was evidently not viewed as a likely solution even as it was recognised in the study that: “The optimal utilization of the natural gas potential needs to be given particular attention. While natural gas is likely to be of little interest to international companies because of its limitation to the domestic market and its liability to price controls, it could provide significant benefits to the national economy. Natural gas might be an interesting option for the domestic energy market, especially electricity generation, provided it is delivered at a price not higher than about US\$2.50/Mcf to be competitive with other sources of thermal generation” (paragraph 4.9 at p. 52).

³² See https://www.vra.com/our_mandate/takoradi_thermal_power_station.php (Accessed: 14 June 2021). CMS Generation was later acquired by the Abu Dhabi

Gas Pipeline was what was then used. Supplies from this source were, subsequently, often interrupted, leading to frequent resort to crude oil. As gas from fields in Ghana became available, gas is now used consistently. Having to rely on light crude oil for power generation has had devastating impacts on VRA finances.³³

GNPC pursued its plans for developing the North and South Tano fields by an appraisal programme which involved the drilling, in 1992, with the GNPC-owned drillship, Discoverer 511, of a horizontal well in the South Tano field. An extended well test was conducted using a well testing package installed on the drillship by MODEC. A tanker was moored to the drillship for oil storage during the well testing period, and recovered oil was subsequently refined at TOR. GNPC was operator for the project, with technical support from Horwell, a French company, in designing and drilling the well.

Financing of US\$294 million was raised from the US Eximbank for undertaking the development of the fields and constructing a pipeline to transport gas to a barge-mounted power plant located nearshore, in a pond at Effasu. The loan to GNPC had been guaranteed by the Government of Ghana and, ultimately, could not be drawn down for the project because of the World Bank requiring the Government not to maintain the guarantee.³⁴ The project could, therefore, not proceed.

GNPC was the driver of the West Africa Gas Pipeline (WAGP) project, working initially with the Nigerian National Petroleum Corporation (NNPC) and subsequently bringing Chevron and Shell on board. The commercial consortium that was formed to undertake the project consisted of NNPC, GNPC, Chevron and Shell, with Chevron as the managing sponsor. Gas companies created in Togo and Benin (Sotogaz

national company, TAQA, which is now privatised and listed on the Abu Dhabi Securities Exchange (ADX).

³³ In 2013, the World Bank recognised that VRA faced imminent financial collapse (pp. viii and x). See World Bank. 2013. Energizing Economic Growth in Ghana: Making the Power and Petroleum Sectors Rise to the Challenge. Available at: <https://openknowledge.worldbank.org/handle/10986/16264> (Accessed: 19 July 2021).

³⁴ The World Bank was focused on the Government providing incentives to the private sector for natural gas development and was later to support the ENI/Vitol Sankofa Gye Nyame project with a security package in respect of natural gas take-or-pay obligations of GNPC at US\$9.80 per mmbtu, well beyond the market price of such gas. This was contrary to the position of the Bank in the 1990s when it strongly advised against VRA entering into gas take-or-pay obligations.

and Sobegaz) were also subsequently part of the consortium. From the perspective of the Corporation, the WAGP project would enable Ghana to be connected with the abundant gas resources of Nigeria, thus ensuring security of gas supply for the thermal power plants that were envisaged for Ghana.³⁵

By a decision of the Government in 2001, however, GNPC participation in the WAGP project was terminated and the interest GNPC held in the project was assigned to VRA, a body mandated to develop hydropower, specifically on the Volta River. The power barge project at Effasu was also transferred to VRA.

With its continued focus on natural gas for power generation in Ghana, GNPC successfully negotiated in 2009 with the consortium undertaking the development of the Jubilee field for the first 200 billion cubic feet gas of their share of the partners to be delivered free of charge to GNPC. The price offered by the consortium for selling their share of associated natural gas had been US\$4 per mscf. Value of US\$800 million was thus achieved. In return, GNPC took up the responsibility for construction and operation of the pipeline infrastructure to send the gas and to shore. This was a crucial aspect of the finalisation and approval (in July 2009) of the Plan of Development for the Jubilee field, which then enabled the field to come onstream in November 2010.³⁶ The gas from the Jubilee partners, taken together with gas belonging to the Government (as royalty), and GNPC (through its participating interest) has resulted in all the natural gas exported from the Jubilee field to date belonging to the Government and GNPC.

The availability of natural gas has ensured increased power generation to meet ever growing demand, including demand from neighbouring countries, and has dramatically transformed the country's energy mix. The Energy Commission reflects this in its April 2021 National Energy Statistics report as follows: "In 2000, hydro plants generated the highest proportion (about 92%) of electricity requirement whereas thermal plants

³⁵ This perspective was clearly different from that of the World Bank which highlighted the West African Electricity Interconnection with power from Nigeria as the long-term thermal power option to complement Ghana's hydropower—see footnote 27 above.

³⁶ The Chief Operating Officer of Kosmos Energy was quoted in a 15 July 2009 news release as saying: "Kosmos and its Jubilee Field partners are providing the first 200 billion cubic feet of natural gas to GNPC at no cost to help fund the development and construction of the country's initial gas infrastructure." See: http://www.kosmosenergy.com/press/kosmos_PR_071509.pdf (Accessed: 16 June 2021).

generated the remaining 8%. However, in 2020, the generation mix stood at approximately 36.2% of hydro against 63.6% of thermal and 0.3% of renewables.”³⁷

Significantly, the Commission further reports that Ghana’s power exports reached a record level in 2020, climbing by approximately 26% to 1801 GWh (Gigawatt hours) from the previous record of 1430 GWh in 2019, increased supply to Burkina Faso driving this.³⁸ The Commission projects for 2021 a generation capacity of 5328.1 MW, with dependable capacity of 4879 MW, 68.5% of which will be from thermal sources. The Commission notes in its 2021 Energy Outlook for Ghana that: “Thermal has surpassed hydro as the most dominant source of electricity generation in Ghana since 2015.”³⁹ Indeed, thermal generation is forecast to form Ghana’s electricity mix backbone over the next ten years (2021–2030).⁴⁰ Thus, the availability of natural gas clearly enables the country to meet increasing domestic electricity demand and boost export earnings through electricity exports.

³⁷ Paragraph 3.2 at p. 11 of 2020 Energy Statistics. Available at <http://www.energycom.gov.gh/files/National%20Energy%20Statistics%202021.pdf> (Accessed: 18 July 2021). The 2021 Energy Outlook of the Energy Commission notes at p. 20: “Thermal plants constitute 69.0% of total installed generation capacity in the country. The main fuel sources for the thermal plants are Natural gas, Light Crude Oil (LCO) and Heavy Fuel Oil (HFO). Up to 89% of installed thermal plants depend on natural gas as the primary fuel source due to its comparative advantage over oil in terms of indigeneity, cost and environmental friendliness.” See: <http://www.energycom.gov.gh/planning/data-center/energy-outlook-for-ghana?download=120:energy-outlook-for-ghana-2021> (Accessed: 28 July 2021).

³⁸ Ibid. at paragraph 3.3 on p. 12. It is also reported on p. 13 that “Ghana has been a net exporter of electricity for three consecutive years. The net export registered in 2020 was the highest, increasing by 33.8% over 2019.”

³⁹ See 2021 Energy Outlook of the Energy Commission <http://www.energycom.gov.gh/planning/data-center/energy-outlook-for-ghana?download=120:energy-outlook-for-ghana-2021> (Accessed: 28 July 2021).

⁴⁰ 2021 Electricity Supply Plan—a power supply outlook with medium-term projections for Ghana http://energycom.gov.gh/files/2021%20Electricity%20Supply%2020Plan_Final.pdf (Accessed: 30 July 2021); Acheampong, T., Menyeh, B. O., & Agbevivi, D. E. (2021). Ghana’s Changing Electricity Supply Mix and Tariff Pricing Regime: Implications for the Energy Trilemma. *Oil, Gas & Energy Law*, 19(3).

4 THE PETROLEUM REVENUE MANAGEMENT ACT (PRMA) AND GNPC FINANCES

The Petroleum Revenue Management Act, 2011 (Act 815), was enacted in 2011. It established a centralised system for collecting and allocating petroleum revenues. Section 2(1) provides: “*A Petroleum Holding Fund is hereby established as a designated public fund at the Bank of Ghana to receive and disburse petroleum revenue due the Republic.*”

In the original Section 7 of the Act, after the provision in subsection (1) that “*Revenue due from the direct or indirect participation of the Republic in petroleum operations, including the carried and additional participating interests shall be paid into the Petroleum Holding Fund,*” subsection (2) provides that: “*The payment into the Petroleum Holding Fund shall be net of (a) the equity financing cost, including advances and interest of the carried interest of the Republic, and (b) the cash or the equivalent barrels of oil that shall be ceded to the national oil company out of the carried and participating interests recommended by the Minister and approved by Parliament*” (Emphasis supplied).

This meant that amounts GNPC needed for equity financing, such as advances made by the Contractor in respect of the Corporation’s additional participation, did not have to be paid into the Petroleum Holding Fund (PHF). Payment into the PHF was net of equity financing cost as well as share of revenue from its participating interest that was ceded to the Corporation.

However, the section was amended in the Petroleum Revenue (Management) (Amendment) Act, 2015 (Act 893); Section 7 now simply has the provision in subsection (1). All revenues, including those from carried and participating interests, have to be first paid into the Petroleum Holding Fund. There would, then, by the amendment to Section 16, be disbursements from the Fund “to a national oil company” for the equity financing cost and other amounts allocated the national oil company. A consequence of the amended provision is the delays to the receipt of funds by GNPC to meet cash calls in respect of ongoing production.

In its 2019 Report, the Public Interest and Accountability Committee (PIAC) states at paragraph 4.6 that: “*Due to GNPC’s inability to honour its cash calls, the Ghana Group which should have lifted three (3) cargoes per its equity holding in the Field used two (2) out of the three (3) parcels to defray the Development and Production expenditures incurred by the*

*partners on behalf of the Ghana Group.*⁴¹ An earlier paragraph in the Report shows a build-up of GNPC indebtedness from one year to the next and the consequence: “4.4.3 *There was an outstanding cost from 2018 of US\$41.15 million, bringing the total amount payable for 2019 by GNPC to US\$95.16 million. Out of this amount, US\$89.22 million was paid by way of crude oil offset...*”.

The failure of GNPC to fund its share of ongoing expenditures in a timely manner has implications beyond the loss of lifting entitlements. The framing of work programmes by the Contractor, with financial commitments, has to take account of GNPC’s inability to fund its share and the Contractor having to factor that into raising capital for projects.

Section 16(4) of the PRMA, as amended, makes it the obligation of the Minister of Finance to “*ensure that the Bank of Ghana transfers to a national oil company, the relevant portion of the revenue due to that national oil company under subsection (2) not later than three working days after the receipt of petroleum revenue into the Petroleum Holding Fund.*” The Annual Petroleum Reports of the Ministry of Finance reveal consistent breach of the provision. For 2020 liftings, as many as fifty days and not less than twenty-one days elapsed from the dates of receipts into the Petroleum Holding Fund of revenues from the current oilfields to the dates of disbursement to GNPC. Table 1 set out the details.

The statutory responsibility of the Minister of Finance to ensure payments to the national oil company within three days of receipt of funds in the PHF has, clearly, not been fulfilled.

Regulation 9 of the Petroleum Revenue Management Regulations, 2019, LI 2381 provides: “(1) *In furtherance of sub-Section (4) of Section 16 of the Act, a national oil company shall present an invoice to the Ministry for the portion of revenue due a national oil company within twelve days of the lifting of the crude oil. (2) On the receipt of the petroleum revenue into the Petroleum Holding Fund, the Minister shall request the Controller and Accountant General to instruct Bank of Ghana to pay the national company within three days.*”

This requirement for an invoice to be submitted to the Minister by the national oil company erroneously makes the claim to the share of the funds a claim on the Minister of Finance, when in fact it is a claim on

⁴¹ See https://www.piacghana.org/portal/files/downloads/piac_reports/piac_2019_annual_report.pdf (Accessed: 1 July 2021).

Table 1 Date of lifting, receipt date and date of distribution for Ghana's Petroleum Receipts (2020)

<i>Jubilee</i>						
A	Date of lifting	04-February-20	04-April-20	23-June-20	28-August-20	07-October-20
B	Receipt date	05-March-20	05-May-20	23-July-20	28-September-20	06-November-20
C	Date of distribution	22-April-20	03-June-20	03-September-20	27-October-20	03-December-20
D	D = B - A	30	31	30	31	30
E	E = C - B	48	29	42	29	27
<i>TEN</i>						
A	Date of lifting	15-December-19	26-February-20	22-June-20	27-September-20	
B	Receipt Date	14-January-20	27-March-20	21-July-20	27-October-20	
C	Date of Distribution	04-March-20	22-April-20	11-August-20	25-November-20	
D	D = B - A	30	30	29	30	
E	E = C - B	50	26	21	29	
<i>Sankofa/Gye Nyame</i>						
A	Date of lifting	16-January-20	07-June-20	27-September-20		
B	Receipt date	14-February-20	08-July-20	27-October-20		
C	Date of distribution	03-April-20	29-July-20	02-December-20		
D	D = B - A	29	31	30		
E	E = C - B	49	21	36		

Source Constructed from Tables 7-9 and Appendix 4 of the 2020 Annual Petroleum Report of Minister of Finance <https://mofep.gov.gh/sites/default/files/reports/petroleum/2020-Annual-Petroleum-Report.pdf> (Accessed: 21 July 2021).

the PHF, a distinct public fund established under the PRMA. The interposition of a request by the Minister of Finance to the Controller and Accountant General to instruct the Bank of Ghana to pay the national oil company the funds due to it is clearly no way to ensure payment within three days as the Minister of Finance is required, by Section 16(4) of Act 893, to do. This also erroneously treats the funds received in the PHF as if they were Government funds under the Controller and Accountant General who, therefore, has to be asked to instruct the transfer. Even if an invoice submission from GNPC is considered an administrative process to facilitate payment, there is no reason why such an invoice cannot be directly to the PHF itself copied to the Minister of Finance. Note must be taken of Section 3(5) of Act 815: *“For the purposes of this Act, petroleum revenue paid into the Petroleum Holding Fund shall not be treated as part of the normal tax revenue for purposes provided for in relevant laws of the Republic; and used as a basis for the determination of any statutorily earmarked funds.”*

The procedure that Regulation 9 of LI 2381 introduces also does not reflect the order of priority of disbursements provided for in Section 16(1) of Act 893: *“Disbursements from the Petroleum Holding Fund shall be made in the following order of priority and only:*

- *to the national oil company for the purposes of subsection (2);*
- *to the Consolidated Fund in support of the national budget;*
- *to the Ghana Petroleum Funds for the purposes of savings and investment; and*
- *for exceptional purposes according to the provisions of this Act.”*

Regulation 9 of LI 2381, subsidiary legislation at variance with the operation of statute, namely Act 815, as amended by Act 893, is clearly invalid.

4.1 GNPC Finances: Government and State Agencies' Indebtedness

The PIAC 2020 Report records large amounts of indebtedness to GNPC by Government and various state organisations, some going back ten years. The indebtedness of the Ghana National Gas Company (GNGC) in an amount of US\$564.126 million and VRA to the tune of US\$253.503 million, totalling US\$817.629 million, for gas supplied over a number of

years stand out.⁴² Paradoxically, while GNPC is unpaid for years of natural gas supplied to GNGC and VRA, its foreign partners, ENI (the Italian national oil company) and Vitol (an international oil trader), receive payments for gas supplies without fail on the basis of a security structure that was put in place by Government and GNPC, with the support of the World Bank.⁴³ ENI and Vitol are paid on the basis of the take-or-pay contract for gas supplies but not GNPC even in respect of its paid participation which should really be on the same footing as the Contractor's gas supply. ENI and Vitol also lift oil that is part of the entitlement of GNPC when GNPC does not meet its equity financing requirements. GNPC, however, is both unable to receive funds from crude oil sales, in the time frame statutorily provided for, and also not paid for gas supplied to both GNGC and VRA. No recourse appears to be available to GNPC.

Neither the establishment of a Cash Waterfall Mechanism (CWM) for disbursement of the revenues of the Electricity Company of Ghana to various beneficiaries along the electricity value chain, including GNPC, nor the proposed Natural Gas Clearing House (NGCH) have successfully addressed the outstanding indebtedness to GNPC in respect of gas supplies.

The extent of the use of GNPC resources at the behest of Government is highlighted at page 97 of the 2020 PIAC Report in Table 39 headed: "Payments & Guarantees Made on Behalf of Other Agencies, Government National & Local Infrastructure Projects." A total amount of US\$1.512 billion that is reflected there highlights the scale of the problem.⁴⁴ Securing ECG fuel oil supply by Litasco in the amount of US\$200 million and providing Karpower guarantees to the tune of

⁴² Paragraph 9.3.2.11 at p. 96 https://www.piacghana.org/portal/files/downloads/piac_reports/piac_2020_annual_report.pdf (Accessed: 2 July 2021).

⁴³ World Bank Group. Ghana Sankofa Gas Project. Available at: <https://thedocs.worldbank.org/en/doc/969011518200591340-0100022018/original/BriefsGuaranteesGhanaSankofa.pdf> (Accessed: 29 July 2021).

⁴⁴ The "OCTP Escrow Account" listed in the Table, however, appears to be a part of the security package that GNPC and the Government put up in respect of the take-or-pay obligation undertaken by the Corporation for gas supplies from the Sankofa Gye Nyame fields referred to above. If so, it is, properly, a GNPC responsibility and should not be in this Table of Government responsibilities that GNPC is made to fund. The existence of the Escrow account does underscore the point that payments to ENI and Vitol for gas are guaranteed, while GNPC does not get paid by GNGC and VRA for gas supplied.

US\$145 million, two of the items listed in Table 39, are financial commitments of Government and need to be on the balance sheet of the Government, not the Corporation.

There is, in the 2020 Annual Petroleum Report of the Minister for Finance, in respect of Karpower, a record of payments by GNPC in respect of “*a US\$31 million loan obtained to facilitate the relocation of the Karpower barge from Tema to Takoradi, per the decision of Government.*”⁴⁵ It is also stated in that Report at paragraph 124 that “*US\$11.72 million was expended on the Gas enclave road project In line with the Corporation’s role as the gas aggregator, GNPC was requested by the Government of Ghana to financially support the construction of key roads within the western corridor to facilitate the evacuation of gas from the Ghana Gas Company at Atuabo.*” The 2020 PIAC Report, however, records “*a Presidential directive*” (dated 11th May 2020) that confirmed GNGC as: “*the aggregator for all gas;...and which is being implemented by a Ministerial Gas Task Force.*”⁴⁶

It is obvious that there is constant pressure on GNPC resources from Government interests. Pursuit of the commercial corporate agenda will, likely, yield more resources in the end for Government to address its priorities. The Corporation, by demonstrably pursuing a commercial corporate agenda that seeks to advance the objectives in the GNPC statute, such as the planned and orderly development of the petroleum resources of Ghana and ensuring national benefits thereby, will be well placed to hold at bay deviations from the statutory responsibilities of the Corporation. In its 2019 Report, PIAC reiterated earlier calls for Parliament to consider

⁴⁵ Paragraph 127 at p. 44 of the Report <https://mofep.gov.gh/sites/default/files/reports/petroleum/2020-Annual-Petroleum-Report.pdf> (Accessed: 2 July 2021).

⁴⁶ Paragraph 10.3 on p. 101 https://www.piacghana.org/portal/files/downloads/piac_reports/piac_2020_annual_report.pdf (Accessed: 2 July 2021). In the Gas Master Plan developed by the Ministry of Petroleum in 2016, a contrary view had been taken as follows: “based on international comparators, gas sector development is facilitated by providing a simpler structure more suitable to the nascent state of the gas market in Ghana. The decision to appoint GNPC as the aggregator of gas and making GNGC a fully owned subsidiary of GNPC will improve coordination in the sector and facilitate infrastructure investment and financing” (p. 11). See: https://uploads-ssl.webflow.com/5a92987328c28c00011db053/5bbf7dca7a04d6da6a45aa82_GMP-Final-Jun16.pdf (Accessed: 25 July 2021).

placing some restrictions on the proportion of GNPC's budget on Corporate Social Investments and guarantees to state institutions, particularly in the light of their inability to respond to some of their cash calls.⁴⁷

Yet, in 2020, GNPC spent an amount of US\$44.477 million on "Sustainability & Stakeholder Relations and GNPC Foundation," almost seven times the amount spent on the Sankofa Gye Nyame fields (US\$7.094 million) and about as much as the US\$48.488 million spent on Jubilee.⁴⁸ The 2020 PIAC Report notes, "*GNPC spent 71.81 percent of its Level B Expenditure receipts [equity financing costs are Level A] on Sustainability & Stakeholder Relations and GNPC Foundation.*"⁴⁹ Such a level of expenditure on "Sustainability etc.," in a year when GNPC received from the PHF an amount of \$198.65 million and spent \$270.39 million, resulting in a negative position/deficit of \$71.74 million, is clearly unsustainable without increased oil and gas production and revenues therefrom. Limiting the Corporation's capacity to meet its equity financing costs in respect of the very fields from whose production the revenues for the Petroleum Holding Fund (PHF) are generated by all these other expenditures is, obviously, imprudent. A plan for ensuring the investments needed for increasing oil and gas production is, without doubt, the current imperative for the Corporation.

4.2 *Establishing GNPC Expenditure Priorities*

A primary responsibility of the Corporation as a commercial partner in upstream ventures is to prioritise production from existing fields such that the production is sustained, if not enhanced. Section 16 of the PRMA, as amended by Act 893, in giving the highest priority to payment to the national oil company for its equity financing costs and other obligations, correctly recognises that these equity financing costs undergird the very sustainability of the PHF itself. An appreciation of this by all national institutions, including GNPC itself, is required, and expenditure priorities for the Corporation must be established on that foundation.

⁴⁷ PIAC 2019 Report paragraph 10 of Recommendations at p. 14.

⁴⁸ 2020 Annual Petroleum Report of Minister of Finance, Table 19 on p. 42 <https://mofep.gov.gh/sites/default/files/reports/petroleum/2020-Annual-Petroleum-Report.pdf> (Accessed: 2 July 2021).

⁴⁹ See p. 98 https://www.piacghana.org/portal/files/downloads/piac_reports/piac_2020_annual_report.pdf (Accessed: 2 July 2021).

The 2020 Annual Petroleum Report of the Minister of Finance recognises situations around currently producing fields which clearly necessitate urgent actions by partners, particularly GNPC as the national oil company. In respect of the Jubilee Field, it is indicated that: “31. The major challenges of the Greater Jubilee Field are high water breakthrough (water cut), elevated Gas-oil-ratio (GOR) and gas handling especially gas export, all of which affect oil production in the Field.”⁵⁰ In respect of the TEN fields: “37. *The main challenge on the TEN Field is to do with gas export. This is due to lack of market for the gas and more lately the hydrate blockage on the gas export pipeline. Plans are underway to curb the blockage in pipeline while the market for gas is more of a long-term challenge. This has led to increased gas injection into the reservoir with the expected increase in Gas Oil Ratio (GOR) and gas cycling in some of the oil producing wells in the Ntomme reservoir. This could have an impact on the TEN Field reserves in the long run.*”⁵¹

In paragraph 153 on page 51 of the 2020 Annual Petroleum Report, it is stated: “*The SGN take-or-pay obligations have ensured that gas from the Sankofa Field is the first to be dispatched. This makes gas supply from the Jubilee and TEN Fields interruptible. In effect, the associated gas in these fields are reinjected to accommodate SGN production, leading to rising gas-to-oil ratios.*”

Gas utilisation to increase the Sankofa Gye Nyame fields’ oil production is also, fortunately, noted in the Report: “44. *Eni Ghana Exploration and Production Limited, Operator of the Sankofa Gye Nyame (SGN) Field, requested for approval from the Minister of Energy to amend the Plan of Development (PoD) to use the gas produced from SNKE-2A (Cenomanian level) for injection into the Cenomanian level for the purpose of oil optimisation.*”

The PIAC, in its 2019 Report, rightly “calls on government to expedite action on the infrastructure requirement for gas evacuation and utilisation in order to avoid the huge backlog of make-up gas volumes and eventual resource waste.”⁵²

⁵⁰ See p. 16 <https://mofep.gov.gh/sites/default/files/reports/petroleum/2020-Annual-Petroleum-Report.pdf> (Accessed: 2 July 2021).

⁵¹ *Ibid.*, p. 18. The 2019 Annual Petroleum Report of the Minister of Finance had exactly the same statement at paragraph 28 on p. 5.

⁵² 2019 PIAC Report recommendation 11 at p. 14.

There can be no doubt that the investments required for addressing, particularly, the danger of poor gas handling substantially decreasing oil recovery in the Jubilee and TEN fields, represent the pressing priorities for GNPC according to its mandate. More so as 2020 saw an almost 7% decline in Ghana’s oil production after four years—2016–2019 inclusive—of increasing production (Fig. 1).

The danger of much oil (value estimated to be in billions of dollars) being left in the ground, from high levels of gas reinjection into the reservoir in both the Jubilee and TEN fields, earlier referred to, deserves urgent steps being taken by GNPC in the national interest. Expenditures in the “pre-exploration” activity in the Voltaian basin, for instance, should certainly not be given higher priority. Unnecessary gas reinjection is also at a cost, while utilising the gas creates value.

The scale of potential value to be derived from a focus on the producing assets is evident from information provided in Tullow Oil’s April 2021 independent reserves audit. In the Jubilee field, reserves attributable only to the Tullow stake are certified as 141.3 million barrels of oil equivalent while in the TEN fields reserves of 68.7 million barrels

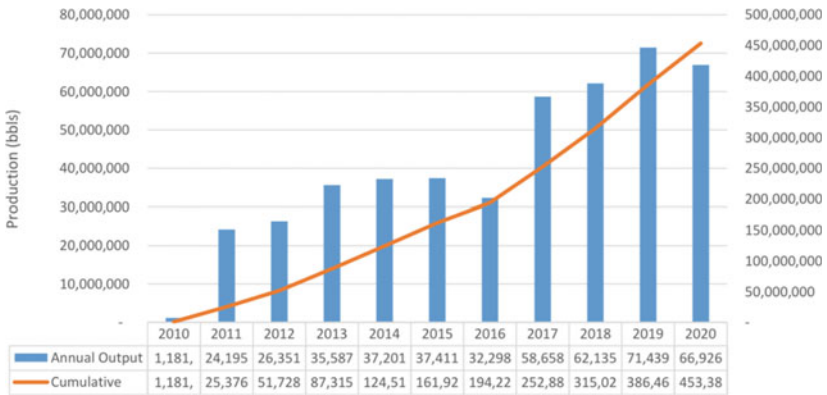


Fig. 1 Annual cumulative crude oil production (2010–2020) (Source PIAC [2020])

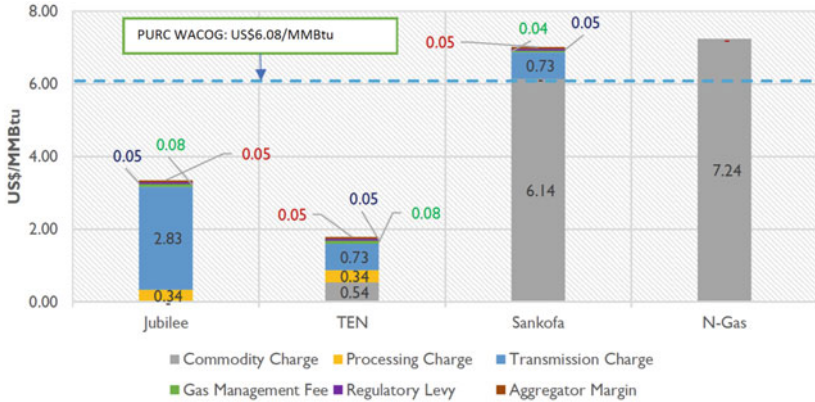


Fig. 2 Ghana's gas pricing for the different sources (*Source* 2021 Energy Outlook for Ghana, Energy Commission [2021, p. 22])

of oil equivalent are certified.⁵³ Contingent resource estimates provided are 111.5 million barrels of oil equivalent for Jubilee and 230.3 million barrels of oil equivalent for the TEN fields.⁵⁴

Figure 2 from the 2021 Energy Outlook for Ghana of the Energy Commission shows the striking difference between the cost of gas from the Jubilee and TEN fields, on the one hand, and the cost of gas from the Sankofa Gye Nyame fields or gas from N-Gas through the West African Gas pipeline. This also underlines the value to the country, in lower electricity tariffs, of GNPC's 200 billion cubic feet of free natural gas from the partners in the Jubilee field.

While GNPC negotiated a zero cost from the partners for their share of gas, the responsibility for the gas infrastructure, which the Corporation took on, has a cost and it would be more consistent with the Corporation having to operate on sound commercial lines for there to be a commodity charge for Jubilee gas reflected in the PURC tariff. There appears also to be a disparity between the US\$2.83 transmission charge on Jubilee gas and the US\$0.73 transmission charge for TEN and Sankofa gas in this

⁵³ Audit of Reserves, p. 13 https://www.tulloil.com/application/files/9316/1969/2964/Independent_Audit_of_Tullow_Petroleum_Assets_final_2P_only_send.pdf (Accessed: 28 July 2021).

⁵⁴ Ibid., p. 19.

Table. Consistent application of a US\$0.73 transmission charge would reduce the weighted average cost of gas in the PURC tariff.

The low cost of Jubilee and TEN gas makes it important for the gas from those fields to be prioritised as against both Sankofa Gye Nyame gas and gas from Nigeria through the West African Gas pipeline. Minimising the effect of take-or-pay obligations in the relevant gas supply contracts, including even paying and deferring offtake of gas from Sankofa Gye Nyame in favour of cheaper gas will ensure an even lower Weighted Average Cost of Gas (WACOG) in addition to enabling enhanced oil production from Jubilee and TEN.

GNPC's need to prioritise the realisation of value from the reserves of the existing fields and from gas utilisation as well as accelerated development of discoveries also necessitates urgent reconsideration of the prohibition of borrowing against reserves in Section 5(2) of the Petroleum Revenue Management Act, 2011, Act 815, as amended by Act 893. It is there provided: "In order to preserve **revenue streams from petroleum** and ensure the object of this Act, there shall not be **any borrowing** against the petroleum reserves" (Emphasis supplied). The PRMA, in Section 5(2), had only prohibited borrowing against "the Petroleum Holding Fund." The amended provision is, in its terms, actually applicable not only to GNPC but to the Contractor as well. Reserve-based lending is a widespread commercial practice in the oil and gas industry and the provision has evidently not been invoked to prevent such borrowing by any of the Contractor parties. There is no reason why GNPC should not borrow against the nation's oil and gas reserves even as its international partners are borrowing against these national reserves to advance their corporate objectives, including exploration in other countries the partners operate in.⁵⁵ The terms of Section 5(2) do not debar GNPC or, indeed, the Government, from forward sales of future oil or gas production and receiving prepayments in respect of such sales.

⁵⁵ Thus, Tullow announced completion of "the bi-annual redetermination of its RBL credit facility with \$1.8 billion of debt capacity approved by the lending syndicate" in a press release of 7 October 2020 <https://www.tulloil.com/media/press-releases/rbl-redetermination-confirms-debt-capacity-18-billion-and-headroom-c500-million-capital-markets-day-be-held-25-november-2020> (Accessed: 23 July 2021). Also, Kosmos Energy announced a similar successful completion of "the amendment and extension of its reserve based lending ("RBL") facility" in a 10 May 2021 press release <https://investors.kosmosenergy.com/news-releases/news-release-details/kosmos-energy-successfully-completes-reserve-based-lending-1> (Accessed: 23 July 2021).

Enhancing GNPC's financial capacity in ways that are common practice in the oil industry would enable more effective fulfilment of its statutory mandate, particularly its responsibility to "promote the exploration and orderly and planned development of the petroleum resources of Ghana" (Section 2(a) of the GNPC Law). As GNPC borrowing is subject to approval by the Minister of Finance and only upon the recommendation of the Minister of Energy (Section 4(2) of the Act), there is every opportunity for Government to ensure that GNPC borrowing does not compromise Government revenues under the PRMA framework.

5 CONCLUSION: STRENGTHENING GNPC AMIDST THE ENERGY TRANSITION

For GNPC to be able to address the priorities outlined above, there is clearly a need for it to be strengthened as an organisation. In a study by the African Natural Resources Centre of the African Development Bank on Enhancing the Performance of African National Oil Companies, there is recognition of the strength of "*GNPC's experienced upstream technical staff and deep understanding of Ghana's geological potential.*"⁵⁶ However, it is also observed that "[o]verall, GNPC: *iv. Has limited enterprise, finance, accounting and risk management capability and basic risk management tools (e.g., a formalised, systematically maintained risk register)*" and that "*[s]pecifically, in its upstream segment, GNPC: i. Lacks approved upstream policies and procedures which are needed for stand-alone operatorship.*"⁵⁷

Observations of management staff interviewed for the study are also pertinent. For example, "*[w]hen asked to describe GNPC in one word, interviewees offered many instead: bureaucratic, slow, centralised... This opened discussions on how they would like to see the company: one with a defined corporate culture that guides employees towards more personal accountability, more delegation and cascading authority, enabling decisions to be taken at the operational level, more continuity and less politics,*

⁵⁶ Page 20. African Natural Resources Centre (ANRC). 2021. Enhancing the Performance of African National Oil Companies. African Development Bank. Abidjan, Côte d'Ivoire.

⁵⁷ Ibid., p. 104.

and more openness.”⁵⁸ Also, “when asked about the operatorship strategy, managers in the upstream frequently replied that it was unrealistic.”

Having the Corporation operate in accordance with its commercial corporate mandate is clearly the legitimate aspiration of the management staff interviewed. The capacity and focus of GNPC and its personnel should be aligned to the priorities of its mandate.

In the midst of the current international outlook of energy transition from fossil fuels expressed, for instance, in the Net Zero by 2050 Agenda outlined by the International Energy Agency,⁵⁹ it is crucial for Ghana’s successful navigation of the energy transition that GNPC should “ensure that Ghana obtains the greatest possible benefits from the development of its petroleum resources” and “ensure that petroleum operations are conducted in such manner as to prevent adverse effects on the environment, resources and people of Ghana” (Sections (2)(b)) and 2(2)(e) of GNPC Act). It is most unfortunate that the operatorship aspirations of GNPC have been expressed mainly in terms of the Voltaian Basin “flagship” project and its Explorco subsidiary, preventing closer attention to the more critical priorities discussed here.

The establishment of GNPC was to give an impetus to exploration efforts so as to enable oil production in Ghana and reduce the drain on scarce foreign exchange resources. In the relatively short period since the establishment of GNPC, not only has Ghana attained significant success in petroleum exploration and production, but oil has become a major contributor to, not a drain on, foreign exchange earnings. Petroleum revenues amounting to US\$6.5 billion have been earned cumulatively from petroleum in the 2011–2020 decade, the first decade of significant oil production in Ghana (Fig. 3).⁶⁰

GNPC now focusing its scarce resources on increasing oil and gas production from existing producing fields will initiate a new momentum

⁵⁸ Ibid., paragraph 2.2.3, p. 38.

⁵⁹ IEA—Net Zero by 2050—A Road map for the Global Energy Sector. Available at: <https://iea.blob.core.windows.net/assets/822e602e-a42d-46a0-aec1-1f17b16e95d6/NetZeroBy2050-ARoadmapfortheGlobalEnergySector-SummaryforPolicyMakers.pdf> (Accessed: 15 June 2021).

⁶⁰ The claim attributed to the Chief Executive of Tullow Oil that the Jubilee partners have “paid a little over \$6 billion to the State in taxes” <https://www.myjoyonline.com/jubilee-partners-invest-over-19bn-in-oil-fields-since-2010-paid-6bn-in-taxes> of 10 June 2021 is obviously wrong; most of the State revenues are through the GNPC carried and paid participating interests as well as royalties.

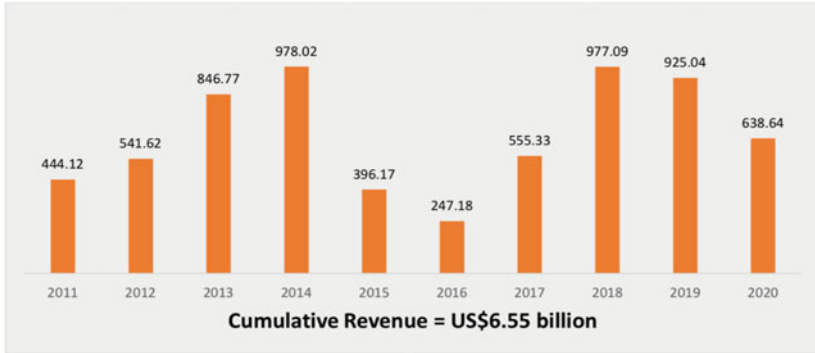


Fig. 3 Annual petroleum receipts (2011–2020), US\$mm (*Source* PIAC [2020])

of increasing oil and gas production in the near term. This would involve development of existing discoveries using innovative technology approaches and recourse to enhanced oil recovery techniques, including, for instance, those that use carbon dioxide, and which could, therefore, be part of a carbon capture, utilisation and storage (CCUS) strategy. The harnessing of natural gas for increased power generation—for domestic requirements and export—will further consolidate the consistent gas-to-power outlook of GNPC from its earliest years. While the focus of a foreign company as regards the flaring of natural gas may be on reducing carbon emissions, for a national company like GNPC, a country's natural resource being wasted while many citizens have little access to energy provides greater urgency to avoiding flaring.

Even as International Oil Companies (IOCs) strategise about their various paths to Net Zero, National Oil Companies (NOCs), such as GNPC, also need to position themselves with strategies to capture national benefit amidst the energy transition. International Oil Companies relinquishing fields on account of their energy transition agenda should not disable national oil companies from continuing with production where there are reserves still worth recovering. There is considerable incremental value to be derived from the existing producing fields in Ghana and appraised discoveries and from optimising the infrastructure that has been established for production from these field.

In connection with GNPC priorities also, the current situation of Anadarko Ghana, following the acquisition of the parent company, Anadarko Petroleum, by Occidental in 2019 and the clear lack of interest of Occidental in Anadarko Ghana,⁶¹ creates an opportunity for GNPC to increase its stake in these prized national assets, especially with a view to accelerating the steps needed to optimise oil recovery through improved gas handling as well as enhanced oil recovery.

ENI's recent announcement of the latest discovery, Eban-1, in the Offshore Cape Three Points block, gives GNPC opportunities for maximising the value of existing production infrastructure. ENI states, assuredly: *“Due to its proximity to existing infrastructures, the new discovery can be fast-tracked to production with a subsea tie-in to the John Agyekum Kufuor FPSO, with the aim to extend its production plateau and increase production. The Eban discovery is a testimony to the success of the infrastructure-led exploration strategy that Eni is carrying out in its core assets worldwide.”*⁶² According to the company: *“The new discovery has been assessed following comprehensive analysis of extensive 3D seismic datasets and well data acquisition including pressure measurements, fluid sampling and intelligent formation testing with state-of-the-art technology. The acquired pressure and fluid data (oil density and Gas-to-Oil Ratio) and reservoir properties are consistent with the previous discovery of Akoma and nearby Sankofa field. The production testing data show a well deliverability potential estimated at 5000 bopd, similar to the wells already in production from Sankofa Field. The estimated hydrocarbon in place between the Sankofa field and the Eban-Akoma complex is now in excess of 1.1 Bboe and further oil in place upside could be confirmed with an additional appraisal well.”*

In this situation with the Eban-1 and Akoma -1 discoveries (which are in CTP -Block 4, separate from the Sankofa Gye Nyame Development and Production Area in the OCTP Block), GNPC can realise value, for instance, from the options provided to it in Section 19 of the Petroleum (Exploration and Production) Act 2016 (Act 919), to own physical assets purchased, installed or constructed by a contractor for

⁶¹ Occidental regards these as “discontinued operations” and excludes them from its corporate presentations. <https://www.oxy.com/investors/Documents/Earnings/OXY1Q21ConferenceCallSlides.pdf> (Accessed: 26 July 2021).

⁶² See <https://www.eni.com/en-IT/media/press-release/2021/07/eni-announces-significant-discovery-block-ghana.html> (Accessed: 26 July 2021).

petroleum activities where the full cost of such assets has been recovered, or even after 50% of cost recovery by paying the remaining unrecovered cost to the Contractor. Such assets would then be leased to the Contractor for both the continued production from the existing Development and Production Area and the development of the new discoveries in the neighbourhood.⁶³ Indeed, the additional oil and gas reserves from the new discoveries ENI expects to be processed on the existing infrastructure would also significantly reduce the price of the natural gas from Sankofa Gye Nyame since the current pricing reflects project capital costs in relation to reserves anticipated in the Plan of Development.

GNPC's responsibility to drive the generation of such value for the benefit of the nation cannot be over-emphasised. There is even more urgency about the key objects set out for the Corporation from the beginning. National clarity about this, with clear alignment among the key stakeholders, is the surest way to empower GNPC to pursue a field development and production-focused agenda and enable Ghana to continue to derive significant value from her oil and gas endowments in the midst of the energy transition. Without such a focus, Ghana could soon easily end up with rapidly declining oil and gas production and, hence, drastic reduction in oil revenues for both Government and GNPC.

⁶³ See footnote 12 above.



On the Road to Ghana's Jubilee Oil Discovery: Policy Actions and Initiatives

John Agyekum Kufuor

1 INTRODUCTION

By the beginning of 2001, which can be described as the turning Point in Ghana's oil and gas exploration history dating back to 1896, a solid foundation had been laid for purposeful management of the oil and gas exploration and production business. GNPC commenced business in 1985 under the PNDC Government with the mandate to promote, develop and manage the upstream petroleum sector. The legal framework to guide and regulate oil and gas exploration and production had been established with the enactment of the Petroleum (Exploration and Production) Law, 1984 (PNDCL 84) and the Petroleum Income Tax Law, 1987 (PNDCL 188).

A Model Petroleum Agreement (MPA) had also been prepared to guide negotiations and preparation of future Petroleum Exploration and Production Agreements among the Government of Ghana, GNPC and

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the International Oil Companies (IOCs) applying for oil and gas blocks in Ghana. With the commencement of operations by GNPC in 1985, promotion of oil and gas exploration was further intensified and resulted in an upsurge in offshore exploration activities. Four new petroleum agreements were signed within two years of GNPC's operations (1985–1987). Similarly, GNPC acquired extensive amount of 2D and 3D seismic data to enable the Corporation gain more understanding and knowledge of the basins and aid its promotional activities.

By the mid-1990s, GNPC had changed its strategy and had expanded its operations into foreign countries such as Angola, Gabon, among others, with the objective of acquiring its own oil blocks for exploration and production of oil and gas. The reason cited was that these countries were already producers of oil and gas and therefore offered a better chance of finding oil in their basins. In addition, GNPC had also acquired marine equipment such as drilling rigs and production platforms which were deployed to provide services to international oil companies globally. These marine equipment included the Drillship D511 which was used for the Corporation's drilling operations in the offshore Tano basin and later leased to IOCs. Others such as the North Sea Pioneer were sent to Angola for oil production on the GNPC/MODEC acquired Block 4 and the production platform-Asterie, which was kept in cold stack in Gabon waiting to be refurbished.

GNPC's international operations did not yield the desired results but rather put a financial strain on the Corporation. By 2001, GNPC had a lot of debt in both foreign currency (dollars) and local (cedis) to settle. GNPC could not pay its suppliers and also maintain the marine assets located in foreign countries. Creditors turned to the Ministry of Energy for payment which greatly embarrassed the NPP Government.

On assumption of office as President of Ghana on 7 January 2001, I considered GNPC's role in the search for oil and gas as very crucial. I have always believed that if Ghana's neighbours, namely Côte d'Ivoire and Nigeria, are endowed with hydrocarbons and therefore producing oil and gas on a commercial scale, then Ghana must also be endowed with oil and gas in commercial quantities in its sedimentary basins. Its basins are similar to those of these two countries to a large extent. I, therefore, did not believe that the Almighty God would be that unkind to Ghana so as to leave the country out. This belief, I have always expressed in private and public discussions.

Given the situation at GNPC, I decided to restructure GNPC and put it back on course to focus on oil and gas exploration, development and production in Ghana. I appointed a new governing Board of Directors to oversee the affairs of GNPC and charged the Board with the responsibility to find oil and gas in commercial quantities for Ghana within the shortest possible time. The Minister for Energy was directed to provide the needed support to GNPC. I again directed the Minister for Energy and the new Board to restructure, downsize and refocus GNPC on its core business of oil and gas exploration, development and production in the Ghanaian sedimentary basins.

The governing board was composed of seasoned and accomplished private individuals with varied experiences in business. GNPC was subsequently downsized and refocused. The staff strength was reduced from 600 to 80 which comprised mainly the technical and support staff needed for oil and gas exploration operations only. All the other non-core activities were liquidated. Marine assets were disposed of to curtail the heavy monthly expenditure incurred in foreign currency on the maintenance of the marine equipment and the upkeep of GNPC personnel manning these equipment. Those which the Board could not find buyers for such as the North Sea Pioneer in Angola were towed to Takoradi Port and disposed as scrap. Landed properties at prime locations in Accra which were not needed were also sold and the proceeds used to repay some of the Corporation's local debts.

The new Board adopted a pragmatic and business approach to managing the affairs of GNPC. During the first four months in Office, the Board caused an in-depth study and evaluation to be conducted into GNPC's past operations, strategies, policies and the results thereof, by an in-house technical committee. In addition, GNPC and the Ministry of Energy jointly organized a workshop at the M-Plaza Hotel in Accra from 29 to 30 November 2001 to discuss the regulatory and fiscal bottlenecks that were making it difficult to attract oil and gas exploration capital into the country.

The workshop concluded that the geology of Ghana's sedimentary basins, though not as prolific as that of Nigeria, was still promising. The workshop, however, noted that the fiscal regime contained in the Model Petroleum Agreement (MPA) was too restrictive and did not make Ghana competitive for upstream investments. The final communique proposed a reduction in certain elements of the fiscal package to make Ghana relatively attractive as an oil and gas investment destination.

Based on the outcome of this workshop, the Board of GNPC in June 2002 commissioned the Economic and Legal Section of the Commonwealth Secretariat, UK, to review the regulatory framework, particularly the fiscal regime for Petroleum Exploration and Production in Ghana. The Report was subsequently presented to GNPC and the Ministry of Energy in January 2003. Lessons were learnt from the in-house studies, the M-Plaza Workshop and the Commonwealth Secretariat Report, which informed the Government and the Board of the need to adopt new strategies, policies and flexibility in the application of the fiscal regime based on the water depth and the expected size of the recoverable resources.

2 STRATEGIES AND POLICIES ADOPTED

The following strategy and policy changes were adopted.

2.1 *Targeting the Right International Oil Companies (IOCs)*

GNPC's analysis of the behaviour of the IOCs revealed that the majors and super majors were more interested in proven and prolific oil and gas-producing basins. Their reserve materiality thresholds are normally high, and they also have high overheads and therefore are not that much interested in basins which are yet to establish working petroleum systems. Consequently, the Board decided not to focus too much on such companies even though they have better financial and technical capability. The Board also decided not to focus on start-ups and small independent companies without any exploration and production record as they were more likely to default in their work programme and financial obligations. Most of them are speculators whose main objective is to acquire the blocks and flip them to other companies at a premium. Given this analysis, the Board decided to make the medium to large independent IOCs the target of GNPC's promotional efforts. This led to the award of blocks to companies such as Hess Corporation, Tullow Oil plc, Vitol Upstream, Kosmos Energy and Vanco Energy, which satisfied the criteria.

2.2 *Block Size*

In line with my directive to find oil in the shortest possible time which, therefore, required more drilling activities in the short term, the Board decided to manage the block sizes allocated the companies so as to have

many more IOCs undertaking exploration in the basins at the same time. Consequently, the sizes of blocks were reduced according to water depth and allocated according to the capabilities of the IOCs concerned.

2.3 Focus on Deepwater Exploration

The GNPC Board also adopted the strategy of focusing on deepwater exploration. This strategy was based on the following: throughout the 1990s, there had been discoveries of giant oil and gas fields in deep waters off the West African Margin such as Girassol and Dalia Oilfields in deepwater Angola, Zafiro Oilfield in Equatorial Guinea, Bonga Oilfield in Nigeria, Baobab Oilfield in Côte d'Ivoire and Chinguetti Oilfield in Mauritania. These discoveries were made in deepwater geological environments similar to what pertains in the Ghanaian deepwater basins. Most importantly, work done by GNPC and other IOCs, such as Hunt Oil, Dana Petroleum and Devon, had demonstrated that the deepwater Tano/Cape Three Points and deepwater Keta Basins have tremendous potential for huge accumulation of oil and gas. The Board's decision was also reinforced by the fact that after almost a century of onshore and shallow water exploration, only a few discoveries had been made and the sizes of the discoveries were marginal and hence, the Board's decision to focus attention on the deepwater Tano/Cape Three Points and deepwater Keta basin. The Board also decided that the small independents could be awarded blocks in the shallow water.

2.4 Board Involvement in Joint Management Committee (JMC) Meetings with the IOCs

The Board also took a critical decision to participate in JMC meetings with the IOCs to ensure that the IOCs' operational concerns were addressed promptly and also to keep them to their work schedules. This ensured that wells were drilled on schedule, thereby improving the chances of oil and gas discovery at any point in time.

2.5 Retooling of GNPC Staff and Improvement in Conditions of Service

The Board took note of the lack of appropriate working tools commensurate with industry practice and authorized the acquisition of computer

workstations and the relevant software for the technical staff which improved their efficiency in the interpretation and analysis of seismic and well data tremendously. The Board realized that the success of the exploration programme depended, in part, on the motivation of the staff and consequently improved the conditions of service of the entire staff to make them happy and also to ensure that GNPC was able to retain its core staff.

2.6 Negotiation of Petroleum Agreements

The Board made a case to the Minister for Energy to change the practice of constituting ad hoc committees to negotiate the terms of petroleum agreements (PAs), to a permanent Standing Committee for efficiency and consistency in the negotiation of the agreements. This enabled experience gained from one agreement to be applied to the next. This practice shortened the agreement negotiating period drastically.

2.7 Regular Monitoring of the Implementation of IOC Work Programmes

The Board introduced monthly reporting on the operations of the IOCs by GNPC Management to the Board. By this way, the Board was able to track the progress of the IOCs in the discharge of the scheduled obligations under the petroleum agreement. This ensured that the IOCs performed their work obligations according to the time schedule leading to timely seismic acquisition, interpretation and drilling of mandatory wells as required.

The strategy and policy changes introduced at GNPC improved organizational and operational efficiency of the Corporation tremendously. The changes resulted in hundred per cent concentration of resources of the Corporation on exploration and production operation activities. Applications from IOCs for award of oil blocks were quickly processed and the necessary decision taken on them within the shortest possible time. Board meetings were held monthly and supplemented by emergency meetings to deliberate on operational and administrative matters. There was a total mobilization of resources for the promotion of exploration activities in fulfilment of the goals of the Corporation.

3 RESULTS OF POLICIES AND STRATEGIES ADOPTED

3.1 *Multiple Petroleum and Exploration Agreements Awarded*

During this period of eight years, that is, from 2001 to 2008, a total of eleven (11) petroleum and exploration agreements over eleven oil blocks in both the shallow and deep water were executed with IOCs. These companies were Vanco Corporation of USA, Kosmos Energy/EO Group of USA, Tullow Oil plc/Sabre Oil of UK, Hess Corporation of USA, Vitol Upstream of UK, Gasop Petroleum of Nigeria, Oranto Petroleum of Nigeria, Devon and Enkana of USA and Canada, respectively, and Aker Energy of Norway. In all, a total of 42 applications for blocks were received from various IOCs and evaluated of which eleven were processed for execution of petroleum agreements.

GNPC's efforts were rewarded when in June 2007, Kosmos Energy, Anadarko, and the E.O. Group struck oil and gas in commercial quantities from the Mahogany-I Well in deep waters offshore West Cape Three Points Basin. This feat fulfilled my "prophesy" and belief that Ghana during my presidency would find oil and gas in large quantities. A bottled sample of the sweet light crude oil from the Mahogany-I Well was presented to me at the Castle, Osu, the then seat of government, by a GNPC/Kosmos/Anadarko/E.O. Group delegation to officially announce to the world, the discovery of oil and gas in commercial quantities in Ghana. Inspired by the feat of Kosmos, Tullow Oil and partners also drilled their first well in the Deepwater TanoBlock (DWT) and hit oil and gas from the Hyedua-1 Well in large quantities in September 2007. Samples of crude oil from the Hyedua-1 Well was also presented officially to me at the Castle, Osu, four days after the discovery, to announce to the whole world, a second commercial discovery of oil and gas in Ghana.

Two other companies, which were allocated oil blocks in 2006 during my presidency, namely Hess Corporation of USA and Vitol Upstream of UK and its partner ENI of Italy, also discovered oil and gas in commercial quantities in the deep water West Cape Three Points in 2009.

This feat could not have been achieved without the direction, personal interest and support that my government gave to GNPC. Having made the commercial discoveries, the next phase was the preparation towards the development and production of the fields. GNPC discovered that the Tullow Hyedua-1 discovery straddled the block boundary of the Kosmos Mahogany-1 discovery. The issue was discussed with the Energy Minister and myself for a solution. By industry practice, when two fields

straddle block boundaries, the most economical way to develop the fields is to unitize the field for joint development by the partners. I approved GNPC's recommendation and directed that the two fields be unitized and named "Jubilee Field" to commemorate Ghana's Jubilee Independence anniversary. All the parties, namely Kosmos, Anadarko, E.O. Group, Tullow Oil, Sabre Oil and GNPC, agreed to unitize the two fields.

A Unitization Committee chaired by the Chairman of the GNPC Board, Mr. Stephen Sekyere-Abankwa, was set up to negotiate the terms and conditions of the Unitization Agreement which ought not be in conflict with the two petroleum agreements covering the oil blocks in which the discoveries had been made. A Unitization Agreement was finally executed by the parties. The next stage after the Unitization Agreement had been executed was the preparation of the Plan of Development (POD) for the unitized field. The field contained crude oil and associated gas which had to be commercialized.

In view of the importance of oil and gas to Ghana, I took two critical decisions. My government wanted Ghana to start reaping benefits from the oil and gas resources and also have the country take advantage of the high oil prices prevailing at the time. I consequently directed that the development of the field should be fast tracked—not to take more than three years. Consequently, first oil was to be pumped out by December 2010. The three-year development period was a departure from the industry norm which is between five and six years. Nevertheless, GNPC pressed hard and succeeded in negotiating for the three years. It must be noted that first oil was produced on 15 December 2010, on schedule, and within budget.

3.2 *Gas Commercialization*

The second major decision was in respect of the gas commercialization. The preference of the Jubilee Partners was to process the gas offshore on the FPSO. My government again directed GNPC to negotiate for the gas to be processed onshore to enable Ghana obtain maximum benefit by way of employment and the setting up of allied industries to process by-products. My government further directed that all gas infrastructure be owned and controlled by GNPC even though any interested Jubilee Field Partner could buy into the equity of the gas company. By this direction, GNPC took over the development of the gas processing plant and the associated pipelines.

There was the need to complete the gas plant by the time of first oil to prevent gas flaring. GNPC engaged a Ghanaian gas expert, Dr. Ben Asante in August 2008, to be the technical adviser for the gas project. GNPC signed a Memorandum of Understanding (MOU) with Samsung C&T Corporation of Korea to conduct a feasibility study into the gas utilization project. Under the MOU, Samsung C&T Corporation was to raise funds to finance the construction of the gas plant under EPC arrangement if the project was found to be feasible.

Samsung C&T Corporation submitted a draft report for discussion and was asked by GNPC to improve upon certain sections of the report. The final report could not be presented before the National Democratic Congress (NDC) took over government on 7 January 2009 and the MOU eventually lapsed after a while. The NDC Government thereafter started everything afresh with new companies. At the same time as GNPC was working on the gas plant, the preparation of the POD for the Jubilee Field was ongoing. The field development was estimated at a total cost of USD4.5 billion to be financed with debt from international banks.

The Jubilee Partners were to cover GNPC's share of the development cost under their borrowing arrangements at the same interest rate the banks would offer the Partners. This was a good deal for Ghana. The draft POD was ready by the end of December 2008 but could not be approved by GNPC and the government as the NDC had won the December 2008 general election and there was going to be a change in government. The draft POD projected maximum daily production of 120,000 barrels of oil and 120 million cubic feet of gas a day (mmscfd) for the 1st phase development. The estimated recoverable reserves were 278 million barrels of crude oil for the 1st phase development. While the POD for the field development and the feasibility studies for the gas plant were under preparation, I was thinking about ways and means that my government and subsequent ones could manage the expectation of Ghanaians so that the oil find would be a blessing and not a curse as happened in other countries; and secondly, how to manage the nascent oil and gas industry going forward so that Ghana could obtain maximum benefit from the oil and gas exploration and production.

To address the two issues, two major policies were initiated by my government.

3.3 *Ghana National Forum on Oil and Gas Development*

My government organized a Ghana National Forum (GNF) on oil and gas development in February 2008 at the Ghana Institute of Management and Public Administration (GIMPA). The main theme of the international forum was how to make the oil and gas discovery a blessing for Ghanaians and not a curse. The Forum was attended by seasoned international and local experts in oil and gas operations, and management and international bilateral and multilateral agencies such as the World Bank, Economic and Legal Section of the Commonwealth Secretariat, Norwegian Ministry of Environment, African Development Bank, Canada-Nova Scotia Offshore Petroleum Board, Ministry of Finance of Norway, Association of Caribbean Energy Specialists Ltd. (ACES) ACES), a Trinidad and Tobago-based consulting firm that provides expertise in different facets of the energy industry, the International Monetary Fund (IMF) and the European Union. After a two-day deliberation, participants supported the theme for the Forum which was the desire to turn the petroleum resources into a blessing rather than a curse.

To achieve this, the Forum proposed a number of policies for the government to adopt.

- i. With the discovery, it was considered appropriate for government to adopt a new petroleum policy and based on this, the government was expected to revise the Petroleum (Exploration and Production) Law (PNDCL 84). The government was also required to enact petroleum Regulations to augment the new Petroleum Act. The Model Petroleum Agreement was also to be revised.
- ii. It was also proposed that a new body be created, under or within the Ministry of Energy to take care of regulatory functions, and the GNPC should become a purely commercial national oil company to take care of government's commercial participation in petroleum operations. In addition, competent governmental institutions could be involved in monitoring petroleum operations within their area of expertise. It was also proposed that the critical elements of Health, Safety and Environment (HSE) be incorporated into the Regulations.

- iii. Based on the petroleum resource base, Ghana was to consider and adopt a long-term national participation in petroleum operation on sustainable basis. In this regard, the private sector was to be encouraged to participate in delivering goods and services to petroleum operations. Adequate measures for developing the capacity and competence to foster national participation in the petroleum sector were to be developed.
- iv. Under fiscal administration, it was noted that, the auditing of capital expenditures and operation costs that are claimed by oil companies is a major challenge to the tax authorities. Sums involved are huge, thereby, justifying serious due diligence. The Forum urged that there should be cooperation between tax authorities and petroleum administration.
- v. Revenue utilization management: The Forum called for a law that would ensure that all revenues from petroleum operations are accounted for in a transparent manner, in the national budget. The utilization of such revenues would also cater for the interest of the future generations. The Forum also proposed that revenue utilization should contain a mechanism for mitigating the negative impact of volatility in oil and gas prices.
- vi. Data Management: The Forum emphasized the value of data not only for government's function of governance but also as a necessity for all commercially interested parties. It also stressed the importance of data as a means of communication between the Government of Ghana and licensees. The Forum therefore called for a digital data bank to be organized to serve both government's needs and that of commercial parties.
- vii. The Forum also advocated for institutional capacity development and human resource development as these are essential for good governance. Petroleum operations also provide opportunities for developing and upgrading competencies across the value chain and in non-oil sectors of the economy. As such, policy guidelines are required to make these capacities relevant and effective.
- viii. On technological management, it was agreed that petroleum operations offer an opportunity to widen the technological base of the country through joint cooperation schemes, therefore, and thus, the strategy for achieving the desired technology development should be reflected in the legislation and contracts.

My government set up various committees under the Chairmanship of Mrs. Chinery-Hesse and with technical support from the Norwegian Ministry of Petroleum and Norwegian Petroleum Directorate, and funding from Oil for Development Agency of Norway. The Committee working on the Petroleum Revenue Management Act began work immediately because the Jubilee Field was being developed and the Act was needed to govern the expected revenues from the Jubilee Field.

The Committee also began work on other legislation such as the Petroleum Exploration & Production Act, the General Petroleum Regulations (LI 2359) and the Petroleum Commission Act (Act 821). Negotiations also began with the World Bank for the provision of funds to implement some of the recommendations from the Forum.

These efforts yielded results under the Professor Atta Mills Government which led to the establishment of the Petroleum Commission in 2011, establishment of the Data Centre, establishment of the laboratories for the Petroleum Department of KNUST and Welding Institute in Maritime University, just to name a few.

It must be noted that the new petroleum management laws and institutions that have been passed or established since 2008 by subsequent governments were based on the recommendations of the Forum organized by my government in February 2008 as already mentioned.

4 CONCLUSIONS

This chapter documented and discussed the policy actions and initiatives, and the results of such actions undertaken by my government (2001–2008) leading up to Ghana's first-ever commercial oil find in 2007. Some of these policy actions and initiatives include targeting the right international oil companies (IOCs), reducing block sizes according to water depth and allocated according to the capabilities of the IOCs concerned, shifting the focus to deepwater exploration, Board Involvement in Joint Management Committee (JMC) Meetings with the IOCs, retooling of GNPC staff and improvement in conditions of service, as well as the regular monitoring of the implementation of the work programmes of the IOCs. The results of these policies and strategies were the signing and award of multiple exploration contracts. For example, from 2001 to 2008, a total of eleven (11) petroleum and exploration agreements covering eleven oil blocks in both the shallow and deep water were executed with IOCs. Also, GNPC's efforts were rewarded when in June 2007, Kosmos

Energy, Anadarko, and the E.O. Group struck oil and gas in commercial quantities from the Mahogany-I Well in deep waters offshore West Cape Three Points Basin. Also, the government convened the first-ever Ghana National Forum on oil and gas development to discuss how to make the oil and gas discovery a blessing for Ghanaians and not a curse. Some of the policies from the Forum which the government (and subsequent ones) adopted included: formulating a new petroleum policy and based on that, revising PNDC Law 84; decoupling of commercial and regulatory functions of the state in upstream operations; and a new fiscal administration framework for petroleum revenue management, among others.



Setting up a National Petroleum Regulator: The Petroleum Commission and Management of Ghana's Petroleum Resources

Kwaku Boateng

I EVOLUTION OF THE COMMISSION

The regulation and management of the upstream petroleum sector can be traced back to the 1970s when the Petroleum Department under the Ministry of Fuel and Power had oversight responsibilities for petroleum activities. The Petroleum Department was responsible for promoting exploration activities and the marketing of petroleum in the industry. The Ghana Geological Survey Department, however, stored and managed geological data acquired by international oil companies.

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During the early 1980s, it became necessary for the government to establish legal and regulatory frameworks to govern the petroleum industry. The legal framework established spanned the period of two decades before the commercial discovery of petroleum. The laws that governed the operations of the petroleum industry were the Ghana National Petroleum Corporation Act, 1983 (P.N.D.C.L. 64), the Petroleum Exploration and Production Act, 1984 (P.N.D.C.L. 84) and the Petroleum Income Tax Law, 1987 (PNDC Law 188).

The Ghana National Petroleum Corporation Act, 1983 (PNDC Law 64), established GNPC as a body corporate “*to undertake the exploration, development, production and disposal of petroleum*”. The Petroleum Exploration and Production Act, 1984 (PNDC Law 84), established the legal framework governing the contractual relationship among the State, GNPC and prospective investors in upstream petroleum operations. The Petroleum Income Tax Act establishes a separate income tax regime for oil and gas activities.

The Ghana National Petroleum Corporation, as a statutory body, was established from the Department of Petroleum under the Ministry of Fuel and Power to undertake exploration, manage the resource and serve as an advisory body to the Minister and the Energy Board. The management and storage of geological data were transferred from the Ghana Geological Survey Department to GNPC. Key experts were also transferred from the Department of Petroleum and the Geological Survey Department to GNPC to build the capacity of the newly created institution.

In 2007, after the discovery of oil and gas in commercial quantities, the role of GNPC as a national oil company and a manager of the petroleum resource became very important. The law that established the GNPC as the national oil company assigned it the right to undertake the exploration, development, production and disposal of petroleum. One of the roles the GNPC had been performing was the monitoring and regulation of petroleum activities on behalf of the Ministry of Energy. The discovery of petroleum, however, brought to the fore factual issues related to the Corporation’s role as regulator and player in the upstream and midstream petroleum sectors. There was a call for the separation of the Corporation’s regulatory function from its commercial function.

This call was heightened in 2008 when government organised the first ever oil and gas forum in Accra to solicit views and opinions of industry experts, academia and the general public as to how the new resource should be managed for the benefit of current and future generations.

The broader consensus at that conference was that the role of GNPC as a national oil company holding the government's commercial interests in the petroleum agreements and a manager of the resource should be separated to increase investor confidence in the industry.

Subsequently, the government took a decision to establish a petroleum upstream regulator to be called Ghana Upstream Petroleum Authority (GUPA) by introducing a Bill in Parliament to set up a regulator for the upstream and midstream petroleum activities. GUPA was to have responsibility for the regulation, oversight and monitoring of activities in the petroleum upstream and midstream sectors. The Bill was also to create an enabling environment for increased private sector participation and investment in the petroleum sector and to strengthen the regulatory framework for healthy competition and quality assurance.

However, following the assumption of the new government in 2009, the GUPA Bill was withdrawn from Parliament and an attempt to establish an independent regulator for the sector was abandoned. In 2011, when government introduced the Petroleum Revenue Management Bill to Parliament to ensure effective and transparent management of petroleum revenues, Parliament reminded the government of the constitutional provisions in Article 269 which required that a Commission be established by or under an Act of Parliament for the "regulation and management of the utilization of the country's natural resources" and the coordination of the policies in relation to them. Parliament therefore directed the government to submit a bill to establish a Commission to regulate and manage the exploitation and utilisation of the newly-found petroleum resources. The *Petroleum Commission Act, 2011* (Act 821), was therefore passed by Parliament in July 2011 to establish the Commission "to regulate and manage the utilisation of petroleum resources in the upstream petroleum sector and to coordinate policies in relation to them" (Fig. 1).

2 FUNCTIONS OF THE COMMISSION

The Commission's functions are mainly regulatory, advisory, managerial and technocratic in nature.¹ The Commission has been empowered to ensure compliance with laws, regulations, guidelines and procedures

¹ Section 3 of the Petroleum Commission Act, 2011 (Act 821).

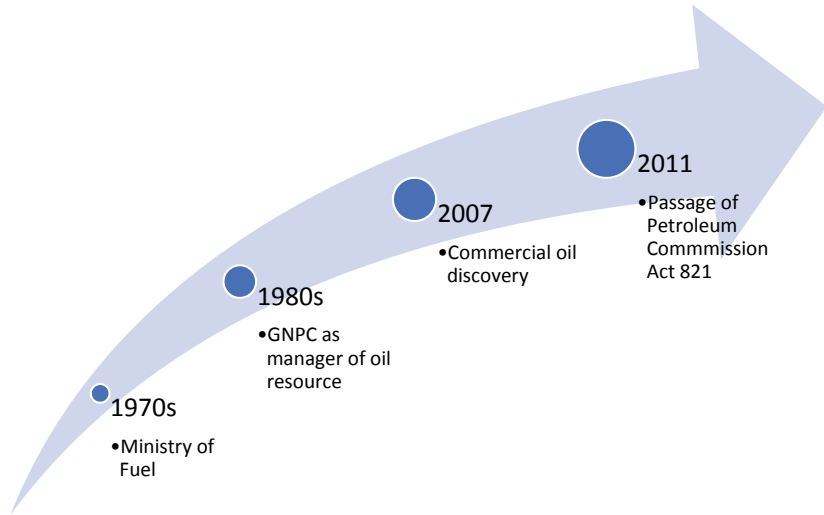


Fig. 1 Evolution of regulatory developments (*Source* Author's construct)

governing petroleum activities such as health, safety and environmental standards, optimum exploitation of resources, optimum utilisation of facilities, local content development, issuance of permits, approvals and consents for specific petroleum activities, and offering of policy advice to the sector Minister.

Its advisory role on matters related to petroleum activities is to ensure that activities such as field development plans, plans for the development of petroleum transportation, processing and treatment facilities, and decommissioning activities are undertaken in a safe, secure, cost-effective and optimum manner for the benefit of citizenry. The Commission also recommends to the sector Minister national policies related to petroleum activities.

By acting as a national petroleum data repository, the Commission receives and stores petroleum data and manages the national petroleum data, assesses and approves appraisal programmes, analyses petroleum economic data, and ensures cost-efficient petroleum activities to achieve optimal levels of resource exploitation.

The Commission is also responsible for promoting local content and local participation in petroleum activities while creating linkages in

the industry to prevent the petroleum sector remaining as an enclave economy and ensuring sustainable economic development.

3 MANAGING AND REGULATING THE UPSTREAM PETROLEUM SECTOR

3.1 *Institutional Strengthening and Funding*

The strength and capacity of an institution are key to the efficient delivery of its functions. After the establishment of the Commission, experts were seconded from key government institutions such as GNPC, Ghana Immigration Service, the Ministry of Energy and the Environmental Protection Agency. The Commission also engaged advisors and consultants in the early stage of its establishment to accelerate its capacity development.

With a vision to become a world-class regulator, the Commission embarked on a wide range of capacity building programmes, both local and international. The first batch of staff who were employed by the Commission started work in the last quarter of 2012 and were taken through rigorous training programmes on the petroleum value chain and development, subsea development, drilling and completion, petroleum economics, supply chain management, data management and good governance.

The World Bank (under Oil and Gas Capacity Building Programme) and the Norwegian Government (under Oil for Development Programme) instituted programmes to improve public management skills and regulatory capacity while enhancing transparency and strengthening technical skills among relevant institutions in Ghana's emerging oil and gas sector. The Department for International Development (DfID) through its funded programmes, Ghana Oil and Gas for Inclusive Growth (GOGIG) and others such as the Korean Government, oil and gas companies such as Tullow and Eni, and sub-contractors such as Baker Hughes, Schlumberger and Halliburton provided support to the Commission at its early stages to increase its capacity and operate efficiently.

During the development of the TEN and the OCTP projects, the Commission ensured that its staff were seconded to the project locally and internationally, in the construction of the FPSOs and the manufacturing of subsea systems.

Obtaining adequate funding for its operations and capacity building programmes undertaken during its infant stage was challenging although the Petroleum Commission Act, 2011 (Act 821), made provision for the funding source of the Commission to include monies from Parliament, budgetary allocations, internally generated funds, donations and grants.

The Commission was capitalised with a loan of GHS2 million from the National Petroleum Authority (NPA) after an unsuccessful attempt to receive initial funding from GNPC. The loan amount was paid to NPA in 2015. In the early stages of its establishment, the Commission obtained a third of its funding from the government's budgetary allocation in 2013, which incidentally was the last. Subsequently, in 2014, the Commission requested to receive funding under the Petroleum Revenue Management Act (PRMA) to obtain stable funding for its operations but was unsuccessful. In the same year, it managed to obtain access to the Hydrocarbon Exploration Levy under the *Customs and Excise (Petroleum Taxes and Petroleum Related Levies) Act, 2005* (Act 685), for its promotional activities of Ghana's hydrocarbon basins. This was, however, short-lived due to the Levy's abolition from the petroleum price build-up in 2016.

This left revenues from fees charged for issuing operating permits as the main source of revenue for the Commission. In view of the limited number of companies operating in the sector in the early years of the Commission's establishment, these revenues were inadequate to fund the Commission's operations. Hence, for over two years of its existence, the Commission was operating out of rented apartments as its operational office. After being refused a loan request from several banks, UBA Bank extended a loan of USD\$6.5 million to the Commission to purchase its current Head Office. The building was, however, not in a good state and was unfurnished. The World Bank provided a grant to the Commission through the Ministry of Energy & Petroleum to rehabilitate and refurbish the building before the Commission was able to move in, in 2014.

In this age where technology is a key driver in fulfilling business needs and enabling innovation in the petroleum industry, the Commission, in spite of teething challenges, resolved to establish the National Petroleum Data Centre to store and manage petroleum data pursuant to its mandate under Act 821. The objective was to leverage this infrastructure in promoting data accessibility for both internal and external clients. The Commission, with assistance from the World Bank through the Oil and Gas Capacity Building Project (OGCBP) and technical support from

the Norwegian Government, built a state-of-the-art Data Centre with world-class infrastructure in 2015.

To ensure some financial independence and strengthen the legal basis for the fees the Commission charges for its operations, the Commission, in 2015, developed and saw to the passage of the Petroleum (Fees and Charges) Regulations, 2015 (LI 2221).

To ensure sustainable funding of the Commission's operations, the Ministry of Petroleum in 2016 directed that the Training and Technology Transfer fees provided for in petroleum agreements (PAs), which was previously paid to GNPC, be allocated to the Commission in all new petroleum agreements.

3.2 *Strategy and Performance*

The Commission set out nine (9) key strategic objectives to achieve its mandate and its vision to become a *world-class regulator promoting Ghana as an upstream hub*. These were to regulate the exploration, development and production of petroleum resources, manage the utilisation of petroleum resources, coordinate the policies in relation to upstream petroleum activities, promote investments in the upstream petroleum industry and promote local content and local participation (including establishing sectoral linkages) in petroleum activities, public education, capacity building and ensuring social and environmental protection and community harmony.

3.2.1 *Regulatory Development*

After the discovery of oil and gas in commercial quantities, it became necessary for existing legislation and legal frameworks governing the industry to be strengthened. The *Petroleum (Exploration and Production) Act, 2016* (Act 919), was enacted to repeal PNDC Law 84, to ensure safe, secure, sustainable and efficient petroleum operations, and to achieve optimal long-term resource exploitation and utilisation for the benefit and welfare of Ghanaians. The Act made provisions for several Regulations to be developed to give full effect to the law and priority areas were selected by the Commission, based on urgency and possible negative effect on operations. These included the Petroleum Exploration and Production (Health, Safety and Environment) Regulations, 2017 (L.I.2258), to ensure safe conduct of petroleum activities, particularly with respect to the environment, Petroleum (Exploration

and Production) (Data Management) Regulations, 2017 (L.I.2257), to manage the acquisition, interpretation, marketing and sale of petroleum data, and Petroleum (Exploration and Production) Measurement Regulations, 2016 (L.I. 2246), to ensure accurate fiscal metering and production sharing. The Commission, subsequently working with the Ministry of Energy & Petroleum, ensured the passage of the Petroleum (Exploration and Production) (General) Regulations, 2018 (L.I.2359), to cover all residual regulations (safe Decommissioning and Community Relations and Social Performance) envisaged under Act 919. The General Petroleum Regulations was passed by an Act of Parliament in 2017.

The Petroleum (Fees and Charges) Regulations, 2015 (L.I.2221), was passed to ensure that oil companies obtained relevant permits for specific petroleum activities such as appraisal activities, construction and installation of facilities, production, assignment of shares and mortgage of participating interest in blocks, drilling activities, as well as operations.

In 2013, the Petroleum (Local Content and Local Participation) Regulations, 2013 (L.I.2204), was passed to promote the maximisation of value addition and job creation in the industry. To ensure effective implementation of the Regulations, the Commission developed several guidelines to provide clarity to the Regulations. These included the Joint Venture Guidelines, the Company Registration Guidelines and the Insurance Placement Protocol for offshore insurance in the industry. The Commission has also developed other guidelines such as the Procurement and Bid Evaluation Guidelines, Guidelines for Electronic Filing of Documents, Guidelines for the Reservation of Goods and Services to Indigenous Companies, Importation of Chemical, Research and Development Guidelines and the Financial Services Guidelines, which are yet to be published. After seven years of implementation of the Local Content Regulations, the Commission has commenced processes for the amendment of the Regulations to address challenges faced in its implementation to achieve optimum local content development.

3.2.2 Efficient Utilisation of Petroleum Resources

The government's objective is to develop and produce petroleum to optimise recovery, increase investment and undertake petroleum operations in a cost-efficient and environmentally sustainable manner.

The enactment of relevant legislation and the creation of systems are a sine qua non to ensuring efficient production of petroleum resources. The current production levels have been sustained through reinjection

of water and gas and the use of secondary recovery mechanisms to shore hydrocarbon production. The Commission has instituted several measures including the underlisted to ensure cost-efficiency in the exploitation of petroleum resources.

- ***Cost efficiency***—Contractors are required to provide information on cost statements to enable the Commission evaluate and assesses cost performance. These costs are recovered from petroleum revenue once production commences. The Commission monitors to ensure that petroleum revenues are not surcharged with costs which may not necessarily be considered as allowable petroleum costs. In this respect, the Commission has established a cost audit department, as part of its organisational restructuring, to ensure effective budgetary and cost control through quarterly review of expenditure against approved budget and expenditure benchmarking.
- ***Energy efficiency***—The complexity and variety of installations and operations make it necessary to make systematic efforts towards energy saving and effective infrastructure utilisation. The Commission ensures the coordination and synergy between installations and their functions.
- ***Reservoir performance***—There is the constant monitoring of reservoir performance vis a vis reservoir response, to ascertain any variance in the field development plan and ensure remedial actions are taken to restore optimal and efficient production.
- ***Measurement systems***—There is the monitoring of measurement systems to ensure compliance with calibrations and operational requirements of meters and its associated auxiliaries.
- ***Environmental sustainability***—There is the regular monitoring of gas emissions due to technical flaring and the usage of gas to fuel the energy requirements of installed facilities.

3.2.3 Policy Coordination

The difficulty in establishing a clear delineation of the petroleum value chain over the years has posed a challenge to the regulation of the sector. Although the upstream and downstream sectors of the industry are properly defined and regulated, the midstream leaves a lot to be desired due to the relative underdevelopment of the sector. The Commission in 2015, as part of its advisory role, developed and sent a policy paper to the Minister for Energy on a clear segmentation of the sector, to ensure proper regulation and provide guidance to investors in the industry. Regardless of the absence of regulation in the midstream, the Commission has worked with

other regulators such as the Energy Commission, NPA, PURC and the Ghana Standards Board, to regulate activities in that segment of the value chain where necessary (Fig. 2).

The dependence of the upstream sector on ancillary or supportive industries for its operations necessitates the need for policies, laws, regulations, guidelines and processes of various sectors to be aligned, to achieve efficiency and to reduce bureaucracy in the industry. Serving as a conduit between upstream companies and other sectors, the Commission facilitates and ensures that applicable laws and regulations are adhered to the



Fig. 2 Policy coordination of the petroleum commission (*Source* Author’s construct)

letter. Its relationship with institutions such as Registrar General's Department, Ghana Maritime Authority, Ghana Immigration Service, Bank of Ghana, Environmental Protection Agency, Ghana Atomic Energy, Ghana Revenue Authority, Ghana Civil Aviation, Ghana Ports and Harbour, National Security and Ghana Investment Promotion Centre, among others, have been strengthened over the years.

The Commission has over the years developed a number of policies for adoption by the sector Ministry. These include: Community Relations and Social Investments, Policy, Localization Policy, Policy on the Establishment of Welding Institute, Unitization Policy and Petroleum Upstream Oil & Gas Technology Transfer Policy.

3.2.4 *Promote Investment in the Industry*

The petroleum industry in Ghana has seen significant milestones since the early explorers in 1903. So far, only a small percentage of the estimated Ghanaian hydrocarbon resources has been produced. After the 3 producing fields (Jubilee, TEN and OCTP) and 25 additional discoveries, the pace of exploration and discovery has significantly decreased. It is important that rigorous campaigns are undertaken to enhance the prospectivity of Ghana's hydrocarbon basins, particularly in the Eastern, Central and inland Voltaian Basins, which have seen very little activity despite high prospectivity.

In 2015, the Commission signed an agreement with a consortium of Ghana Geophysical, ION Geophysical Corporation and Geox of Epsom, UK, to acquire approximately 6,000 km of regional multi-client 2D seismic data offshore Ghana. In March 2019, a mega-survey and multi-client contract was also signed with PGS Ghana Ltd. to create a regional 3D seismic data set to provide a major step change in the understanding of the geology of the Western Basin and help the Commission to better technically understand the regional geology. The dataset is expected to be marketed to enhance the potential and prospectivity of the Basin. This was followed with another multi-client agreement with TG Geo-Partners to acquire 3D seismic data acquisition in the Keta Basin in December 2020.

To ensure the sustainability of oil and gas production, there must be replacement of reserves. The Petroleum Commission, as the resource manager over the years, has been promoting the petroleum potential of the country both internally and abroad, through conferences and exhibitions. The Commission has participated in international conferences such

as the Offshore Technology Conference (OTC), American Association of Petroleum Geologists (AAPG), North Atlantic Petroleum Exposition (NAPE) and Africa Oil Week. Locally, the Commission, for the past years, has seized every opportunity to showcase Ghana's petroleum potential as well as create awareness about Ghana's role at every CWC Conference, Africa Local Content Conferences, SAIPEC, OWA, ONS, Subsea Expro, etc.

The recent launch of the licensing rounds as against the open-door regime was to increase investor confidence in the sector by creating a fair, transparent and proportionate process for awarding blocks. The industry attracted a considerable number of investors after the first licensing round. The transparent process for the award of blocks for exploration and production is intended to attract the requisite investment needed in the industry and enable increased exploration within frontier acreages. The move has seen over 13 oil giants such as BP, Hunt Oil, Shell, among others, visiting the data room and currently awaiting the next bidding round and limited negotiation periods to acquire blocks in the sector. The Commission was instrumental in developing a framework for Ghana's first licensing round.

3.2.5 Local Content and Local Participation

The Commission, subsequent to the promulgation of the Local Content Regulations, adopted a new approach in the implementation of local content. The Commission was fully aware that in order to achieve the objectives set out in the Regulations, it was imperative to give critical attention to the real drivers for local content and local participation. A value chain analysis carried out by the Commission revealed huge deficit in the labour market of key skills and know-how and the lack of capacities and capabilities of local companies to support petroleum activities.

It was therefore necessary for pragmatic and well-structured strategies to be developed to achieve the set objectives. The Commission adopted the following strategies to accelerate local content development and increase in-country spend:

- Establishment of strategic committees to accelerate local content development;
- Corporate reorganisation to provide focus on key areas of local content development;

- Creation of an enabling environment through transparency and access to information to bridge information asymmetry in the industry;
- Development of reporting templates, to simplify local content reporting;
- Establishment of Local Content Fund;
- Undertaking of public education and awareness on local content policies, philosophy and implementation; and
- Acceleration of capacity building in the industry and implementation of government's Accelerated Oil and Gas Capacity Building Project.

4 OTHER ACTIVITIES OF THE PETROLEUM COMMISSION

4.1 *Strategic Committees*

Five (5) different strategic committees were set up immediately after the Local Content Regulations came into effect with the specific task to implement the provisions in the Regulations and optimise local content along the value chain. The level of local participation in the industry could only have been imagined at the commencement of implementation of the Regulations. The pragmatic and well-structured strategies developed by the various strategic committees have catapulted the development of local content in the industry and Ghana's success could be comparable to some matured industries in the Africa region. The Committees were: Strategy Committee, Value Chain Committee, Procurement Committee, Human Resource Committee and Cluster Mapping Committee.

The *Strategy Committee* was set up to develop strategies to maximise local content. The work of the Committee resulted in key strategies in procurement and tendering processes to favour local participation and increased in-country spend. Strategies such as the unbundling of contracts, shortening of contract durations, encouraging "local-local" content, development of contract strategy and evaluation criteria, and ensuring minimum local content levels were achieved in every contract, ensuring every contract has a minimum of 5% local participation, among others, were deployed to boost indigenisation in the industry. The work of the Committee saw to the re-evaluation of projects under the TEN and OCTP to ensure substantial scopes of work were carried out in-country. Major topsides and subsea systems such as module stools, suction piles, sleepers, mud-mats, riser protection frames amounting to over 3,500

tons per project were fabricated in-country, even though these projects commenced prior to the effective date of the Local Content Regulations.

The most profound of the works of the strategic committees was the *Value Chain Committee*. The Committee was to categorise the value chain into goods and services that could be reserved for Ghanaians (*short-term*), goods and services that required additional capacities to meet international standards (*medium term*) and goods and services that could be provided through long-term experience and capacity building (*long-term*). Evident in its work was the streamlining of the registration process in the industry, the reservation of provision of over twenty-five (25) goods and services for Indigenous Ghanaian Companies (IGCs), the increased capacity building of IGCs and increased local investment in the industry. It is invigorating to note that over 400 IGCs are currently registered to provide various goods and services in the industry (Fig. 3).

The work of the Strategy Committee was in sync with the *Procurement Committee* which was also set up to review all procurement and tendering processes to ensure fairness, transparency and broader local participation. The number and value of contracts to indigenous Ghanaian companies have increased tremendously over the years. Over 15,000 contracts and purchase orders amounting to over USD\$2.2 billion have been awarded to indigenous Ghanaian companies between 2014 and the third quarter of 2020. Tullow, for instance, within a year, increased the contract payments to indigenous Ghanaian companies from US\$75.8



Fig. 3 Examples of in-country fabrication of equipment (*Source* Subsea 7 Volta Contractors Limited)

million to US\$409.8 million (an increase of about 441%) between 2018 and 2019. Eni between the same period increased contract payments from USD\$158.7 to about USD\$171 million to indigenous and JV companies with at least 10% indigenous companies' participation.

The *Human Resource Committee* was also set up in the same period to undertake baseline survey of human resource requirement and ensure an adequate and sustainable supply of qualified skills labour to meet the requirements in the Regulations. It was evident in the Committee's work of the huge disparity in the qualifications obtained by Ghanaians in anticipation to work in the sector and the sector requirements. The observation by the Committee was not farfetched as there was a phenomenal increase in the number of Ghanaians pursuing oil and gas courses after the commercial discovery of oil and gas. The Ghana Upstream Sector Internship Programme (GUSIP) was therefore established to assign graduates to IOCs and service companies for a period of 6–12 months to obtain the requisite skills. The Commission instituted a pilot project with an initial 10 interns seconded to the TEN project in 2015 for a period of one year. Some of the interns, after the project, were retained while others were employed by other institutions. The project, however, was disrupted due to low oil prices in 2016 and low activities which rendered most of the upstream companies inactive. The Committee's work also led to the realignment of scholarship programmes offered by the IOCs and service companies to address the skills gap.

In contrast, the *Cluster Mapping Committee* failed to achieve its set objectives. The Committee was to identify geographical concentration of oil and gas activities and develop strategies for creating allied entities. It was expected that the petroleum industry would have created petroleum and related supportive industries that would sustain economic development, especially in the host communities. The work of this committee was unable to establish linkages between the petroleum sector and the rest of the economy by developing allied industries as expected. Initiatives such as revamping of Tema Shipyard, establishment of Greenhouse vegetable farms in the Western Region, poultry farms and development of petrochemicals are yet to see the light of the day.

4.2 *Local Content Fund*

Another major step taken by the Commission in the implementation of local content policy of the government is the establishment of the Local

Content Fund, which was provided for by the Petroleum (Exploration & Production) Act, 2016 (Act 919). This Fund is dedicated to supporting local companies to compete favourably in the market by providing financial resources to indigenous small- and medium-scale enterprises (SMEs) in the oil and gas sector.

This Fund, without doubt, is a remarkable lift for indigenous Ghanaian participation in the industry and the opportunity for expansion of in-country spending. An account for the Local Content Fund has been created and monies have started accruing into the Fund. The modalities and guidelines for accessing the Fund have been developed.

The Commission expects that monies from the Fund will be channelled to capacity development for local service providers to enable them acquire relevant skills and provide concessionary credit for business expansion. With the establishment of the Local Content Fund, it is hoped that the era of funding constraints to support capacity and skills development for local service providers and personnel, and capitalisation of local service providers, will gradually be eased. It is expected that the availability of affordable loans on flexible terms will encourage investment in the sector, reduce investment risk and enhance participation of IGCs in the upstream sector. Local Service Providers will then be able to provide quality services which will contribute towards driving growth, not only in the industry, but the entire economy.

4.3 Corporate Reorganisation

The strategies adopted by the Commission necessitated a reorganisation of its operations to ensure local content was prime in the delivery of its functions. Major reforms instituted were the creation of new departments to give focus to human resource and skills development, development of local capacities, capabilities and competitiveness of domestic businesses, access to finance by Ghanaian companies through the Local Content Fund and domestic financial institutions, and monitoring to ensure compliance by companies.

The single act of restructuring its operations has led to significant gains for the Commission. The Commission, together with the Ghana Revenue Authority (GRA), through its activities, was able to retrieve USD1.1 million in 2018 for the state. An additional USD1 million was obtained from non-compliant companies.

5 CREATE FAVOURABLE INVESTMENT CLIMATE & PRACTICE TRANSPARENCY

The most critical principle in maximising benefits in the extractive sector is transparency. The Commission believes that transparency is key in all business endeavours. The Commission has taken a number of initiatives to demonstrate Ghana's commitment to transparency. Some of the key initiatives include:

5.1 Establishment of a Beneficial Ownership Register

The Commission worked with the Registrar General Department to establish a Beneficial Ownership register of companies in the country. The successful passage of a new Companies Act in 2019 (Act 992) addresses all the Beneficial Ownership disclosure requirements, including developing beneficial ownership templates and thresholds in the oil and gas industry. Ghana has completed and deployed the Beneficial Ownership disclosure Register/software which covers the oil and gas industry as well.

5.2 Establishment of Petroleum Register

The Commission established a Petroleum Register in 2018 that hosts a record of petroleum agreements and contracts ratified by Parliament as well as petroleum permits, certificates, authorisations, approvals and consents by the Petroleum Commission. The Register provides a single platform for access to petroleum agreements, licenses, permits and authorisations issued to upstream companies in the industry. This has broadened the boundaries of transparency and information disclosure in upstream petroleum activities and provided Civil Society Organizations (CSOs) a single platform to monitor upstream activities. The Register has blotted out the perceived opaqueness in that aspect of the petroleum industry. Citizens, Civil Society Organisations, Think Tank Institutions, academia, etc., are now better equipped to demand more accountability from the government.

5.3 Establishment of Electronic Procurement System (E-PORTAL)

The Commission has created an E-Portal to bridge the information asymmetry bias against Ghanaian service companies. The E-Portal, as the

name suggests, is to enhance communication between the Commission on the one hand and stakeholders. The platform will also allow companies to announce their procurement plans, issue tender notifications and receive alerts on specific issues online, thereby reducing the information gap. The E-Portal has created an open and more accessible platform for companies to participate in the tendering process in the industry. The Portal, since its establishment, has streamlined the procurement process, reduced procurement time and transaction cost, enhanced competition and eventually increased efficiency.

5.4 Establishment of Common Qualification System (CQS)

The Commission is in the advanced stage of establishing a Common Qualification System (CQS) in fulfilment of Regulation 37 of L.I 2204. The CQS seeks to address the current challenge in the industry where diverse qualification systems and standards are used by industry players in prequalifying sub-contractors which may lead to unfair treatment in disqualifying indigenous companies. The CQS seeks to create a “single window” system for prequalifying all companies that intend to engage in petroleum activities and create a level playing field for all companies.

5.5 Participation in Extractive Industries Transparency Initiatives (EITI)

A key indicator for good governance is the availability and easy access to information. Ghana is a signatory to the Extractive Industries Transparency Initiatives (EITI) which promotes open and accountable management of oil, gas and mineral resources. The Petroleum Commission is represented at EITI and periodically provides relevant information for its activities.

5.6 Development of Reporting Templates

The L.I. 2204 requires all companies operating in the sector to periodically submit to the Commission for review, a number of reports such as local content performance report, procurement plans and local content plans. The Commission has developed reporting templates for submission of such reports in order to ensure uniform reporting format among companies, simplify the reporting process, enable a standard method

for evaluating local content plans and performance, and minimise the volumes of information the Commission receives.

5.7 *Capacity Building*

The Local Content policy which was adopted by Cabinet in 2011 identified limited capacity as one of the key challenges facing the fledging oil and gas industry. The Commission therefore made capacity building one of its major strategic objectives. The following initiatives were therefore undertaken:

5.7.1 *SMEs Capacity Building*

Specific measures have been put in place to ensure that indigenous Ghanaian Businesses are competitive through capacity building programmes. The Commission, in conjunction with other stakeholders, periodically organises capacity building workshops and seminars for Ghana SMEs with a view to enhancing their competitiveness.

The Government of Ghana and the Jubilee Partners jointly established the Enterprise Development Center (EDC) in Takoradi to develop the capacities of SMEs and increase the international competitiveness of local businesses. Many local companies have undergone various degrees of capacity building at the EDC since its establishment. The EDC, though now defunct after the expiration of its initial five-year funding facility from the Jubilee partners, has its mandate being implemented by the Commission under the newly established Business Advisory and Enterprise Development Department.

5.7.2 *Development of Insurance Protocol*

Having recognised the limited capacity of the domestic insurance industry in underwriting oil and gas risk, the Commission in conjunction with the National Insurance Commission and other stakeholders in the Petroleum Upstream and Insurance industries developed a Protocol on placement of insurance in the upstream petroleum industry. This Protocol has overcome the capacity challenges by obligating all general insurance companies to pool their resources together and underwrite upstream petroleum risk under one entity called GOGIP (Ghana Oil & Gas Insurance Pool). This Protocol has enhanced the growth of the insurance market by providing the mechanism for the oil and service companies to retain a substantial portion of their insurance business in Ghana. This

will reduce the level of capital flights and also avail the local insurance practitioners the opportunity for human capital development in the area of oil and gas insurance underwriting.

5.7.3 *Human Resources Development & Localisation of Oil & Gas Jobs*

The Commission has put in place policies, programmes and initiatives that outline strategies to orient, train and develop personnel by improving skills, knowledge, capabilities and competencies required in the upstream industry. One of the initiatives under the human resource development programme is the Ghana Upstream Sector Internship Programme (GUSIP) mentioned earlier on. GUSIP provides unemployed Ghanaian graduates and technicians with practical experience, vocational skills and professional integration pathways to be able to assimilate into the oil and gas industry. Other programmes to enhance local capacity include: supporting local universities to build capacities to train Ghanaians locally, supporting vocational and technical education development programmes (example welding and fabrication training programmes), improving gender diversity in Ghana oil and gas industry, mentoring and coaching programmes of local and foreign employees, skills transfer from expatriate to locals through development of a succession plan, etc. All these programmes are designed to ultimately develop the oil and gas industry with optimal local content and participation, enhance national development and create jobs.

5.7.4 *Accelerated Oil and Gas Capacity Building Programme (AOGC)*

The Accelerated Oil and Gas Capacity Building Programme (AOGC) is a government initiative that has been instituted to build the capacities of Ghanaians and Ghanaian companies in various technical and vocational areas for a period of 5 years.

The objectives of the AOGC programme are to aggressively invest in education and skills enhancement of Ghanaians to manage the oil and gas sector, facilitate the capacity building of educational and training institutions, and explore standards and certification requirements in the oil and gas industry. The programme is to further ensure the creation of jobs by facilitating the training and certification of technical and vocational graduates with practical experience, provide professional integration pathway to enable them to be assimilated into the oil and gas industry, and empower

local firms to progressively play active roles in the oil and gas value chain through capacity development, financing and partnership support.

The AOGC programme is being implemented under four thematic areas including:

- Technical, Vocational and Apprenticeship Development;
- Capacity Development of Educational Institutions;
- Small and Medium-sized Enterprises (SME) Capacity Building;
- Public Institutional Development and Sector Management.

The Commission, as the implementer of the AOGC programme, has worked with some multinational companies such as Baker Hughes/GE, Haliburton, Subsea 7 and Aker Energy to establish a framework for technical training for a number of Ghanaians.

With support from Baker Hughes, five (5) Ghanaians have been trained as internationally certified specialised welders in the Northern Alberta Institute of Technology, Canada, and have returned to various institutions as welding trainers. The Commission has also secured a grant of USD\$4.3 million from Aker Energy to establish a state-of-the-art Welding Institute in Takoradi that will be accredited internationally to train and certify welders at international standards.

In addition, collaboration between the Petroleum Commission and Saiwest (a service company operating in Ghana) led to the training of twenty (20) unemployed Ghanaians from all over the country as welders at a facility in Takoradi.

Memorandums of Understanding (MoUs) have been signed with two (2) technical training institutions in Scotland, namely Aberdeen Drilling School and Glasgow Caledonian University, to offer technical training to Ghanaians.

5.7.5 Public Education

The discovery of oil amplified public expectation on possible accelerated economic growth and development in the country. The “paradox of plenty” has, however, proved otherwise. The phenomenon is even truer, especially when the institutions, structures, infrastructure and facilities necessary to accelerate such developments are unavailable. The over exuberance created by the media and politicians from the oil find led to irrational expectations which, if not properly managed, could lead to

social tensions or even conflicts. This misconception was a bane for the Commission during the early years of its establishment.

Stakeholder engagements at all levels were necessary to manage expectations of citizens, particularly, in the coastal areas. Rigorous and continuous educational campaigns, community engagements and sensitisation were carried out especially in the Western region during the early years of hydrocarbon production to manage public expectations.

The stiff opposition faced by government towards the passage of the Local Content Regulations by international bodies, diplomatic communities, IOCs, etc., also necessitated extensive public education and stakeholder engagements prior and post the passage of the Regulations. The Commission organised and participated in seminars, workshops, conferences and meetings to provide clarity to the regulations, its philosophy and the implementation strategy to allay the fears of stakeholders. The Commission adopted a collaborative approach with its stakeholders to develop pragmatic steps in achieving the objectives of the Regulations amidst the challenges and ambitious targets set by the Regulations.

5.7.6 Environmental Protection and Minimisation of Gas Flaring

As the country focuses on managing the resources and the resulting revenues efficiently, there is a need to constantly pay attention to protecting the environment to ensure sustainable development at the same time. The Commission works closely with the Environmental Protection Agency (EPA) to ensure that environmental regulations are not only strictly adhered to but also petroleum activities are carried out in a safe manner and the exploration and production technologies being employed in the industry are environmentally safe.

In a similar way, the Commission ensures that Ghana's zero-gas flaring policy which is encapsulated in the Petroleum (Exploration and Production) Act, 2016 (Act 919), is complied with. By working with EPA, the Commission ensures an optimal utilisation and prudent management of the gas resources and prevents routine gas flaring or venting. However, for safety and operational purposes, some minimal amount of gas is allowed to be flared, but it is always within the acceptable range such that the environment is not polluted and this is continuously monitored by both the Petroleum Commission and EPA.

5.7.7 *Social Protection*

As companies explore for oil off the shores of Ghana, the Commission has learnt from the past mistakes in the mining sector and seeks to ensure that local communities impacted by oil extraction are compensated with government investment, social development and the corporate social responsibility activity of licenced or concession firms. To this end, the Petroleum Commission, in partnership with the oil and gas companies, has developed Guidelines on Social Performance *to guide Social Investment Projects by the IOCs and also* provide a framework and benchmarks for the design, implementation, monitoring/evaluation and reporting of Social Performance activities by the oil companies.

Ghana's petroleum resources are found in offshore basins; hence, there is a significant interface between petroleum activities and other usage of marine space. The Commission has taken a policy decision that both fishing and the petroleum sectors play a key role in the economic development of the nation and under no circumstance should one adversely affect the other. The Petroleum Commission works closely with the Ministry of Aquaculture, Fisheries Commission and other stakeholders, to ensure that the two industries blossom.

The Commission has been instrumental in ensuring effective community engagements and sensitisation of local communities in the coastal districts about petroleum activities to avert any disagreements, agitation, uprising or conflicts which may arise due to loss of livelihoods or inadequate socio-economic interventions. The establishment of the Safety Zone Management Programme to educate fishermen on the reasons and consequences of the continuous incursions of fishing activities around offshore installations and facilities has gone a long way to manage community expectations.

The Commission, in collaboration with the Jubilee Partners and Fisheries Commission, has also developed the Safe Sea Access Framework (SSAF) to prevent and manage conflicts among the users of marine space. The SSAF was borne out of a study which forms part of the Marine Fisheries Advisory Committee's (MFAC) Action Plans to ensure strategic coexistence of oil and gas and fisheries sector, and other users of the marine space.

6 CONCLUSION

The sustainable management of petroleum resources is critical to the socio-economic development of the Ghanaian economy. The Petroleum Commission, with the mandate to regulate and manage the utilisation of petroleum resources, has taken bold steps to institute policies, regulations, guidelines, systems and programmes to ensure optimum and efficient exploitation of petroleum resources for the overall benefit and welfare of Ghanaians.

The Commission, through its collaborative effort, will continue to enhance transparency, deepen cooperation among industry players, promote investment in oil and gas exploration and ensure accelerated development of Ghanaians and Ghanaian businesses in the upstream petroleum industry.



The Ghana-Côte D'Ivoire Maritime Boundary Dispute: A View from the Ghana Side

Fui S. Tsikata

I INTRODUCTION: WHAT WAS AT STAKE?

The area the subject of the litigation was more than 30,000 km² of maritime territory, in a significant part of which Ghana had awarded exploration rights to oil companies over the years. Indeed, there were at least six blocks in respect of which there were subsisting rights. These included the Tweneboa, Enyenra, and Ntomme (TEN) deposits which were in development before the litigation began and brought into

This is dedicated to Marietta Brew Appiah-Opong, for her leadership: discerning, determined, and decisive.

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production in the course of the proceedings. Since production began in 2016, government revenue from those deposits is estimated at about US\$1 billion up to the end of 2020.¹

Other fields in the disputed area where appraisal of discoveries has yielded positive results have not yet reached the production stage. It was the increasingly aggressive letters that Côte d'Ivoire was sending out to Ghana's grantees and its public announcements that it would award rights in parts of the area that precipitated the initiation of litigation. The area in respect of which there were subsisting rights granted by Ghana is shown on Fig. 1.

2 A SUMMARY OF KEY STEPS IN THE PROCEEDINGS

Article 287 of UNCLOS recognizes the International Court of Justice (ICJ) and the International Tribunal for the Law of the Sea (ITLOS) as the principal institutions for mandatory resolution of disputes relating to the interpretation and application of the Convention. However, in the absence of either a pre-designated recourse mechanism to which they have submitted or agreement by the disputing parties, the default procedure prescribed for mandatory resolution is arbitration by a tribunal of five members selected by the parties. The selection is to be made preferably from a list maintained by the Secretary-General of the United Nations of persons nominated by state parties, each of which state party is entitled to provide up to four names. Persons on the list are expected to be "experienced in maritime affairs and enjoying the highest reputation for fairness, competence and integrity."² Given that there had been no agreement to the contrary between the parties, it is the procedure under Annex VII that Ghana invoked to initiate proceedings.

At the invitation of the President of ITLOS, pursuant to his role as default appointing authority in the absence of agreement between the parties,³ the parties met in Hamburg, Germany on 2 and 3 December 2014. They agreed to a transfer of the dispute to resolution by a Special Chamber of ITLOS constituted by three ITLOS judges and two party-nominated ad hoc Judges. This agreement was adopted and implemented

¹ See <https://www.mofep.gov.gh/publications/petroleum-reports>.

² (Article 2(1), Annex VII).

³ (article 3(e), Annex VII).

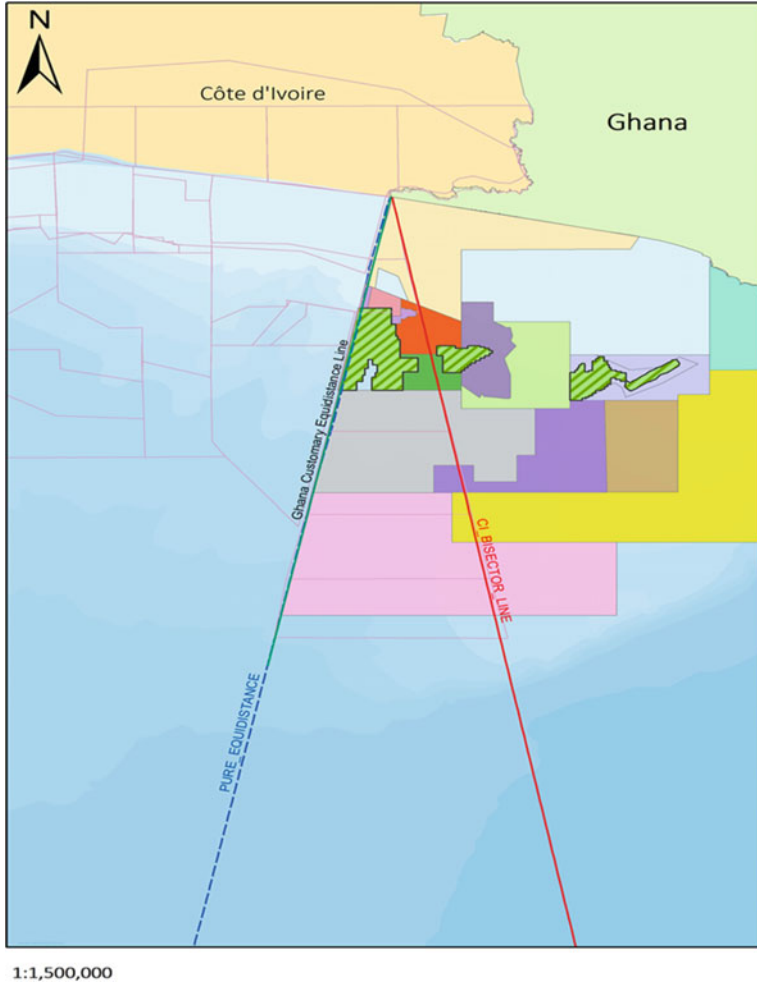
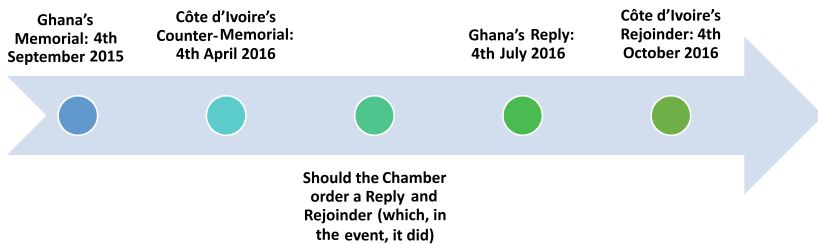


Fig. 1 Offshore Oil & Gas Licenses awarded by Ghana in area claimed by Côte d'Ivoire (*Credit Nana Adusei Poku*)

by the Tribunal which, on 12 January 2015, issued an order constituting the Special Chamber. Thus, in the jargon of UNCLOS, what began as Annex VII proceedings were converted into Annex VI proceedings—Annex VI being the part of the Convention which established ITLOS and provided for its jurisdiction. One advantage of this was that the administration of the process then became the responsibility of ITLOS and the parties did not have to negotiate their own ad hoc arrangements, nor did they have to bear the costs of the Tribunal as they would have had to in arbitration proceedings. The Special Chamber was made up of:

- Judge Boualem Bouguetaia, as President;
- Judge Rudiger Wolfrum;
- Judge Jin-Hyun Paik;
- Dr. Thomas A. Mensah, former Judge and President of ITLOS, nominated by Ghana as ad hoc Judge; and
- Judge Ronny Abraham, then President of the International Court of Justice, nominated by Côte d'Ivoire as ad hoc Judge.

A first procedural meeting held by the President of the Special Chamber with representatives of the parties a month after its formal constitution, on 18 February 2015, resulted in an order setting out a timetable for the proceedings as follows:



The time limits for the Reply and the Rejoinder were, at Ghana's request, later extended to 25 July 2016 and 14 November 2016 respectively.

Côte d'Ivoire indicated at this meeting that it would ask the Special Chamber for certain provisional measures to be "prescribed" restraining certain activities by Ghana. It filed its Request for provisional measures on 27 February 2015. Ghana's statement in response was filed on 23 March 2015. Oral hearings were conducted on 29 and 30 March 2015.

The Special Chamber delivered its decision on the Ivorian Request on 25 April 2015.

Following indications given at the first procedural meeting and confirmed subsequently, an order was made for oral hearings to be held in February 2017. They were, indeed, held between 6 and 16 February 2017. The judgment of the Tribunal was delivered on Saturday, 23 September 2017.

3 CÔTE D'IVOIRE'S REQUEST FOR PROVISIONAL MEASURES

By its request filed on 27 February 2015, Côte d'Ivoire asked the Special Chamber to require "Ghana to:

- (a) take all steps to suspend all ongoing oil exploration and exploitation operations in the disputed area;
- (b) refrain from granting any new permit for oil exploration and exploitation in the disputed area;
- (c) take all steps necessary to prevent information resulting from past, ongoing, or future exploration activities conducted by Ghana, or with its authorization, in the disputed area from being used in any way whatsoever to the detriment of Côte d'Ivoire; and, generally, take all necessary steps to preserve the continental shelf, its superjacent waters and its subsoil; and
- (d) desist and refrain from any unilateral action, entailing a risk of prejudice to the rights of Côte d'Ivoire and any unilateral action that might lead to aggravating the dispute."⁴

Ghana described this as a "far-reaching and unprecedented request" whose effect, if granted, would be "to close down large parts of Ghana's well-established offshore oil and gas industry" in which "more than US\$ 4.5 billion has been invested."⁵

⁴ Côte d'Ivoire's Request for Provisional Measures, translated into English in transcript of ITLOS proceedings held on Sunday, 29 March 2015, pp. 1–2.

⁵ Ghana's Written Statement, Vol. I, paragraph 2.

On 25 April 2015, the Tribunal delivered its decision and made the following orders for the duration of the dispute until final Judgment was rendered:

- (a) “Ghana shall take all necessary steps to ensure that no new drilling, either by Ghana or under its control, takes place in the disputed area...;
- (b) Ghana shall take all necessary steps to prevent information resulting from past, ongoing or future exploration activities conducted by Ghana, or with its authorization, in the disputed area that is not already in the public domain from being used in any way whatsoever to the detriment of Côte d’Ivoire;
- (c) Ghana shall carry out strict and continuous monitoring of all activities undertaken by Ghana or with its authorization in the disputed area with a view to ensuring the prevention of serious harm to the marine environment;
- (d) The Parties shall take all necessary steps to prevent serious harm to the marine environment, including the continental shelf and its superjacent waters, in the disputed area and shall co-operate to that end; and
- (e) The Parties shall pursue cooperation and refrain from any unilateral action that might lead to aggravating the dispute.”

Each of the Parties was required to submit an initial report to the Special Chamber of their compliance with its orders no later than 25 May 2015.

The considerations that the Special Chamber sought to balance in arriving at its decision are exemplified by its statement, on the one hand, “that the exploration and exploitation activities, as planned by Ghana, may cause irreparable prejudice to the sovereign and exclusive rights invoked by Côte d’Ivoire in the continental shelf and superjacent waters of the disputed area, before a decision on the merits is given by the Special Chamber, and that the risk of such prejudice is imminent”; and on the other, its view that “an order suspending all exploration or exploitation activities conducted by or on behalf of Ghana in the disputed area, including activities in respect of which drilling has already taken place,

would ... cause prejudice to the rights claimed by Ghana and create an undue burden on it.”⁶

It is not quite clear what was the scope of the order for Ghana to prevent information on activities “in the disputed area that is not already in the public domain from being used in any way whatsoever to the detriment of Côte d’Ivoire.” The orders relating to environmental monitoring and the prevention of serious environmental harm seemed declaratory, rather than an imposition of new and specific obligations. In fulfillment of the order to “pursue cooperation,” the respective Agents of the Parties and their technical teams met on several occasions. In the main, the Ivorian side sought information on operational activities, including issues of environmental monitoring and compliance. While it could not be said with confidence that they were fully satisfied with the information they got, these meetings provided opportunities for personal interaction which must have contributed to lowering the tension aroused by Ghana’s initiation of litigation. The parties also did submit the reports required of them by 25 May 2015 as prescribed by the Special Chamber.

Some controversy, however, persisted between the parties as to the precise scope of the order prohibiting “new drilling” in the disputed area. Côte d’Ivoire complained that by allowing existing (partially drilled and suspended) wells to be re-entered and drilled to their total depths or completed, Ghana had violated this prohibition. This argument was rejected in the final Judgment of the Special Chamber which accepted Ghana’s contention that the deepening of existing wells or completion work constituted “ongoing activities for which drilling has already been carried out” and was permitted by the Provisional Measures decision.

4 THE BOUNDARY DELIMITED BY THE TRIBUNAL AND ITS BASIS

The Tribunal was asked by the parties to draw a single delimitation line spanning their maritime zones, namely the territorial sea, the exclusive economic zone, and the extended continental shelf beyond 200 nautical miles. While article 15 of UNCLOS specifically prescribes equidistance as the method of delimiting the territorial seas of the states in the

⁶ https://www.itlos.org/fileadmin/itlos/documents/cases/case_no.23_prov_meas/23_published_texts/2015_23_Ord_25_Avr_2015-E.pdf.

absence of special circumstances, the method of delimiting the other zones is less precisely prescribed in the Convention. Delimitation in these other zones was to “be effected ... in order to achieve an equitable solution.”⁷ The Special Chamber took the view, nonetheless, that international law jurisprudence had developed to the point that a method involving equidistance had become the default mode of delimitation for these zones as well, to be applied unless there were features of the coast which made it inappropriate. It described the coasts of the parties as “straight rather than indented.”⁸ That it was justified in not accepting the invitation of Côte d’Ivoire to depart from equidistance on the basis of the precedent in the *Case concerning Delimitation of the Maritime Boundary between Guinea and Guinea-Bissau* is evident from a cursory look at the geographical features involved in that case, in particular the presence of islands and indentations along the coast of the mainland (Fig. 2).

It also did not accept the argument that the geography and interests of neighboring countries were relevant and justified a departure from equidistance. In sum, it held that a tribunal before which a dispute arose was required in cases such as that before it, to (a) identify the relevant coasts of the parties; (b) locate base points thereon reflecting the shape of the coast; (c) draw a provisional line based on equidistance and the base points from a point on the coast related to the land boundary of the parties; (d) determine whether there were any relevant circumstances warranting an adjustment of the provisional line; and (e) assess the proportionality of the maritime areas assigned to the respective parties by its application of the method thus far. Its determination of the relevant coasts of Ghana and Côte d’Ivoire is shown on Fig. 3.

It determined that there were no relevant circumstances warranting an adjustment of the provisional equidistance line it had drawn. It rejected, *inter alia*, an argument by Côte d’Ivoire that the provisional equidistance line gave Ghana a disproportionate amount of the petroleum resources in the area and was a relevant circumstance justifying an adjustment of the provisional equidistance line. After expressing doubts as to the factual accuracy of the Ivorian assertion, it proceeded to say that “delimitation of maritime areas is to be decided objectively on the basis of the geographic

⁷ (Article 74(1) and 83(1).

⁸ Paragraph 287 of the Judgment.



Fig. 2 Islands & indentations relevant to the Guinea v Guinea-Bissau maritime boundary delimitation (*Source* myworldatlas.info)

configuration of the relevant coasts. Maritime delimitation is not a means for distributing justice.”⁹ “In assessing the international jurisprudence”, it went on to “emphasize that such jurisprudence, at least in principle, favours maritime delimitation which is based on geographical considerations. Only in extreme situations ... if the envisaged delimitation was ‘likely to entail catastrophic repercussions for the livelihood and economic well-being of the population of the countries concerned’ may considerations other than geographical ones become relevant. ... Côte d’Ivoire

⁹ Paragraph 452.

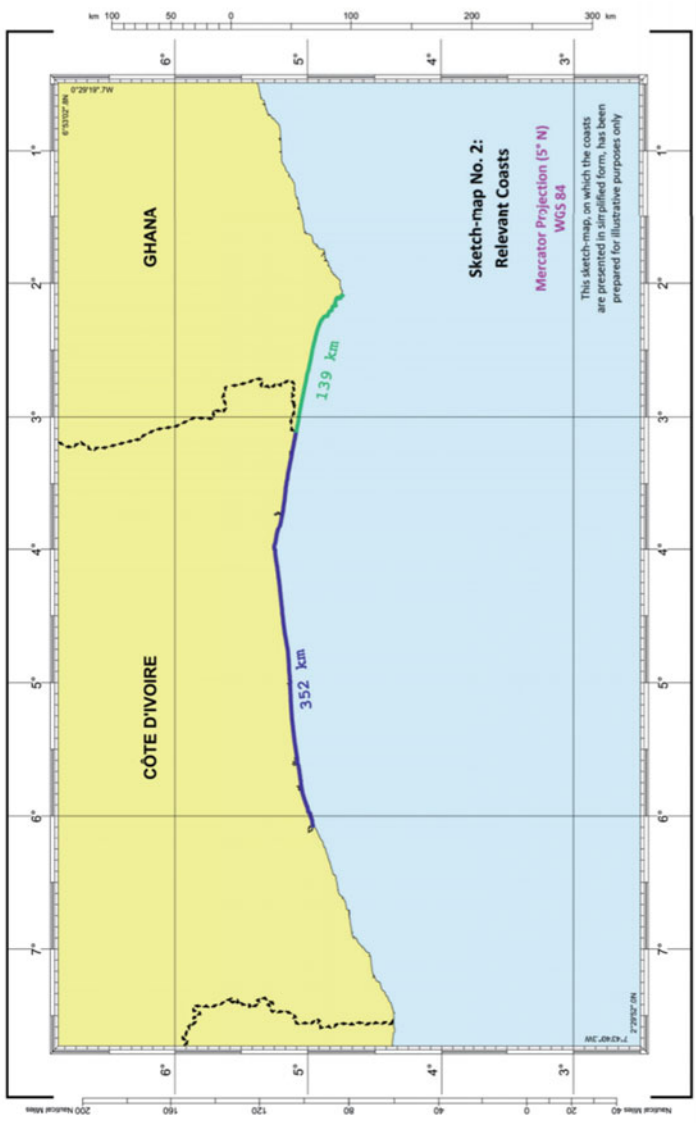


Fig. 3 The relevant coasts in the Ghana – Côte d'Ivoire delimitation (*Source* ITLOS [2017: p. 107])¹⁰

¹⁰ see: https://www.itlos.org/fileadmin/itlos/documents/cases/case_no.23_merits/23_published_texts/C23_Judgment_20170923.pdf, page 107.

has not advanced any arguments which might lead the Special Chamber to deviate from such jurisprudence.”¹¹ It also concluded that on the basis of applicable principles, there was no disproportion in the respective maritime areas allocated to the parties.

The delimitation line determined by the Special Chamber and the respective claims of the parties are depicted in Fig. 4.

In the words of two colleagues on the Ghana team, “[a]s a result of the judgment, Ghana gained 80.5 square kilometers of maritime area beyond the ... boundary it claimed. Ghana’s maritime area decreased by 7 square kilometers in the territorial sea and 22.5 square kilometers in the continental shelf beyond 200 nautical miles and increased by 110 square kilometers in the EEZ and continental shelf within 200 nautical miles.”¹² The disparities between the Judgment line and that claimed by Ghana arose mainly from slight differences in the location of selected base points and the fact that the Tribunal chose to connect the land boundary to a point on the low waterline on the coast, taking account of the direction between the two last pillars on the land boundary.

4.1 *“Fifty Years of Practice Can’t Mean Nothing!”*

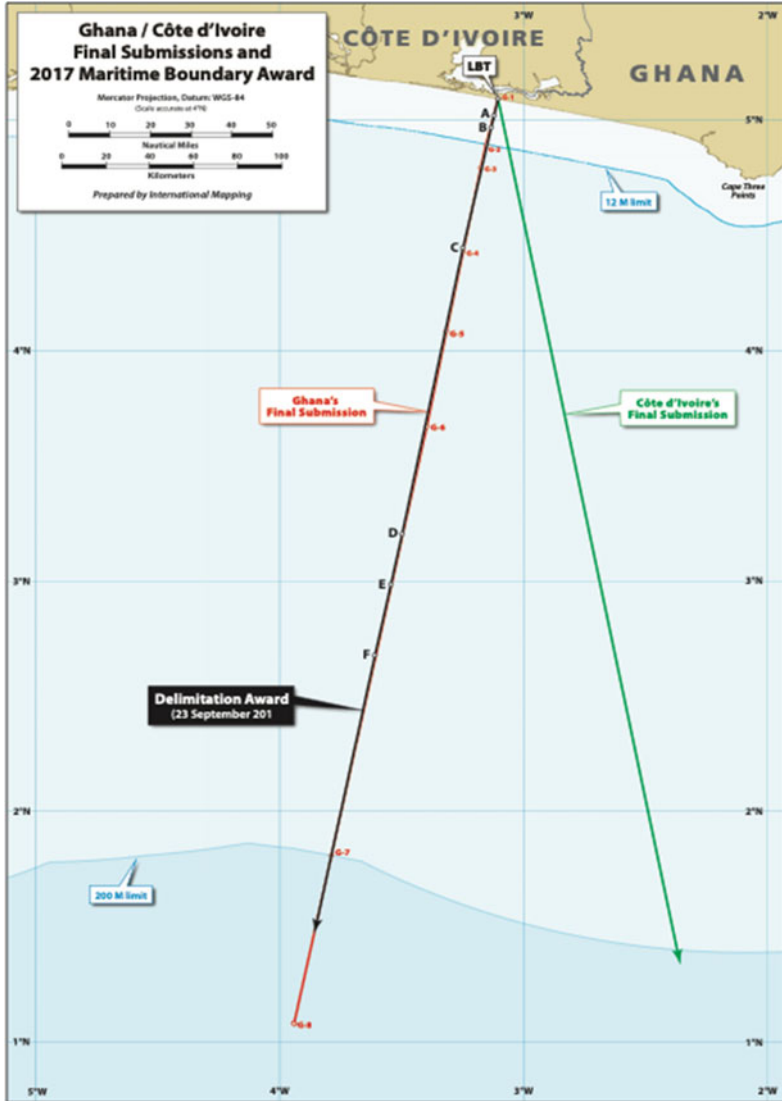
In a memorable presentation in the second round of Ghana’s arguments on 13 February 2017, which is fortunately still available on the ITLOS website,¹³ Paul Reichler argued that “the 50-year practice of the Parties,” as evidenced in maps, laws, and other documents, twelve of which he exhibited one after the other, issued from 1957 to 2009 explicitly recognizing a line as the maritime boundary between them, “cannot mean nothing.” He urged the Tribunal to consider the acknowledgment of such a line as constituting at least a *modus vivendi*, “a relevant circumstance requiring an adjustment of the provisional equidistance line,” however modest.

In an equally memorable presentation earlier that same day, Professor Philippe Sands, using a series of maps and other documents, laid out the history of “extensive activity over time and area: concessions and wells; two countries, two national oil companies (GNPC and PETROCI), five

¹¹ Paragraph 453.

¹² Brillenbourg & Renzler.

¹³ <https://www.itlos.org/en/main/cases/webcast/webcast-archives-case-no-23/>



For purposes of illustration only.

Fig. 4 The Judgment Delimitation Line & the Parties' Claimed Lines (*Credit International Mapping*)

decades, hundreds of authorizations, an even larger number of contracts, tens of thousands of square kilometres,” without meaningful protest on either side. “If this is not the basis of tacit agreement between two States, ... it is really difficult to see what would be a tacit agreement,” he contended. The image he used to summarize this history of activity is reproduced below, showing oil blocks demarcated and allocated over the period and wells drilled close to what was depicted as the boundary line on their respective maps (Fig. 5).

The Tribunal rejected both the argument for tacit agreement and that for an adjustment of the provisional equidistance line on the basis of a relevant circumstance, being the existence of a *modus vivendi*. It gave a number of reasons for its position. Among these were that even those

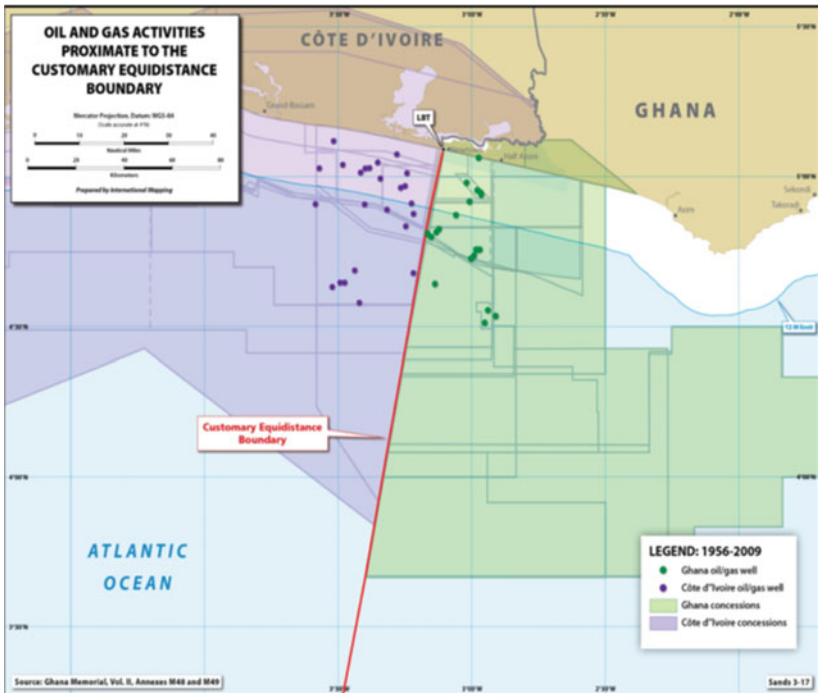


Fig. 5 Oil & Gas Activities on either side of Ghana’s Claimed Boundary (Source Ghana Memorial to ITLOS)

maps of the parties which had a broken line extending from land into the sea with their names on opposite sides were not a sufficiently clear indication that the line depicted an international maritime boundary. With regard to documents in which officials of Côte d'Ivoire gave permission to vessels authorized by Ghana to turn around in Ivorian territorial waters while engaged in seismic surveys near the "maritime boundary between Ghana and Côte d'Ivoire", it said that "the mere use of the term 'maritime boundary' cannot prove the existence of an 'agreed' maritime boundary any more than a map depicting a line in a particular way does."¹⁴

It also held that various exchanges between the parties in 1988 and 1992, and meetings between 2008 and 2014, show "the Parties' recognition of the absence of a maritime boundary between them."¹⁵ Besides, "[t]he boundary the Special Chamber has to delimit is a single maritime boundary delimiting the territorial sea, exclusive economic zone and the continental shelf. In the Special Chamber's view, evidence relating solely to the specific purpose of oil activities in the seabed and subsoil is of limited value in proving the existence of an all-purpose boundary which delimits not only the seabed and subsoil but also superjacent water columns."¹⁶ It regarded the "conduct of the Parties with respect to matters other than oil concessions and operations" as confirming "the uncertainty as to the maritime boundary."¹⁷

In his separate opinion, Judge Mensah agreed that Ghana had "not met the very high standard of proof that is required to prove" tacit agreement. He acknowledged that the parties had "attached a certain significance" to the customary equidistance line claimed by Ghana. But that did not make it a "maritime boundary" or an "international boundary": It may have been "nothing more than an agreed line of convenience for a particular purpose."¹⁸

Having rejected the contention that the conduct of the parties amounted to tacit agreement as to a boundary, the Special Chamber took the position that Ghana's proposal that that conduct be taken into

¹⁴ Paragraph 218.

¹⁵ Paragraph 222.

¹⁶ Paragraph 226.

¹⁷ Paragraph 227.

¹⁸ Paragraphs 4 & 5 of Judge Mensah's Separate Opinion.

account to adjust the provisional equidistance line appeared “to be an attempt to revive a tacit maritime boundary that was rejected by the Special Chamber by circumventing the high standard of proof required for the existence of a tacit agreement. The Special Chamber considers that accepting such argument would, in effect, undermine its earlier finding on the existence of a tacit agreement.”¹⁹

It remained to be considered whether Ghana had violated international law by continuing to authorize operations in the disputed area before delimitation had been effected. In a separate opinion, Judge Jin-Hyun Paik expressed the view that Ghana had violated article 83(3) of UNCLOS which enjoined “the States concerned, in a spirit of understanding and cooperation, [to] make every effort ... not to jeopardize or hamper the reaching of ... final agreement.” He thought that once Côte d’Ivoire made its proposal in February 2009, “the existence of a dispute and the location of the disputed area were, and should have been, clear to Ghana” and that in continuing and stepping up activities in the area, its “conduct was far from the exercise of restraint required” under article 83(3).²⁰ The main Judgment, as well as the Separate Opinion of Judge Mensah, decided that Ghana had not, on the facts, violated either the duty to co-operate or that not to hamper agreement. It noted that it “would ... have been preferable if Ghana had adhered to the request of Côte d’Ivoire earlier to suspend its hydrocarbon activities in that area”—earlier than it did, according to the Special Chamber, in compliance with the Provisional Measures Orders on 25 April 2015.²¹ The Special Chamber appeared torn between taking account of the practice of the parties over the years and its essential validation of Ghana’s boundary claim, on the one hand, and an unease about whether Ghana should have imposed more restraint on itself at some point, after Côte d’Ivoire put forward a dramatically different line and method of delimitation from that which had guided the parties previously. In the context of rejecting the Ivorian argument that Ghana had not conducted negotiations in good faith, the Judgment observed that “[t]he fact that Ghana tried to preserve the *status quo* as it saw it, is ... not a violation of an obligation to negotiate in good faith.”²²

¹⁹ Paragraph 478; See also Judge Mensah’s Separate Opinion, paragraph 9.

²⁰ Paragraph 14 of Judge Paik Separate Opinion.

²¹ Paragraph 632, main Judgment.

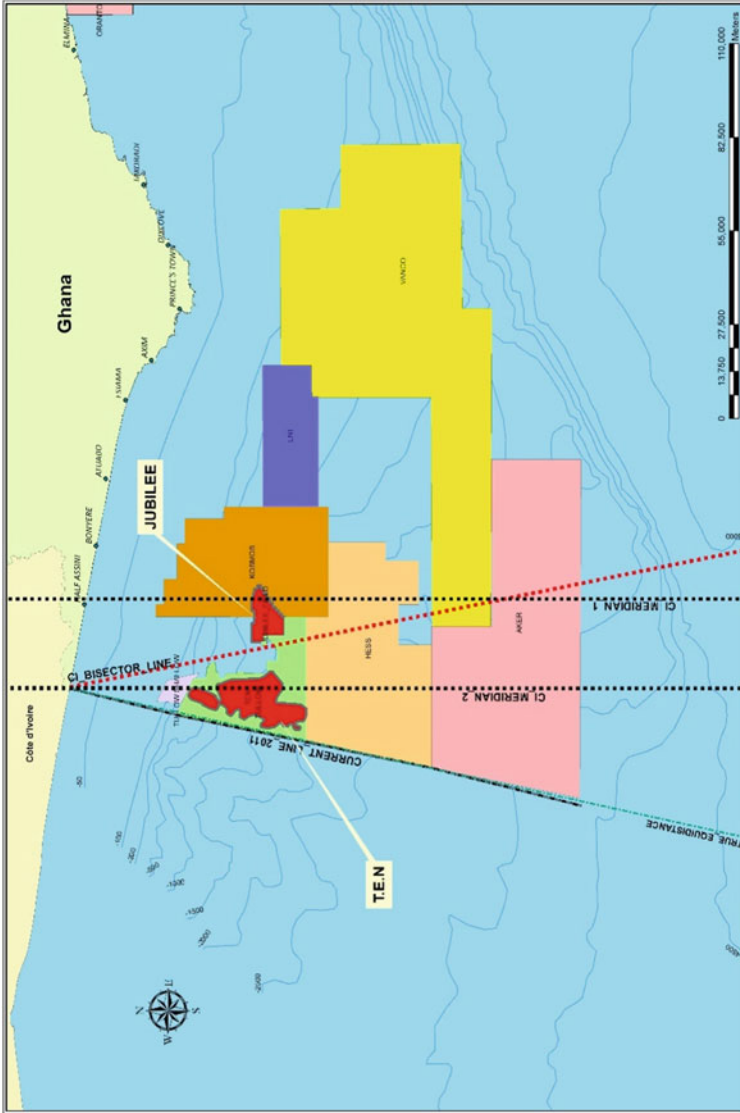
²² Paragraph 604.

5 NEGOTIATION VERSUS LITIGATION

Reading the minutes of the negotiation meetings held by the parties between July 2008 and May 2014 (see Volume V of Ghana's Memorial), it is hard to imagine how they could have concluded for Ghana in a result anywhere resembling the outcome of the litigation. Indeed, the parties were so far apart that it is hard to see how a resolution was possible in principled negotiations. While Ghana maintained equidistance as the appropriate method of delimitation throughout the negotiations, Côte d'Ivoire rejected that and insisted on alternatives whose principal feature was the consistency with which they allocated to it significant areas in which Ghana was engaged in exploration and, in some instances, production. Figure 6 shows the different lines in contention and their impacts if adopted.

5.1 *Diplomacy While Litigating*

Without doubt, the institution of proceedings by Ghana was received by Côte d'Ivoire with consternation, if not outrage. The facilitative role of the President of ITLOS allowed the parties to conclude the agreement which led to the dispute being referred to the Special Chamber. The provisional orders prescribed by the Chamber gave representatives of the parties the opportunity to interact and discuss particular matters within identified and relatively narrow parameters. In addition, the respective heads of state were clearly anxious to avoid the dispute exacerbating tensions between the two countries. Indeed, at some point in the proceedings, they enlisted the assistance of the former Secretary-General of the United Nations, the late Mr. Kofi Annan, to explore the possibility of achieving a resolution. The heads of states' commitment to peaceful resolution is graphically illustrated by the fact that the successive Presidents of Ghana while the dispute was pending, Presidents John Mahama and Nana Akufo-Addo, visited Côte d'Ivoire and received Ivorian national honours. President Alhassan Ouattara in turn received Ghanaian national honors in Accra shortly after the ITLOS decision. Indeed, a joint statement issued by the parties in Hamburg, accepting the decision immediately after it was delivered on 23 September 2017, was evidence of the success of the diplomatic efforts.



5.2 *Organizing and Managing the Litigation Process*

Officials from a broad range of Government institutions were involved in engagement with Côte d'Ivoire on maritime boundary issues. These included the Ministry of Energy, the Ministry of Foreign Affairs, the Ministry of Finance, the Ministry of Lands & Natural Resources, the Attorney-General's Department & Ministry of Justice, and institutions reporting to them. The Ghana National Petroleum Corporation, established in 1983 as Ghana's state oil enterprise, had a long history of relations with PETROCI, its Ivorian counterpart. The Petroleum Commission, established in 2011, formally assumed much of the advisory role to the Ministry of Energy that GNPC had previously played informally. In 2010, prompted by the ongoing negotiations with Côte d'Ivoire, the Ghana Boundary Commission (GBC) was established by an Act of Parliament, under the Chairmanship of the Minister of Lands & Natural Resources, with the Ministers of Foreign Affairs, Interior, Local Government and the Attorney-General as members. Prior to that, a technical group consisting, among others, of officials from the Survey Department, Geological Survey Department, (including retired heads from these institutions), GNPC, the Navy, the Ghana Maritime Authority and academics from some of Ghana's public universities, had worked together in the context of preparations for Ghana's submission to the UN Commission on the Limits of the Continental Shelf (CLCS) for the extension of the outer limits of its continental shelf beyond 200 nautical miles as provided in part VI, article 76 of UNCLOS. Indeed, it was the attempt to reach agreement with Côte d'Ivoire on Ghana's continental shelf submission that led to the commencement of negotiations on the maritime boundary between the two countries in 2008. Based on a review of the state of the negotiations, the Maritime Boundaries Secretariat (MBS) was set up in 2012, under the office of the Chief of Staff of President J.E. Atta-Mills, but physically located in the premises of the GNPC, which was asked to support it financially. The object was to provide a focal point for strategic evaluation of Ghana's options and assist the larger Boundary Commission and the Government more broadly in determining directions and galvanizing their implementation. The MBS consisted of a full-time National Co-Ordinator and an administrative staff of up to eight persons, with frequent inputs from an Advisor whose work had led to its establishment.

The range of institutions and officials involved meant that there was a variety of sources from which information and perspectives had to be teased out and forged into coherent narratives. The incorporation of environmental experts from the Environmental Protection Agency (EPA) and GNPC into the team in the course of the proceedings exemplified the flexibility required to respond to issues which came up and had to be addressed. The transition from negotiation under the auspices of the Boundary Commission to litigation, with the Attorney-General as the constitutionally mandated representative of the country, resulted in a change in leadership of the process. Preparing for litigation also involved engaging some of the best lawyers in this field, members of what has been described as the “invisible Bar” of public international lawyers, “who have practiced and who continue to practice as oral advocates before [the International Court of Justice, ITLOS and other tribunals] ..., who know how things work out in practice, and who understand by experience the difficulties, pitfalls and tricks of the trade.”²³ In the next chapter, Professor Pierre Klein discusses how the domestic Ghanaian team and its external advisers interacted with each other and developed into an integrated team. In a talk delivered shortly after the Special Chamber pronounced judgment, Mrs. Marietta Brew Appiah-Opong described what she had sought to do as leader of the team in the following terms: “I had to build good team spirit, ensure that no member felt more important than the other, identify any disruptive elements within the group and either have them replaced or neutralise the disruption.”

The challenge of transition became particularly stark when the Government which had initiated the litigation in September 2014 was defeated in elections held in December 2016. By then, Ghana and Côte d'Ivoire had filed their written pleadings with ITLOS. Oral hearings were scheduled for February 2017. Ghana's new President was to take over on 7 January 2017. It was only then that he could nominate Ministers for the approval of Parliament. In the event, the incoming President nominated a team led by Madam Gloria Akuffo, who became Attorney-General when the constitutional requirements were complied with, to work with the existing team under the leadership of Mrs. Appiah-Opong. Meetings held throughout December 2016 and January 2017 confirmed and reinforced

²³ Keith Hightet.

the validity of the decision to litigate while working to ensure that relations with Côte d'Ivoire were not damaged. The dramatic moments at the beginning of the oral hearings in Hamburg on 6 February 2017, when Mrs. Appiah-Opong handed over as Agent for Ghana to Madam Akuffo,²⁴ testify to the success of the transition.

In addition to managing and organizing its internal processes and institutional arrangements, Ghana had to take account of the ramifications of the litigation for its relations with the petroleum companies to which it had awarded exploration and production rights. It had to identify both the areas of common interest with the respective companies and areas of potential divergence.

That Côte d'Ivoire had attacked the competence of Tullow Oil in its operations in Ghana made it natural for Tullow to defend itself as it did by adding a statement in support of Ghana's case in opposition to the Ivorian application for provisional measures. On the other hand, Tullow had acquired rights in Côte d'Ivoire and was keen for the two countries to resolve their dispute in a manner that did not adversely affect it. Besides, as shown in a dispute in the High Court in England arising out of its termination of a rig hiring contract with a sub-contractor, Seadrill Ghana Operations Limited v Tullow Ghana Limited,²⁵ Tullow had its own commercial reasons for using the maritime boundary case as a pretext for getting out of expensive rates to which its contract with Seadrill committed it. One of its officials was quoted in an internal communication as asking whether "with a bit of manipulation," the Provisional Measures Orders of the Special Chamber could be used to invoke *force majeure* to terminate the rig hiring contract.

There were other companies who also had their own commercial reasons for wanting to delay performance of their obligations under Petroleum Agreements with Ghana or to excuse non-performance, even if those obligations did not involve drilling and were not affected by the Provisional Measures prohibition on new drilling. Some argued that the pendency of the litigation created uncertainty. Government officials engaged these companies on a case by case basis, though the starting point was that the existence of litigation did not, under their contracts, constitute *force majeure* and did not therefore excuse non-performance.

²⁴ <https://www.itlos.org/en/main/cases/webcast/webcast-archives-case-no-23/>

²⁵ [2018] EWHC 1640 (Comm).

6 CONCLUSIONS

In its issue number 802 on 10 October, 2017, Africa Energy Intelligence commented as follows on the management of the litigation process by the two countries: “Unlike the Ivory Coast which chose to have an oil man, Toungara, oversee the case, Ghana, whether under president John Mahama Dramani (sic) or Nana Akufo-Addo, elected to have lawyers run the show.” This is, perhaps, an exaggeration, at least of what occurred on the Ghanaian side. What is true, however, is that the outcome required an impressive amount of work and collaboration; a combination of strategic thinking, extensive foraging for and meticulous examination of material; encouragement of open and respectful discussions alongside a requirement of prompt responsiveness to assignments; a clear-eyed evaluation of options and a tough-mindedness in decision-making.

Shortly after the Special Chamber delivered its Judgment on 23 September 2017, a colleague compared public reactions of appreciation and excitement in the country to those normally demonstrated when this football-loving country plays well and wins a major tournament. In this case, there was the added bonus of having contributed to preserving rights to substantial natural resources in Ghana’s maritime areas.

Acknowledgements Pierre Klein, Dotse Tsikata, and Kofi Ansah made comments on earlier drafts. Nana Boakye Asafu-Adjaye provided information and made comments on a draft. Nana Adusei Poku generously responded to my requests for maps. I am grateful to all of them for their inputs. I, of course, remain solely and fully responsible for the final product.

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Teamwork and Interaction in the Preparation and Management of the Ghana-Côte D'Ivoire Maritime Boundary Litigation

Pierre Klein

I PREPARING FOR AND MANAGING MARITIME BOUNDARY DISPUTES

The preparation and management of a case such as the maritime boundary dispute between Ghana and Côte d'Ivoire is hardly an individual endeavour. To the contrary, in the context of such cases, teamwork is crucial. Boundary disputes generally are complex cases, raising issues in (very) different areas. A wide variety of expertise is therefore required in

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fields such as history, natural sciences, cartography, public management, and, of course, law. The legal issues at stake are themselves often complex and it is eminently advisable to approach them from different angles and to debate the best ways to tackle them: if ‘two heads are usually better than one,’ this is even more true when six or seven ‘heads’ are convened around the table to discuss these legal issues.

Such teamwork hardly begins at the moment the matter is brought before an international court or tribunal. Boundary disputes typically have a history that goes back a long way in time (more often than not, to the colonial period for countries that were subjected to colonial subjugation). Many attempts will generally have been made in the past at resolving them, and the States concerned would have assembled teams of experts and negotiators to articulate their position and try and protect their interests in the relevant fora where these issues are discussed (these are very often mixed boundary commissions, bringing together representatives of the two States concerned). Such national teams are typically composed of civil servants from the government departments which are most concerned: Foreign Affairs, Home Affairs, Justice, Defence, Natural Resources, Finance, etc.—and of course members of the national boundary commission, if there is one. Officials of other entities directly concerned may also be involved; for instance, the importance of the maritime delimitation for activities related to oil exploration and exploitation, explains why representatives of Ghana National Petroleum Corporation (GNPC) were included in the national delegation from the outset.

These bilateral discussions require significant preparatory work, including but not limited to, collection of relevant documents (generally through research in the national and/or colonial archives), assessment of the likely impact of various possible boundary lines, and interpretation of the existing legal framework. As a result of this, members of the national delegation involved in the process build a unique expertise. It is therefore only logical that, whenever the prospect of a negotiated settlement of the boundary dispute appears too remote and one or both of the States concerned decide(s) to defer the matter to an international court or tribunal, these experts generally constitute the backbone of the national team put into place at that stage. The work of this national—or ‘internal’—team is very generally complemented by that of an ‘external’ team. The latter is composed of experts who are not part of the State apparatus

(and who may be nationals of the country or—often—of foreign countries). They are mostly lawyers—generally, with extended experience of such litigations—and high-level technical experts, such as cartographers. The external team’s main responsibility is to help define the legal strategy that will be pursued by the State and prepare the written and oral pleadings in the context of the judicial proceedings, in close cooperation with the national team, and the highest authorities of the State.

2 THE GHANA TEAM EXPERIENCE IN THE DISPUTE WITH CÔTE D’IVOIRE

Such involvement of—or at least part of—the external team generally even predates the actual initiation of judicial proceedings and includes the assessment of the merits of the dispute, and assistance in the determination of the best course of action in the light of this assessment. This provides an opportunity for members of the external team to develop a better understanding of the issues at stake, to get acquainted with the main stakeholders, and for members of both teams to build mutual trust. If bilateral negotiations are still under way at that stage, coordination between both teams will then be essential so as to ensure that the positions taken in the context of these negotiations are consistent with the claim the State is likely to bring in judicial proceedings. Such was the case in the Ghana/Côte d’Ivoire dispute. No less than four meetings of the mixed commission were held between December 2013 and May 2014, at a time Ghana was already seriously pondering the initiation of judicial proceedings. While the risk of inconsistencies was limited from Ghana’s side as far as the substance of the claim was concerned,¹ the manner this claim was articulated, the (legal) basis on which it was put forward, and the way the other party’s claim was rebutted, all deserved the greatest attention. Similarly, members of the external team also assisted Ghanaian authorities in taking the preliminary steps necessary before the initiation of judicial proceedings, that is, by withdrawing Ghana’s declaration under Article 298 of the United Nations Convention on the Law of the Sea (UNCLOS), thereby clearing the way for judicial settlement of the maritime boundary dispute.

¹ Ghana had claimed a boundary based on an equidistance line ever since the beginning of bilateral negotiations with its neighbour in the 1990s.

Close cooperation between internal and external teams is of course even more important once the proceedings have actually begun. The support extended by the national team is crucial at this stage. If they are to carry weight, the legal arguments developed in the pleadings have to be supported by (and built upon) sound factual evidence and accurate scientific data. The history of the boundary has to be documented from its earliest stages. This will entail the collection—most of the time essentially by members of the national team—of all relevant documentary evidence, in complement of the work already done in this area in the context of earlier bilateral negotiations, legislations and regulations pertaining to the State's boundary and all related matters (such as the exercise of State powers in the area concerned, for instance), official exchanges between the States concerned relating to the boundary itself or to relevant related matters, maps, evidence of official activities carried out by or on behalf of government authorities in the disputed area, etc.

The involvement of members of the national team at earlier stages—determination of the official position of the State, negotiations, work of the mixed commission, etc.—translates into an in-depth knowledge of the particulars of the case which proves particularly useful at this point. Exchanges between members of both teams are of the utmost importance at this stage. In the course of their work, members of the internal team may unearth specific elements of information previously unknown or overlooked and will draw the attention of the external team on these whenever they appear to require an inflexion, an adaptation, or a revision of the legal arguments developed so far. For their part, members of the external team will (more or less) constantly request specific elements of information or data such as a missing diplomatic despatch, letter, piece of legislation, or report.

On occasions, the work will be carried out together and members of both teams will join efforts in sifting through dusty boxes of archives. Members of the external team may then provide additional guidance as to the way research should be carried out, such as which (types of) documents to look for, how to organize them once they've been collected, and the like. Members of the external team may also sometimes look to members of the internal team for guidance as to the sustainability of a given argument in view of the factual or scientific elements present in the dossier. Overall, the cooperation between both teams translates into a true exchange of expertise over time.

In the Ghana/Côte d'Ivoire case, the close interaction between both teams proved to be crucial at different stages of the proceedings. There was, from the very moment the proceedings were initiated, an anticipation of the fact that Côte d'Ivoire might request provisional measures. This led to sustained exchanges between both teams in order to identify officials in various government agencies or representatives of other stakeholders (in particular oil companies) who would be in a position to provide relevant information—and, in some cases, witness statements—and to collect evidence relating to the activities that were carried out at that time in the disputed area. In view of the very short deadlines applicable in incidental proceedings such as a request for provisional measures, such elements of preparedness proved extremely valuable. Close cooperation between internal and external teams was also crucial in the monitoring of the provisional measures once they were prescribed.

This was especially important, in view of the accusations of non-compliance later levelled by Côte d'Ivoire against Ghana. The input of members of the external team was crucial in determining the exact scope of the provisional measures indicated by the Special Chamber—which activities could still be carried out in the area, and which were prohibited—and making sure all ongoing activities were in full compliance with the Order of March 2015. This, for instance, required members of the external team to get acquainted with a number of technical issues related to deep sea oil drilling, with the assistance of experts at GNPC. A clear line of communication between both teams helped to ensure that, contrary to Côte d'Ivoire's allegations, Ghana was ultimately found to have fully complied with the provisional measures indicated by the Special Chamber.

Close cooperation between both teams carried on in the merits phase; it was, in particular, of crucial importance for the mapping of oil exploration and activities carried out by both States in the area concerned by the dispute since their political independence. It was just as crucial for the elaboration of Ghana's argument, according to which both Parties had tacitly agreed that their maritime boundary followed an equidistance line. The input of GNPC's experts was essential among others, in listing all exploration activities undertaken or authorized by both States in the area concerned. It also was essential for the documentation of the subsequent drillings of wells on both sides, and of the various instances of cooperation between Côte d'Ivoire's and Ghana's national oil corporations (PETROCI and GNPC).

This, in turn, was used by the legal team to rebut Côte d'Ivoire's argument according to which Ghana had somehow imposed a *fait accompli* in the area and developed its activities in a unilateral fashion, by showing that both States actually benefited from the stability resulting from their mutual recognition of the equidistance line as the limit of their area of activity. Use was also made of these elements to show that Côte d'Ivoire's arguments, according to which the unrest and civil strife that it experienced as from the early 1990s prevented it from devoting sufficient resources to the exploitation of the sea area in dispute, and from protesting against activities undertaken in that area by or under the authority of Ghana over more than 15 years, were groundless.

On a very different issue, that of delimitation of the continental shelf beyond 200 nautical miles, the internal team also was in a position to supply the legal team with information regarding the preparation of Ghana's 2009 Submissions to the UN Commission on the Limits of the Continental Shelf (CLCS) and the circumstances under which these submissions were elaborated. Ghana could then rely on factors such as the fact that both States had been advised by the same expert and had made use of the same vessel, to acquire data for their respective submissions to underline the absence of dispute between the Parties at the time and their convergence of views as to the course of their maritime boundary beyond 200 nautical miles, following the prolongation of the same equidistant line.

All in all, this close and constant cooperation between Ghana's internal and external teams ensured a very high degree of consistency and reliability of Ghana's position before the Special Chamber, at all stages of the proceedings. Even if Ghana's argument on tacit agreement was ultimately not upheld by the Chamber, the soundness of its claim to a maritime boundary following an equidistance line was clearly—and unanimously—recognized by the judges.

3 POTENTIAL PITFALLS

Efficient as it may have been in Ghana's case, cooperation between internal and external teams in the context of such litigation should however not be seen as a given. It may prove much more difficult to achieve under other circumstances. Problems of communication may sometimes account for such difficulties. This could be the result of

linguistic hurdles (in the vast majority of cases brought before international courts or tribunals, teams will work mostly in English and/or French). However, such problems will more often result from ‘cultural’ differences, such as misunderstandings regarding the way procedures unfold before an international court because of assumptions based on the functioning of the domestic legal system, for example.

The internal team may also experience difficulties to overcome national bias towards the case, based on preconceptions, or sometimes, sheer propaganda. This, in turn, makes dialogue with the external team more difficult and may hamper the elaboration of the legal arguments that would have carried more weight before the judges. This may result in differences of approach as to the way to handle the case that may prove difficult to reconcile. For various reasons, there may also be issues of trust between both teams. All, and any of these factors, may seriously affect the quality and persuasiveness of the case put by a party before an international court or tribunal—and of course have a detrimental impact on the outcome.

4 CONCLUSIONS

As underlined earlier, Ghana’s experience before the Special Chamber of the International Tribunal for the Law of the Sea proved to be a truly cooperative endeavour on the part of both teams (or, to put things more accurately, both components of the team) in order to ensure that the case was argued in the best possible way. It can even safely be said to rank among the best-case scenarios, characterized by a true communion of the minds and relationships that endure long after the dispute has been settled.

Acknowledgements I’d like to express my warmest thanks to Alison Macdonald QC (formerly Matrix Chambers, London) with whom I had the pleasure and privilege to work in this case for her most helpful suggestions and comments. The preceding chapter by Fui S. Tsikata provides a detailed summary and background of the maritime boundary dispute as well as a discussion of the ruling of the ITLOS Special Chamber.

PART II

Oil and Gas and Ghana's Economy



Competitiveness of Ghana's Upstream Petroleum Fiscal Regime: Fit for Purpose?

Theophilus Acheampong and Abdallah Ali-Nakyea

1 INTRODUCTION

One of the overarching objectives of most natural resource-rich countries is to get a fair share of the revenues accruing from the exploration and exploitation of such natural resources in their respective countries. This is because host governments are presumed to be holding these

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natural resources in trust for their citizens. Thus, any policy to collect these revenues must be formulated bearing in mind the best interest of its citizenry. However, whether or not this objective can be achieved depends very much on the fiscal regime that governs the distribution of this wealth accrued from exploiting the natural resource endowments and how effective it is in capturing maximum economic rent to the State. In the extraction of petroleum resources, the framework for sharing the economic rent and its benefits between the home country and investors is critical. Unfair regimes that distribute risks and rewards inequitably can precipitate contract renegotiation and resource nationalisation.

The fiscal regime governs the relationship between the host government and investors. This risk-reward balance is anchored on the twin goals of investment attraction and revenue maximisation. According to Nakhle (2010), the design of fiscal regimes is a critical factor in shaping perceptions of an oil and gas basin's competitiveness. Exploration and development activities require a balancing act between the respective interests of the producing countries and the oil companies. A trade-off is bound to exist since both government and oil companies seek to maximise their rewards. This can be achieved by designing a competitive fiscal regime, which considers different stakeholders' interests and is attractive to investors compared to opportunities in other countries. Moreover, evaluation and comparison of fiscal terms are crucial and provide a basis for IOC's overseas investment decision while contributing to the most active implementation of upstream oil and gas E&P business (Abdo, 2014; Boykett et al., 2012; Tordo, 2007). If the terms are too strict, the incentives to the oil companies to invest in exploration, development and production can be severely damaged because investment flows to countries offering a more attractive fiscal regime.

Since the early 2000s, the world's major deep offshore regions, including the Gulf of Guinea (West Africa), Gulf of Mexico (GoM), Guyana-Suriname and Brazil, have witnessed a flurry of exploration and development activities. Rising oil demand, declining shallow water and onshore reserves, political instability in big onshore areas, and high oil prices have fuelled these ongoing deepwater activities. However, deep-water exploration, such as what pertains to Ghana, requires sophisticated technology and large capital expenditures. Likewise, the investment risks are considerably higher than with traditional onshore exploration activity. Thus, only large international oil companies (IOCs) or independents with the financial muscle, are often the ones undertaking these frontier deep-water activities. In evaluating the business decision to invest in a country,

investors typically consider macroeconomic and political factors, geology and fiscal terms, making it imperative for governments to design unique fiscal systems to attract investments. Although current relatively high oil prices make the economics of exploration and development in most regions favourable, the true test of the long-term effectiveness of a fiscal regime is its flexibility to capture value from historically volatile oil and gas prices, and fluctuating costs which could adversely impact investment outcomes.

Crude oil production has provided a critical boost to Ghana's economy over the past ten years. It is set to form a fundamental component of the country's industrial strategy and transition towards an upper-middle-income country, acting as the lever to provide jobs and energy security. The rapid growth of the upstream oil and gas industry in Ghana, like many other petroleum-producing countries, has been dependent on external foreign direct investments led by IOCs and their partners with limited direct state participation, particularly in the exploration phase. In this vein, Ghana in its quest to attract investors into the country's upstream petroleum sector enacted several policy changes, including fiscal ones. These policy changes were particularly geared towards increasing the government's take following the de-risking of the basin with the Jubilee Field discovery in 2007. Some of these changes included revisions to Ghana's thin capitalisation rules, increased oil and gas royalties, and other non-tax policies. These are also reflected in various international rankings of the overall oil and gas policy environment and specifically the fiscal environment. For example, both the 2017 and 2021 Resource Governance Index (RGI) published by the Natural Resource Governance Institute puts Ghana's tax regime as being "good" with 80 out of 100 points under the value realisation sub-component of the RGI (NRGI, 2017, 2021). Likewise, Canada's Fraser Institute's 2017 Global Petroleum Survey, which directly seeks the opinions of senior oil company executives and decision-makers, ranked Ghana at 41 out of 97 countries on its fiscal terms being a deterrent to investment (Stedman and Green, 2017).

Since 2010, Ghana has produced 453.89 million barrels of crude oil from three existing fields: Jubilee from December 2010,¹ Tweneboa

¹ Tullow Oil. (n.d.). Jubilee field. Available at: <https://www.tulloil.com/our-operations/africa/ghana/jubilee-field> (Accessed: 31 July 2021).

Enyenra Ntomme (TEN) from in August 2016² and Sankofa Gye-Nyame (SGN) from July 2017³ (PIAC, 2020). A total of 452.09 million barrels have been lifted (sold) by all partners out of the 453.89 million barrels produced as at the end of 2020 (PIAC, 2020). Of the 452.09 million barrels lifted, Ghana’s share has been 78.85 million barrels—this is 17.44% of the total barrels lifted. Ghana’s share comprises mostly royalties, carried and participating interest (CAPI), corporate income tax (CIT) and to a lesser extent, surface rentals. In terms of value, we assess that US\$31.62 billion has been generated from the sale of all the liftings since 2010, using yearly average achieved crude prices, which is very close to Brent prices—all of Ghana’s crude oil trade at close parity to Brent crude, so this is a reasonable assumption based on norm traded values. The estimated proceeds from liftings by Ghana Group is US\$6.55 billion (20.71% of the total value generated). This is close to its 17.44% production share. On the other hand, the cumulative investments made into all three fields for exploration and development are estimated to be about US\$19 billion (Oppong and Kwame Amoni, 2021). This comprises US\$8.8 billion invested in the Jubilee field, US\$5 billion in the TEN field and another US\$5.2 billion in the SGN field (Oppong and Kwame Amoni, 2021).

The foregoing raises interesting questions: Are Ghana’s petroleum fiscal (tax) terms generating enough rents for the State after ten years of production? Or does this reflect the state of play with the contracts signed at the time? How do we ensure that the State gets its “fair share” going forward, but also considering the following: (1) de-risking of the basin; (2) the need to attract both domestic and foreign investments into the sector; (3) energy transition imperatives which makes the “advantaged barrels” concept even more poignant—that is, countries with higher marginal production costs are maybe unlikely to extract their oil as they would be at the higher end of the cost curve?

Against this background, this chapter analyses the attractiveness of Ghana’s fiscal regimes and attempts to answer the fundamental question of whether the regime is fit for purpose after ten years of oil and gas

² Tullow Oil. (n.d.). TEN field. Available at: <https://www.tulloil.com/our-operations/africa/ghana/ten-field> (Accessed: 31 July 2021).

³ Kpodo, K., 2017. ENI pumps first oil from Ghana’s Sankofa field. Available at: <https://www.reuters.com/article/us-ghana-oil-idUSKBN19R1R9> (Accessed: 31 July 2021).

production in the country. It begins by discussing fiscal regimes more broadly, including evaluation criteria. This is followed by a discussion of Ghana's fiscal frameworks and an analysis of their attractiveness. The latter is based on detailed economic cash flow modelling. We construct various cash flow models to assess the fiscal attractiveness of Ghana's contracts. Four fiscal appraisal criteria are utilised for this evaluation: profitability, risk sharing, neutrality and progressiveness. We then discuss Ghana's fiscal competitiveness and conclude with some recommendations on strengthening the fiscal regime for the future.

2 PETROLEUM FISCAL REGIMES AND INVESTMENT

2.1 *Economic Rents and Extractives Taxation*

As is widely established in the literature, natural resource ventures have some peculiar attributes which need to be considered in the design of optimal tax policies. These include the following:

- Wide range of technical, commercial, fiscal and political risks throughout the supply chain.
- Large up-front capital requirements leading to high sunk costs.
- Long lead times between initial investment and first revenues generated—long payback period.
- Long production periods—long contracts and licences.
- Geological uncertainty—exploration is a speculative activity fraught with many failures.
- Asymmetric information—private investors often better informed than host governments on technical and commercial aspects of a project, especially in the early stages.
- Extensive involvement of multinationals: complex tax issues, unique cost sharing and financing arrangements, sensitivities on sharing the benefits from national resources.
- Exhaustibility: non-renewable natural resources; valuable asset in the ground that can be exploited only once; opportunity cost of extraction includes future extraction forgone.
- Environmental concerns—climate change, CO₂ emissions, destruction to land, wastes, pollutants.

For example, regarding commercial risks, the extant literature shows that crude oil prices react to a variety of geopolitical and economic events. As the US EIA (2021) notes, oil prices have responded to geopolitical and

other events over the past 40 years. Any event that can disrupt supply or increase uncertainty about future oil supplies tends to drive up prices. What this means is that it is almost impossible to provide any certain long-term forecast of oil prices; even future market developments are fraught with significant uncertainties. For example, Wachtmeister et al. (2018) show that there is widespread uncertainty in many current oil price projections with mean absolute percentage error for oil prices in the range of 17, 37 and 67% on 1-, 5- and 8- year horizons, respectively.

An implication of these special features of natural resources and the extractives industry is that a special fiscal (tax) treatment needs to be put in place. That is, there is a need for elaborate fiscal arrangements to capture various features of the industry, which means we can utilise several instruments. However, there is an imperative to consider headline tax rates (marginal rates) versus the interaction of different instruments (effective tax rate). There is also the importance of not just the tax rates but also the timing of when various fiscal instruments hit investors—that is, profit related versus progressive taxes. Finally, there is a need to consider the array of commercial and regulatory obligations placed on investors, which, although in most circumstances not labelled as taxes, are in effect just that, in terms of their economic consequences.

To capture these dynamics, the generally accepted concept of economic rents is used. There are a variety of definitions for economic rent. In general, they are based on a modified Ricardian view which defines economic rent as “*the income received by the owner of a factor of production over and above the amount required to induce that owner to offer the factor for use*” (Parkin, 2015: p. 402). That is, economic rent is equal to the marginal product (benefit received) less the opportunity cost (cost of employing more factors of production) (Shobande et al., 2020; Abdo, 2014; Mintz and Chen, 2012; Kemp and Stephens, 1996). In the petroleum industry, economic rents are quite common and occur for several reasons, including reflecting the scarcity value of the non-renewable resource and monopoly rights as shown in Fig. 1 (da Cunha et al., 2020; Robinson, 2017; Long and Kemp, 2014; Hotelling, 1931). From Fig. 1, for a given long-term price of oil, say P , different oil fields will seek to supply the market at their respective incremental marginal costs of production, development and finding. The blue area represents the economic rent, which, in theory, could be taxed away by the owner of the oil resources without deterring investment or reducing output as they

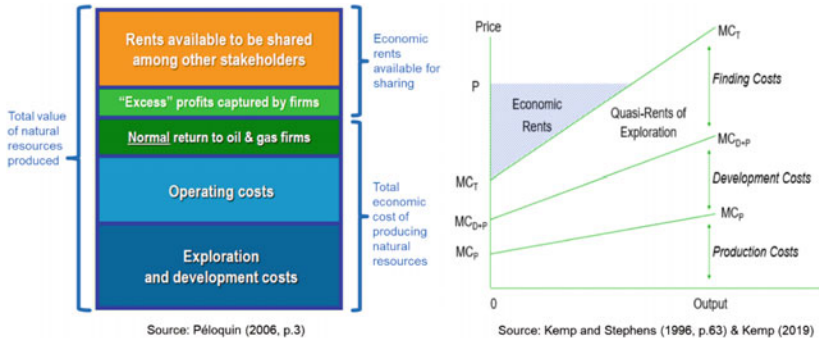


Fig. 1 Economic rent concepts

have recovered all their costs including a normal return and sometimes excess profits (Kemp, 2019; Watkins, 2001; Kemp and Stephens, 1996).

Fiscal regime implications of economic rent concept are as follows: Firstly, the State, as resource owner, should get a fair share, although what is fair is often the subject of debate (Cameron and Stanley, 2017; Amoako-Tuffour and Owusu-Ayim, 2010). For example, Ghana's 2010 petroleum policy stated that "the fiscal regime is designed to ensure the right balance between national developmental needs and agenda and investor needs". Secondly, the fiscal regime should ideally provide the State with revenue streams in all production periods while having an increased share of revenues as profitability increases (progressivity). Thirdly, the fiscal regime should be attractive enough to encourage investments, both in the now and in the long run, in the sense that these terms must be robust in the face of changing circumstances.

2.2 What Constitutes an Attractive Petroleum Fiscal Regime?

Underpinning the fiscal regime and by extension, durable extractives contracts, is often the principle of fair sharing of the economic rents generated from petroleum resource extraction between host governments and private investors. Thus, the fiscal system should be consistent with "the government's overall economic and fiscal objectives and provide a fair sharing of financial benefits between the investor and the host government" (OECD, 2019, p. 3). The optimal mix of fiscal instruments and terms should take into consideration risk-reward balance and country

circumstances such as new entrant or basin maturity (Acheampong et al., 2021; Acheampong, 2020; OECD, 2019; Nakhle, 2008, 2010; Tordo, 2007; Iledare, 2004). Different methods are applied in the evaluation of petroleum taxation regime, using several factors including profitability, neutrality, progressiveness (flexibility), among others. These are briefly discussed in Table 1.

Table 1 Efficiency criteria of fiscal regimes

<i>Concept</i>	<i>Brief explanation</i>
Neutrality and non-distortionary taxation	A neutral fiscal regime avoids distorting investment incentives and decisions; that is, it should not encourage over-investment nor deter those investments from otherwise taking place in the first place. In other words, the pre-tax ranking of investment outcomes should not be any different from its post-tax ranking or divert investments from the industry all together. Sometimes, projects that are viable, pre-tax, can become unprofitable following the application of the fiscal instruments, creating efficiency losses
Progressiveness (flexibility)	Generally speaking, progressive fiscal regimes are those which are designed to collect a higher share of the rents, the higher the rents become, for example, either from rising oil prices or lower costs. Therefore, the State receives a rising share of the cash flows as the intrinsic profitability of the project increases, due to changes in future market conditions. Progressive schemes tend to be more equitable and less distorting although they can lead to “gold plating” if no checks are put in place. Regressive schemes, on the other hand, collect a higher share of the rents the lower these rents become. In terms of its assessment, progressivity is measured through the variation in project NPV
Risk sharing	The underlying fiscal regime and instruments must have enough assurances to recover investment costs (cost recovery mechanisms), especially during the exploration and production phases, but this can risk revenue delays for host governments. Often, governments, especially in newfound petroleum-producing countries, tend to prefer early and dependable revenues especially at the very beginning of E&P activities
Tax administration (simplicity and compliance)	The underlying fiscal regime and instruments on which they are premised, should be simple to administer by the revenue authorities and for investors to comply with. Thus, the fiscal regime should reduce information asymmetry and compliance costs between investors and the host government. In terms of administrative efficiency, the petroleum tax regime must be easily understood by investors to encourage compliance

(continued)

Table 1 (continued)

<i>Concept</i>	<i>Brief explanation</i>
Stability and international competitiveness	Fiscal regimes must be competitive with those of other countries within the region and further out. This is because countries compete with each other to attract petrodollar investments, often from a similar cohort of investors—the “neighbourhood effect”. In this regard, issues of stability of the regime also become important; the fiscal regime must be less susceptible to sudden or abrupt changes or such changes must be fairly predictable. Most countries tend to offer mostly a mix of “freezing clauses” which keep contractual and/or fiscal terms unchanged for a certain period of time or “equilibrium clauses” that allow for adjustments of the contractual terms depending on a range of factors such as change in economic conditions. Finally, tax rules for the petroleum industry must be codified in law to ensure transparency and equity

Source Author’s depiction based on Nakhle and Acheampong (2020), Banda (2019), Manaf et al. (2016), Jarmuzek et al. (2016), Mansour and Nakhle (2016), Agalliu (2011), Nakhle (2010), Amoako-Tuffour and Ayim (2010), Goldsworthy and Zakharova (2010), and Tordo (2007)

There are primarily three different approaches to fixing fiscal terms. Firstly, through detailed content whereby a comprehensive legislation or regulation provides for most of the fiscal provisions required for the conduct of sector operations. This approach is often used in the more developed countries, which have extensive sector and legislative experience. Secondly, this could be fixed through individually legislated contracts whereby the most important terms are contained in individually negotiated agreements. This used to be the case in several developing countries with newfound petroleum resources that did not have a dedicated or overarching petroleum law in place.

A third dimension is the hybrid scheme—which is more popular these days—which combines a brief petroleum law with detailed secondary regulations and individual stipulated clauses in the contracts. In general, the preference by international investors is for inclusion of fiscal terms in hydrocarbon legislation. This is to reduce administrative costs, political difficulties and investors’ perceived risk and increase transparency. As the IMF notes “*the alternative of setting the fiscal terms out in a model agreement can make them little more than a basis for negotiation*” (IMF, 2012, p. 36).

Ghana’s upstream fiscal regime falls under the third category and is governed by the following legislation:

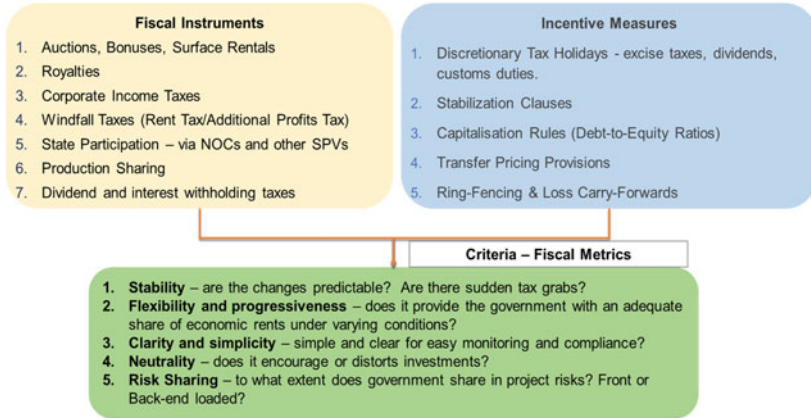


Fig. 2 Interaction of fiscal instruments, incentive measures and fiscal metrics (*Source* Authors' depiction)

- Petroleum Exploration & Production Act, 1984 (PNDCL 84)—for the pre-Jubilee contracts
- Petroleum Income Tax Act, 1987 (PNDCL 188), up to and including the year 2015
- Income Tax Act, 2015 (Act 896)⁴
- Petroleum (Exploration and Production) Act, 2016 (Act 919)⁵
- Petroleum (Exploration and Production) (General) Regulations, 2018 (L.I. 2359)⁶ as amended by the Petroleum (Exploration and Production) (General) (Amendment) Regulations, 2019 (L.I. 2390)
- Model Petroleum Agreement (MPA).

Figure 2 lists the main fiscal instruments as well as incentive measures and fiscal metrics used to collect and assess fiscal terms. The main fiscal instruments include auctions, bonuses, surface rentals, royalties; corporate income taxes; windfall taxes (rent tax/additional profits tax); state participation through the national oil company (NOC) or other special purpose vehicles (SPVs); and production sharing, among other indirect taxes.

⁴ See Sections 63–76 titled “Division I: Petroleum operations”.

⁵ See Sections 85–89 titled “Fiscal Provisions”.

⁶ See Sections 71–78 titled “Fiscal Provisions”.

Incentive measures on the other hand include discretionary tax holidays such as relief from paying customs duties, stabilisation and transfer pricing provisions, among others. Finally, the interaction of the fiscal instruments and incentive measures is assessed using fiscal metrics such as flexibility and progressiveness, stability, clarity and simplicity and neutrality.

3 STRUCTURE AND EVOLUTION OF GHANA'S FISCAL REGIME

Tables 2, 3 and 4 show the fiscal instruments available for collecting petroleum revenues in Ghana's upstream oil and gas industry. Following Agalliu et al. (2011), we classify the revenue risk of the fiscal instruments in the following order: (1) low risk to government—bonus payments, royalties; (2) medium risk to government—corporate income taxes, profit sharing; (3) high risk to government—equity participation. This risk classification is tested later in our economic modelling in Sect. 4. Also, while the State has to balance the effect of freezing stabilisation clauses contained in earlier agreements with the demands of the IOCs, it has been making strenuous efforts to assert more control of the industry for the benefit of its citizens thereof. This is manifested in myriad ways such as the transition from a combination of freezing and economic equilibrium clauses, to exclusively, the use of economic equilibrium stabilisation clauses (Stephens & Dowuona-Hammond, 2019). The duration of petroleum agreements has also been reduced from thirty (30) to twenty-five (25) years, which provides more control to the State, and there have been much more aggressive local content provisions in Ghana's legislation, to provide more benefit and control to citizens and the State.

4 ECONOMIC ANALYSIS OF GHANA'S UPSTREAM FISCAL TERMS

4.1 *Modelling Framework and Assumptions*

The fiscal model used in this analysis is an adapted version of the IMF's fiscal analysis of resource industries (FARI) model (Luca and Puyo, 2016). The FARI approach allows us to conduct project-level modelling to estimate the government's share of the economic rents of a resource project. The economic rent is the discounted total pre-tax net cash flows (Luca

Table 2 Sources of revenue in Ghana's petroleum contracts

<i>Fiscal instrument</i>	<i>Commentary</i>
Signature bonus	This instrument did not exist before 2016 and as such cannot be found in any of the contracts before then. Signature bonuses were only introduced with the passage of the Petroleum (Exploration and Production) Act 2016 (Act 919) and Petroleum (Exploration and Production) (General) Regulations, 2018 (L.I. 2359). They were implemented for the first time in 2018 with the launch of Ghana's first competitive licensing round. However, the Ghana government opted for the amount of the signature bonus to be fixed in the 2018 licensing round but could have also allowed it to be competitively bid by prospective contractors as per Section 74(2) of L.I. 2359
Production bonus	This instrument did not also exist before 2016 and as such cannot be found in any of the contracts before then. Production bonuses were also introduced with the passage of Act 919 and L.I. 2359. It is payable on the first anniversary of commencement of petroleum production. Again, the Minister of Energy can specify the amount or allow for competitive bidding of the production bonus. During Ghana's maiden licensing round, no provision was made for production bonuses nor an explanation given for its omission in the fiscal criteria although the Minister of Energy can make this a requirement as per Section 74(1b) of L.I. 2359
Royalty	These are imposed on the value of output, in respect of gross volume of petroleum produced and saved (<i>ad valorem</i> royalty). In the Ghanaian context, royalties have ranged between 5% and 12.5% of total gross production for oil and 5–10% for gas, depending on the specific petroleum agreement (see Tables 3 and 4). These royalties are delivered to the Republic in kind but can also be in cash. GNPC, the national oil company, in carrying out petroleum activities is also subject to the payment of royalty as may be prescribed. In Ghana's contracts signed from 2004 to 2018, royalties were negotiated between the State and Contractor. However, as part of the move to use market-based instruments, royalties are now biddable fiscal items and are specified in petroleum tender documents or indicated in relevant direct negotiation documentation ⁷
Carried (initial) interest	This is the State's interest held by GNPC, the national oil company, pursuant to all petroleum agreements in respect of which the contractor or international oil company (IOC) pays for the conduct of petroleum operations without any entitlement to reimbursement from the State. In essence, Ghana does not incur costs during exploration and development, as the GNPC does not pay anything when it comes to costs incurred during exploration and development, but pays its equity share on commencement of production. The State, through GNPC thus, pays for its share of the costs when oil production starts. Petroleum agreements that existed prior to the enactment of the Petroleum Act of 2016 had a minimum of 10% carried interest to the State. This has been increased to a minimum of 15% carried interest under the 2016 Petroleum Act (see Tables 3 and 4)

⁷ See Section 71(1) of Petroleum (Exploration and Production) (General) Regulations, 2018 (L.I. 2359).

<i>Fiscal instrument</i>	<i>Commentary</i>
Additional interest	The State, through GNPC, has the option in respect of each development and production area (DPA), to acquire an additional interest of up to a defined percentage for which GNPC contributes a corresponding proportionate share to all the development and production costs incurred from the date of commercial discovery, in respect of such DPA. Based on current petroleum agreements, additional interest has an upper ceiling of 25% although most of the pre-Jubilee contracts have had 2–5% additional interest.
Petroleum (corporate) income tax	This is a tax on the profits of oil and gas companies. The Petroleum Income Tax Act stipulates a tax rate of 50% but also provides that a petroleum agreement can provide for some other rate. Because of the provision that allows the State to vary the stipulated 50% rate, all existing petroleum agreements have an effective corporate income tax (CIT) rate of 35%. This is a single-rate structure, levied at corporate basis (not field level) and also on profit and not gross revenue. This rate has been incorporated in the Income Tax Act, 2015 (Act 896) since 2016. In addition to cost deductions, interest expenses and losses carried forward for five years are allowed in computation of tax base (see Tables 3 and 4). Decommissioning costs, which is a shared obligation among partners, are also deductible for both estimating income tax and additional oil entitlement (AOE).
Additional oil entitlement (AOE)	To capture the economic rent, governments impose a special petroleum tax—a windfall or resource rent tax (RRT), which is not paid before a project reaches payback and achieves a certain rate of return. The windfall tax is levied on a project or a field's cash flows, whereas the CIT is on a company's profit. Also, for the windfall tax, interest expenses are usually not permitted as a deduction, while capital costs are expensed or secure immediate relief. The AOE is Ghana's version of windfall tax scheme in the upstream oil and gas sector and is applied from each development and production area. It is charged on contractor's share of petroleum produced from each field on the basis of the after-tax inflation-adjusted rate of return (RoR) that the contractor achieved with respect to each field. ⁸ The Contractor's RoR is calculated based on its net cash flow (NCF) and is determined separately for each development and production area at the end of each period (usually monthly, quarterly or annually). Ghana's petroleum agreements provide three to five RoR thresholds with corresponding additional profits tax rates varying between 5% to 30% (see Tables 3 and 4).

(continued)

⁸ See Nakhle, C., and Acheampong, T., 2017. "Comparative assessment of oil and gas windfall taxation in Ghana". Ghana Oil and Gas for Inclusive Growth (GOGIG).

Table 2 (continued)

<i>Fiscal instrument</i>	<i>Commentary</i>
Surface rentals	Surface rentals are annual rents paid by the IOCs and GNPC to the State for leasing the surface of the sea or land to explore for oil and gas resources. Surface rentals are paid in dollars per square kilometre of acreage operated by the licensees of the area (see Tables 3 and 4)
Training allowance	Provisions are made for training as part of the local content criteria although this is a one-time payment of a minimum amount. Additional provisions are made for the transfer of knowledge and skills as part of the local content criteria, although this is set as a one-time payment of a minimum amount by the Contractor to the Government
<i>Incentive measures</i>	
Thin capitalisation & ring-fencing provisions	Permitted debt-to-equity ratio for tax purposes is 3:1 (or 75% debt to equity) under the Income Tax Act, 2015 (Act 896). Also, petroleum costs for exploration, development and production operations are ring-fenced, that is separately identified for each development and production area. Additionally, profits from one project cannot be used to offset the losses of another project unless both projects are of the same type or in one contract/licence area
Loss carry forward	Losses could be carried forward for an unlimited period under P. N. D. C. L. 188, however, under Act 896, losses can be carried forward for five years. ⁹ There is thus a sunset clause to the period of enjoying loss carry forward. Ghana does not have an extra relief for capital expenditure—normally called uplift—which is an incentive to encourage investment for marginal projects
Capital allowances (tax depreciation)	This is deductible, non-cash expense for income tax purposes. Ghana applies a 20% five-year straight-line deduction for exploration, appraisal and development costs and other capital expenditures starting from first production. Thus, 20% of the value of these costs are allowed as a deduction from profit before tax is paid on the chargeable income arrived at after the deduction

⁹ See Section 17 of Income Tax Act, 2015 (Act 896); and regulation 19 of Income Tax Regulations, 2016 (L.I. 2244).

Capital gains tax

Upstream assets are continually bought and sold among industry players, but some governments impose a tax on such assignments in the sector. This is applied when an IOC sells its petroleum assets and realises a profit. The tax is charged on that profit. There have been recent debates on capital gains taxation on asset sales in Ghana (and in other African countries) with the Government and civil society groups asking some IOCs to pay capital gains taxes as a pre-condition for the sale of their assets and exit from the country.¹⁰ On the other hand, the IOCs argue that the fiscal stabilisation provisions in their petroleum contracts prevent them from paying capital gains taxes.¹¹ Well-known cases in Ghana include the proposed sale¹² of Kosmos Energy's stake in the Jubilee field to ExxonMobil in 2009–2010; EO Group's sale¹³ of its shares in the Jubilee Field to Tullow Oil Ghana in 2011; Aker Energy's farm-in agreement¹⁴ into Hess' stake in ultra-deepwater Tano

(continued)

¹⁰ See Myers, K., 2010. Selling oil assets in Uganda and Ghana—A taxing problem. *Revenue Watch Institute Release, New York*, 16.

¹¹ See Mansour, M. and Nakhle, C. (2016). Fiscal stabilization in oil and gas contracts—evidence and implications. Oxford Institute for Energy Studies. OIES PAPER: SP 37.

¹² Africa Confidential., 2010. The politics of no. Available at: https://www.africa-confidential.com/article-preview/id/3638/The_politics_of_no (Accessed: 6 May 2021).

¹³ ModernGhana.Com., 2011. As Tullow Acquires EO Group Shares GRA Moves To Tax Deal...And Edusi, Owusu Smile all the Way to the Bank Available at: <https://www.modernghana.com/news/342245/as-tullow-acquires-eo-group-shares-gra-moves-to.html> (Accessed: 6 May 2021).

¹⁴ Skonmord, O., 2021. Aker Energy buys Hess Ghana business, expects first oil in 2021, U.S.. Available at: <https://www.reuters.com/article/us-hess-divestiture-aker-idUSKCNIG300A> (Accessed: 6 May 2021).

Table 2 (continued)

<i>Incentive measures</i>	<i>Commentary</i>
Withholding taxes	<p>Cape Three Points block in 2018; and most recently Anadarko's stalled (acquired by Occidental Petroleum) asset sale¹⁵ to Total Africa. In the case of the Occidental Petroleum sale, the Ghanaian authorities raised two sets of fiscal claims regarding the change of ownership of these blocks in the context of the disposal of Anadarko's African assets: one relates to Anadarko's past operations in Ghana and the other relates to USD500 million capital gain claims on the transfer of assets to Oxy and Total. Gains from the assignment or other disposal of an interest in the petroleum right with respect to which the operation is conducted is now taxable.¹⁶ This can, however, not be applied retrospectively.</p> <p>Withholding tax is an amount of tax that an authorised agent of the Commissioner-General of the Ghana Revenue Authority (GRA) is mandated to withhold at source from payment for goods, works or services to resident or non-resident persons as required by law. In the case of oil and gas, the withholding tax is on works or service. The withholding tax rate on dividends and interest is set at 8%. However, some Contractors are still subject to the provisions of withholding taxes under the Internal Revenue Act 592 (Act 2000) and Petroleum Income Tax Law 188 of 1987 even though they have been repealed. This is because the Contractors' underlying petroleum agreements were signed under those Acts and the said agreements contain freezing stabilisation clauses.¹⁷</p>

¹⁵ Dontoh, E., 2020. Total-Occidental's Ghana deal delayed by \$500m tax claim. Available at: <https://www.worldoil.com/news/2020/3/2/total-occidental-s-ghana-deal-delayed-by-500m-tax-claim> (Accessed: 6 May 2021).

¹⁶ See Section 66(1)(d) of Income Tax Act, 2015 (Act 896).

¹⁷ Stephens, T. K., & Dowuona-Hammond, C., 2019. From total immunization to an economic balancing act: The trajectory of stabilization clauses in Ghana's petroleum agreements. *Oil, Gas & Energy Law Journal (OGEL)*, 17(2).

Table 3 Evolution of fiscal terms (2004–2006)

BLOCK	West Cape Three Points	Deepwater Tano	Jubilee Unithised (DWT_WCTP)	Deepwater Tano	Deepwater Tano	Deepwater Tano	Offshore Cape Three Points
DENOMINATION	WCTP	DWT	JUBILEE UNITHISED	TEN	HESS	OCTP	
OPERATOR	Tullow Oil	Tullow Oil	Tullow Oil	Tullow Oil	Hess	Eni	
EQUITY PARTNERS	Tullow (operator) 25.66%; Kosmos 30.02%; Anadarko 30.02%; GNPC 12.50%; Petro SA 1.80%	Tullow 47.18%; Anadarko – 17.00%; Kosmos – 17.00%; GNPC -15%; PetroSA -3.83%	Tullow (operator) 35.48%; Kosmos 24.08%; Anadarko 24.08%; GNPC 13.64%; Petro SA 2.73%	Tullow (operator) 47.18%; Kosmos 17.0%; Anadarko 17.0%; GNPC 15.0%; Petro SA 3.82%	Hess (40%), Lukoil (38%), GNPC (20%), Fueltrade (2%)	Eni (operator) 44.4%; Vitol upstream Ghana 35.6% and GNPC 2.0%	
EQUITY	54.37%	45.63%	100.00%				
FISCAL PACKAGE & ANALYSIS							
Royalty Oil	5.00%	5.00%	5.00%	5.00%	4.00%	7.50%	
Royalty Gas (Domestic)	5.00%	4.08%	4.08%	3.00%	3.00%	5.00%	
Royalty Gas (Export)	-	-	-	-	-	-	
Initial GNPC Participation	10.00%	10.00%	10.00%	10.00%	10.00%	15.00%	
Additional Participation	2.50%	5.00%	3.64%	5.00%	3.00%	5.00%	
Commercial Interest [Explore]	-	-	-	-	-	-	
Petroleum Income Tax	35.00%	35.00%	35.00%	35.00%	35.00%	35.00%	
ADDITIONAL OIL ENTITLEMENT							
Rate of Return Thresholds							
<12.5%							
12.5%					5.0%	10.0%	
17.5%					10.0%	12.5%	
18.0%							
19.0%		5.0%	5.0%	5.0%			

(continued)

Table 3 (continued)

20.0%		10.0%	10.0%	10.0%	10.0%	10.0%	15.0%	16.0%
22.5%								
25.0%	7.5%	15.0%	15.0%	15.0%	15.0%	15.0%	20.0%	20.0%
30.0%	15.0%	20.0%	20.0%	20.0%	20.0%	20.0%		
40.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%		
TRAINING ALLOWANCE (\$mm p.a.)								
Exploration	0.25	0.25	0.25	0.25	0.25			0.20
Development/Production	0.25	0.25	0.25	0.25	0.25			0.20
TECHNOLOGY ALLOWANCE (\$mm)								
At effective date								
At commercial discovery		0.40		0.40				0.20
SURFACE RENTALS (\$ per sq. km.)								
Initial Exploration Period	\$20	\$30	\$30	\$30	\$30	\$30	\$30	\$30
First Extension Period	\$25	\$50	\$50	\$50	\$50	\$40	\$50	\$50
Second Extension Period	\$30	\$75	\$75	\$75	\$75	\$75	\$75	\$75
Development and Production Period	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100
OTHERS								
Withholding Tax Rates on Dividends and Interest	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%
Loss Carry Forward	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Import Duty	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Export Tax	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Date signed/ratified	22-Jul-2004	10-Mar-2006	13-Jul-2009	10-Mar-2006	19-Jul-2006	10-Mar-2006	19-Jul-2006	02-Mar-2006

Table 4 Evolution of fiscal terms (2007–2014)

BLOCK	East Cape Three Points	Expanded Shallow Water Tano	Central Tano	South Deepwater Tano	Shallow Water Cape Three Points	South West Salpond	East Keta	South-West Tano	Offshore Cape Three Points South	South-West Cape Three Points
DENOMINATION	COLA & MEDEA	ERIN	AMINI	AGM	SAHARA	BRITANNIA-U	BLUE/HERITAGE-KETA	BLUE/HERITAGE-TANO	UB GROUP	A-Z PETROLEUM
OPERATOR		ERIN (Formerly CAMAC)								
EQUITY PARTNERS	Cola Natural Resources; Medea Development and GNPC	60% Base Energy 15% GNPC Explorecor 25% and GNPC	Anni International, GNPC	AGM Petroleum Ghana; GNPC Explorecor; GNPC	Sahara Energy; Sapholda; GNPC	BRITANNIA-U Ghana, Hills Oil and GNPC	Heritage, Blue Star, GNPC Explorecor, GNPC	Heritage, Blue Star, GNPC Explorecor, GNPC	UB Resources, Houston Drilling Management, Royalgate Ghana, GNPC	A-Z Petroleum Ghana, ECO Atlantia, GNPC Explorecor, GNPC
FISCAL PACKAGE & ANALYSIS										
Royalty Oil	10.00%	12.50%	12.50%	10.00%	12.50%	10.00%	10.00%	12.50%	12.50%	12.50%
Royalty Gas (Domestic)	5.00%	7.50%	5.00%	5.00%	5.00%	5.00%	10.00%	10.00%	5.00%	5.00%
Royalty Gas (Export)	10.00%	7.50%	10.00%	5.00%	7.50%	7.50%	10.00%	10.00%	10.00%	10.00%
Initial GNPC Participation	10.00%	10.00%	10.00%	10.00%	10.00%	20.00%	11.00%	12.00%	13.00%	13.00%
Additional Participation	17.50%	10.00%	20.00%	15.00%	15.00%	5.00%	9.00%	13.00%	25.00%	20.00%
Commercial Interest [Explorecor]	-	25.00%	-	24.00%	-	-	11.60%	8.80%	-	5.35%
Petroleum Income Tax	35.00%	35.00%	35.00%	35.00%	35.00%	35.00%	35.00%	35.00%	35.00%	35.00%
ADDITIONAL OIL ENTITLEMENT										
Rate of Return Thresholds										
<12.5%										
12.5%	12.5%	12.5%	12.5%	12.5%	8%	12.5%	5.0%	10.00%	10.0%	12.5%
15.0%										
17.5%	15.0%	15.0%	15.0%	15.0%	12%	15.0%	15.0%	12.50%	12.5%	15.0%
20.0%							15.0%			

(continued)

Table 4 (continued)

22.5%	17.5%	17.5%	17.5%	17.5%	15%	17.0%	20.00%	20.0%	17.5%
25.0%								20.0%	
27.5%	22.5%	22.5%	22.5%	22%	22%	22.5%	25.00%	25.0%	22.5%
30.0%									
32.5%	27.5%	30.0%	27.5%	30%	30%	27.5%	30.00%		27.5%
35.0%								30.0%	
TRAINING ALLOWANCE (\$mm p.a.)									
Exploration	0.50	1.00	1.00	1.00	0.50	0.50	0.25	0.25	1.50
Development/Production	0.50	1.00	1.00	1.00	0.50	0.50	0.25	0.25	1.25
TECHNOLOGY ALLOWANCE (\$mm)									
At effective date	1.00	2.00	1.50		1.00	0.50	1.50		2.00
At commercial discovery	2.00				2.00	1.50			
SURFACE RENTALS (\$ per sq. km.)									
Initial Exploration Period	\$50	\$50	\$50	\$50	\$50	\$50	\$50	\$50	\$50
First Extension Period	\$100	\$100	\$100	\$75	\$75	\$100	\$100	\$100	\$100
Second Extension Period	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100
Development and Production Period	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200
OTHERS									
Withholding Tax Rates on Dividends, Interest	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%
Loss Carry Forward	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Import Duty	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Export Tax	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Date signed/ratified	04-Dec-2013	23-Jan-2015	21-Mar-2014	24-Jan-2014	18-Jul-2014	18-Jul-2014	18-Jul-2014	18-Jul-2014	18-Jul-2014

Source: Author's construct based on relevant petroleum agreements published in the Ghana Petroleum Register. Available at: <https://www.ghanapetrroleumregister.com> (Accessed: 23 July 2021)

and Puyo, 2016). This approach also allows us to analyse the effect of the interactions of different fiscal regime parameters.

We utilised data for field sizes and cost for deepwater offshore West Africa, as well as average fiscal terms given under the respective petroleum contracts in Ghana. These together with some general assumptions about oil prices, cost of capital, discount rate and inflation are modelled. For effective and accurate comparison of fiscal regimes for deepwater fields, there is a need for fields and costs to reflect the peculiarities of the said petroleum province. Thus, a suite of model fields and costs as it pertains to deepwater offshore West Africa are assumed so that only the marginal effects of the respective fiscal terms in the contracts are captured (Agalliu, 2011; Daniel et al., 2010; Johnston 2007; Blake and Roberts, 2006). Furthermore, as widely practiced within the literature, our model is constructed using three representative offshore fields: large (750 million barrels of oil equivalent: mmboe), medium (250 mmboe) and small (50 mmboe).¹⁸ Table 5 summarises these models and other assumptions used while Fig. 3 shows the production profiles of the three fields.

Other assumptions included in the model are as follows:

1. A base case oil price of \$60/bbl in constant (real terms): Various price range sensitivities are undertaken from \$30-\$100/bbl to test Ghana's fiscal regime performance under different oil price scenarios.
2. Base oil price inflation of 1.5% per annum from first year onwards.
3. Base cost inflation of 2% per annum from first year onwards.
4. Discount rate of 10%.
5. Projects are financed with 75% debt-to-equity ratio (gearing) for both exploration and appraisal costs, and capital costs. The cost of debt is assumed to be 7% and the loan period is 7 years.
6. The economic limit is modelled when revenues become less than operating cost plus royalty. With higher royalty rate, economic recovery becomes less.

¹⁸ See Nakhle (2008).

Table 5 Project assumptions

<i>Field number</i>	<i>Unit</i>	<i>Small field (50mmboe)</i>	<i>Medium field (250mmboe)</i>	<i>Large field (750mmboe)</i>
Recoverable reserves	mmbbls	50	250	750
Exploration and appraisal costs	\$/bbl (real)	2.00	2.00	2.00
Development costs (capex)	\$/bbl (real)	8.98	7.00	6.00
Operating costs	\$/bbl (real)	7.66	8.17	8.02
Decommissioning costs	\$/bbl (real)	1.40	1.20	1.00
Total field costs	\$/bbl (real)	20.0	18.4	17.0
Exploration period	years	2	2	2
Development period	years	2	3	4
Abandonment period	years	1	2	3
Depreciation SL	years	5	5	5
Base year	year	2021	2021	2021

Source Authors' estimates based on various industry reports

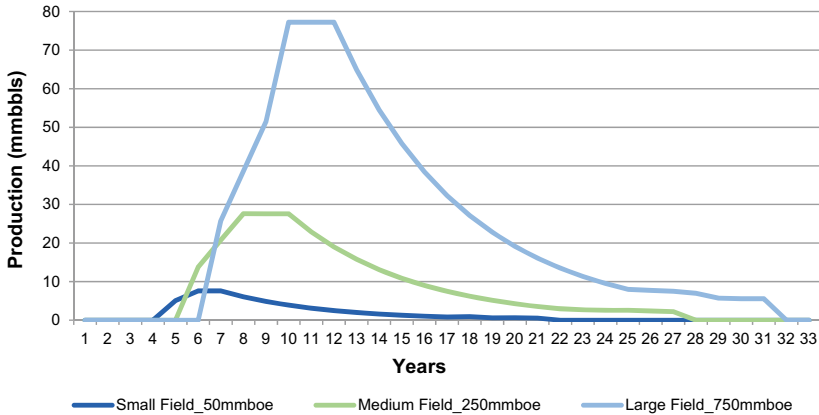


Fig. 3 Production profile for the three oilfields (small, medium and large)

4.2 *Summary of Modelled Fiscal Terms*

Fiscal terms were compiled using the petroleum agreements signed by the international oil companies with the government as well as the petroleum law and regulations. All the fiscal elements pertaining to Ghana's offshore petroleum contracts are captured together with their interaction with other parts of the model. The sources of revenue in Ghana's contracts come from the following: royalty; carried interest—Ghana does not incur costs during exploration and development but pays on production; paying/additional interest; petroleum income tax; additional oil entitlement; surface rentals; training allowance; capital gains tax and dividends; and withholding taxes. Bonuses are not included in modelling as they are not counted as petroleum cost.

For the purposes of this work, we selected fiscal terms contained in four (4) agreements that encompass the range of agreements signed by the Ghanaian government over the almost past two decades (Table 6). These are:

- Contract 1 [Tullow: Jubilee WCTP&DWT Unitised]
- Contract 2 [Eni: Offshore Cape Three Points]
- Contract 3 [AGM: South Deepwater Tano]
- Contract 4 [Exxon: Deepwater Cape Three Points].

4.3 *Fiscal Evaluation and Rating Criteria*

The evaluation criteria used are summarised in Table 7. From a government's perspective, the key indicators of importance are the average effective tax rate (AETR), which is a measure of government take; the marginal effective tax rate (METR) or the tax wedge; and progressivity of the fiscal regime (Luca and Puyo, 2016). These indicators are particularly useful when comparing existing in-country regimes with alternative regimes.

Table 6 Summary of modelled fiscal terms

<i>Equity partners</i>	<i>Contract 1 [Tullow: Jubilee WCTP&DWT Unitised]</i>	<i>Contract 2 [Eni: Offshore Cape Three Points]</i>	<i>Contract 3 [AGM: South Deepwater Tano]</i>	<i>Contract 4 [Exxon: Deepwater Cape three points]</i>
Contractor 1	35.47%	44.40%	66.00%	80.00%
Contractor 2	24.08%	35.60%	0.00%	5.00%
Contractor 3	24.08%	0.00%	0.00%	0.00%
Contractor 4	2.73%	0.00%	0.00%	0.00%
IOC Consortium	86.36%	80.00%	66.00%	85.00%
NOC initial interest (free carried interest)	10.00%	15.00%	10.00%	15.00%
NOC additional interest (paying)	3.64%	5.00%	0.00%	0.00%
NOC commercial interest	0.00%	0.00%	24.00%	0.00%
Total	100.00%	100.00%	100.00%	100.00%
Oil royalty	5.00%	7.50%	10.00%	10.00%
Petroleum income tax	35.00%	35.00%	35.00%	35.00%
Depreciation rate SL	20%	20%	20%	20%
Additional oil entitlement (AOE)				
Rate of return (RoR)				
First account	19.00%	12.50%	12.50%	15.00%
Second account	20.00%	17.50%	17.50%	20.00%
Third account	25.00%	22.50%	22.50%	25.00%
Fourth account	30.00%	27.50%	27.50%	30.00%
Fifth account	40.00%		32.50%	
AOE tax charges				
First account	5.00%	10.00%	12.50%	10.00%
Second account	10.00%	12.50%	15.00%	15.00%
Third account	15.00%	16.00%	17.50%	20.00%
Fourth account	20.00%	20.00%	22.50%	25.00%
Fifth account	25.00%		27.50%	
Date signed/ratified	13 July 2009	02 March 2006	24 January 2014	28 November 2018

Source Author's depiction based on petroleum contracts

Table 7 Summary of fiscal evaluation criteria

<i>Agent</i>	<i>Criteria</i>	<i>Metric used and rationale</i>
Investor	Neutrality	METR (pre-tax IRR minus post-tax IRR divided by pre-tax IRR) $\text{METR} = \frac{\text{Pre-tax IRR} - \text{Post-tax IRR}}{\text{Pre-tax IRR}}$
	Progressivity	AETR mapped to different oil prices and pre-tax IRRs
Government	Investor risk (identification of risks)	<ul style="list-style-type: none"> • 12 Payback period • PI ratio • Coefficient of variation of NPV and IRR
	Tax revenue	AETR (Government revenues as a share of pre-tax net cash flow at various discount rates) ¹⁹ $\text{AETR} = \frac{\text{NPV (Discounted Govt. Revenue)}}{\text{NPV(Discounted Pre-tax net cash flows)}}$
	Government risk (identification of risks)	<ul style="list-style-type: none"> • Mean NPV of government revenues • Coefficient of variation of government revenue • Government share of benefits during first 10-years of the respective projects (time profile of government revenue)

Source Adapted from Banda (2019) and Laporte and De Quartrebarbes (2015)

¹⁹ Two main variations of the AETR are usually estimated in the literature and in practice. These are the **government take** and **state take**. Government take is the sum of the state's royalty entitlements, special petroleum taxes, profit oil, and corporation taxes as well as bonuses, rentals and other fiscal and quasi-fiscal levies. On the other hand, the state take includes the government take as well as revenues from direct participation by the NOC (GNPC in Ghana's case). In other words, the state take is the percentage of a project's gross operating profit, which accrues to a sovereign government by way of royalties and taxes paid by investors, plus the operating profit (cash flow effect) attributable to the state's direct participation such as carried and participating interest in a project. For our results we report the government take (without state participation) on a discounted and undiscounted basis. See World Bank (2019), van Meurs (2016), Tordo (2007), and Johnston (2007).

5 RESULTS AND DISCUSSION: ASSESSING THE EFFICIENCY OF GHANA'S PETROLEUM FISCAL REGIME

This section presents the modelling work carried out to quantitatively assess Ghana's upstream fiscal regime. We also compare Ghana's fiscal terms with those of other oil and gas producers in the African region and beyond. The quantitative assessment is based on the indicators and metrics discussed in the preceding section.

5.1 *Base Metrics*

The metrics resulting from the base case economic analysis are shown in Table 8. The average post-tax government take (AETR) and marginal effective tax rate (METR) are estimated at 51.38 and 31.07% respectively for all three field sizes and four contract terms. The AETR, in our analysis, is the discounted government revenue flows from three fiscal instruments, namely: royalties, IOC income taxes, and windfall taxes (AOE). This is then divided by discounted project pre-tax net cash flows or the gross operating margin (economic rent). Specifically, for the field sizes, average government takes are estimated at 51.38, 50.98 and 50.42% for the small field (50 mmboc), medium field (250 mmboc) and large field (750 mmboc), respectively. The corresponding average METRs are 31.07, 30.3 and 27.71% respectively. What this indicates is that the government takes marginal increases with decreasing field sizes or prospectivity, indicating relative inflexibility of the fiscal regime. This effect is, however, fully tested out with additional sensitivity analysis as discussed in the next section.

In essence, the 51% AETR indicates that the fiscal regime is largely competitive or pro-investment in managing the trade-offs between investment promotion and securing revenues to the State, especially when compared with other countries in the sub-region and beyond—see Sect. 5.3 for the country comparative analysis. Our government's take is also largely consistent with that reported in the wider extant literature for Ghana. For example, the World Bank (2019) reports a 54% government take for Ghana at \$75/bbl. Likewise, Kankam and Ackah (2014) report a 37% state share, which is rather on the low side. Ashikwei (2019) also reports a government take of 41.74%.

However, as the World Bank (2019, p. 50) notes, “*there is no right level of government or state take and whether it is optimum can usually only be determined in retrospect, nor is the optimum level a constant*”. As a general rule of thumb, having a high level of government take, especially for nascent oil-producing countries without large reserves, can stifle industry activity by disincentivising or curtailing active field development (World Bank, 2019; Balza and Espinasa, 2015).

Regarding the four contracts analysed, Contract 1, which represents the unitised Jubilee field (WCTP&DWT) terms, ranks the lowest in terms of government take at 44.75%. This is irrespective of the field size. This is followed by Contract 2 (Offshore Cape Three Points) at a 49.79% average government take and then Contract 3 (South Deepwater Tano) at 52.96%, and finally Contract 4 (Deepwater Cape Three Points) at 58.0%. This is explained by the fact that Ghana has increased its fiscal terms over the past years since the play-opening Jubilee field discovery. For example, while Jubilee field was a play-opening discovery in the wider West Africa Transform margin, successive post-Jubilee contracts signed between the Ghanaian government and international investors factored in the de-risking to demand increased fiscal take such as via higher royalties and also carried and participating interests. Fiscal terms were tightened following the Jubilee discovery in the new contracts signed after 2010 and with the passage of the new exploration and production Act (Act 919), resulting in increased government take. For example, whereas pre-Jubilee contracts had 4–7.5% oil royalty rates, post-Jubilee contracts have 10–12.5% oil royalty rates (Nakhle and Acheampong, 2020).²⁰ Also, the Ghanaian Government through the Ministry of Energy, set a minimum 12.5% royalty rate, minimum 5% additional participation paying interest and minimum US\$250,000 signature bonus for all six blocks on offer spanning various water depths in its maiden licensing round conducted from 2018 from 2019.²¹

²⁰ See also Tables 3 and 4.

²¹ See pg. 14 of Appendix A “Invitation to Tender document for First Oil & Gas Licensing Round”, published by the Ministry of Energy (21st January 2019).

Table 8 Fiscal metrics at \$60/bbl

<i>Large field (750 million barrel)</i>	<i>Average effective tax rate (AETR)</i>	<i>Marginal effective tax rate (metr)</i>	<i>NPV per boe (\$/boe)</i>
Contract 1	43.65%	25.12%	5.12
Contract 2	48.99%	31.06%	3.75
Contract 3	51.65%	27.32%	3.06
Contract 4	57.38%	27.34%	4.11
Average	50.42%	27.71%	4.01
<i>Medium field (250 million barrel)</i>	<i>Average effective tax rate (AETR)</i>	<i>Marginal effective tax rate (METR)</i>	<i>NPV per boe (\$/boe)</i>
Contract 1	44.07%	27.13%	5.88
Contract 2	49.68%	33.68%	4.24
Contract 3	52.72%	29.90%	3.44
Contract 4	57.46%	29.42%	4.75
Average	50.98%	30.03%	4.58
<i>Small field (50 million barrel)</i>	<i>Average effective tax rate (AETR)</i>	<i>Marginal effective tax rate (METR)</i>	<i>NPV per boe (\$/boe)</i>
Contract 1	46.53%	32.22%	6.79
Contract 2	50.71%	39.22%	5.01
Contract 3	54.51%	35.70%	3.92
Contract 4	59.23%	34.73%	5.54
Average	52.75%	35.47%	5.32

Source Authors' estimates

5.2 *Beyond The Government Take: Progressivity of Ghana's Fiscal Regime*

The basic question for this analysis remains: Is Ghana's oil tax system progressive? This is more the case because the attractiveness of a fiscal regime to investors and the sustainable or fair level of government take at any point in time is a function of several variables. This includes commercial risks proxied by oil prices; the geology and the size and productivity of a field; country-level operational costs or even within basins in the same country; and other country alternatives of oil and gas companies (the neighbourhood effect) (World Bank, 2019; Nakhle, 2008, 2010).

Therefore, the optimum level of government take will fluctuate over time. More so, the base AETR, which is calculated using a single price path and one set of cost assumptions, does not fully capture or explain

how a fiscal regime fares in different circumstances (the progressivity of the regime) (Luca and Puyo, 2016). Thus, there is a need to estimate the government take over a range of different costs, prices and corresponding pre-tax IRRs.²²

Figures 4 and 5 show the AETR for the three fields using two pre-Jubilee and post-Jubilee contracts mapped to different oil prices. Overall, Ghana's hybrid fiscal regime is regressive at the lower end of the oil price scale if oil prices are below \$60/bbl., while being slightly progressive with increasing oil prices above \$60/bbl; thus, the Ghanaian State collects a higher share of the rents the lower these rents become through lower prices. The reverse also holds true. An explanation for this is that Ghana's fiscal regime has both regressive (royalties) and progressive structures (CIT and AOE) with them which work to counteract each other. At lower oil prices, royalties, which are a percentage share of the gross production of crude oil delivered to the State, are collected regardless of the underlying productivity of the ring fence area—field or development and production area. The responsiveness of the fiscal structures to higher oil price changes reflects more of the corporate income taxes and additional oil entitlements being collected relative to the royalties.

5.3 *Trend Analysis: Ghana's Fiscal Regime Versus Regional and Global Benchmarks*

In terms of Ghana's fiscal regime, there have been some changes such as the minimum carried interest being raised from 10 to 15% for instance, and provision made for capital gains tax, as well as bonuses. The two fiscal elements that bring Ghana the most revenue are its direct interest (stake) in the field as well as the royalty component (Fig. 6). Given the foregoing, accountability bodies such as the Public Interest and Accountability Committee (PIAC) have strenuously argued that in negotiations with the oil companies in respect of the fiscal regime, there is the need for Ghana to negotiate tenaciously in respect of these.

²² As stated earlier in Sect. 2.2, progressive fiscal regimes collect a higher share of the rents from rising oil prices or lower costs, among others.

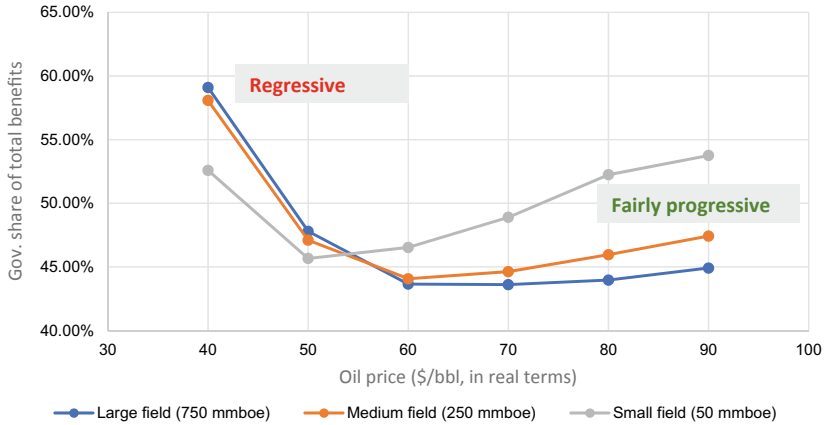


Fig. 4 State share of profits with increasing oil price, Jubilee WCTP&DWT Unitted

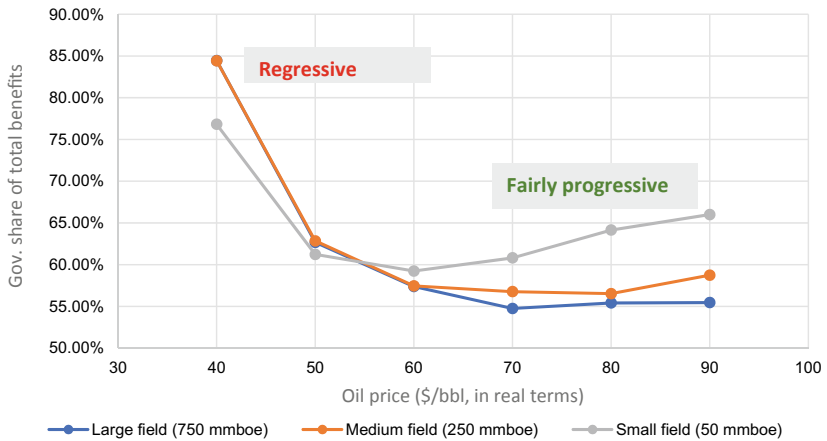


Fig. 5 State share of profits with increasing oil price, Deepwater Cape Three Points

Despite these calls, however, there is a need to compare and contrast Ghana’s fiscal terms with African and other countries; more so, given that these countries tend to compete for the same petrodollar FDIs. Figure 7 shows a comparison of the government take (the average effective tax

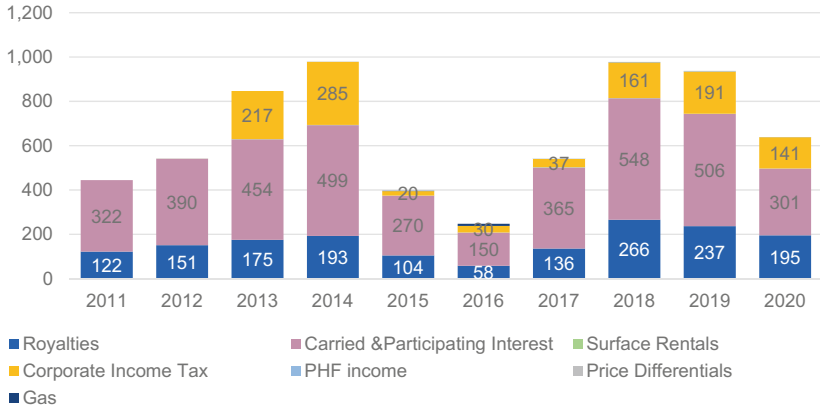


Fig. 6 Analysis of petroleum receipts, 2011–2020 (US\$ million) (*Data source* Ministry of Finance/Bank of Ghana/PIAC)

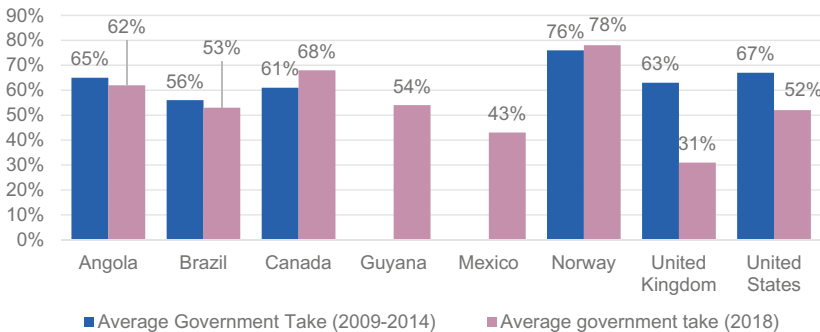


Fig. 7 Average government take for selected countries (2009–2014) and 2018 (*Note* Average government take is the NPV of the government take divided by the sum of the NPV of the free cashflow and the NPV of the government take. *Source* Martén et al. (2015) and Agalliu et al. [2018])

rates: AETR) for some selected countries while Fig. 8 shows ranks of the government take relative to remaining recoverable reserve in some countries. Generally, countries with higher reserves potential tend to have a relatively higher government take (Agalliu, 2011). Between 2009 and 2014, government take was about 52% for most countries but was more

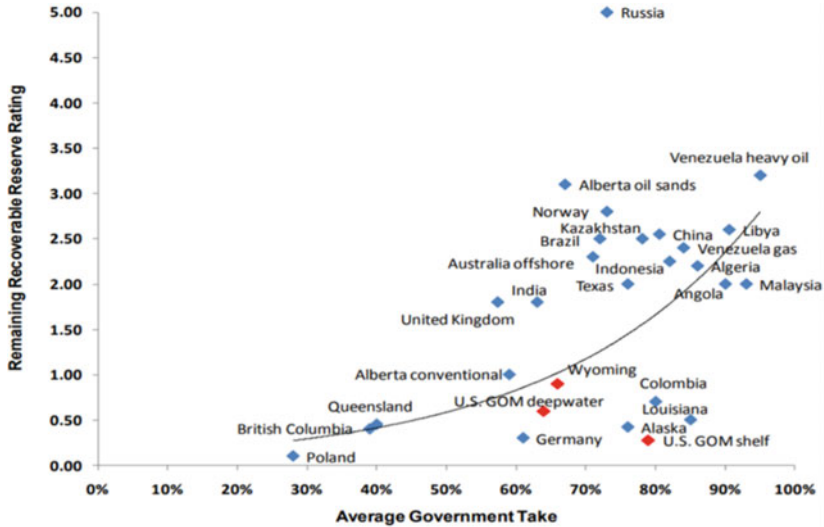


Fig. 8 Government take relative to remaining recoverable reserve ranking (Source Agalliu [2011, p.11])

than 80% in others such as Algeria and Indonesia (Martén et al., 2015). Also, the commodities super-cycle with rising prices from 2000 to 2014 resulted in government take increasing from an estimated US\$9.90 per barrel of oil equivalent (boe) to US\$30.40 (Martén et al., 2015). The IMF (2012, p. 6) also reports average AETR in the petroleum-producing countries being between 65 and 85%, and that “*fiscal regimes that raise less than these benchmark averages may be cause for concern*”.

However, as Nakhle (2010) notes, a government take of between 50 and 60% might be acceptable at US\$60/bbl and not at above US\$100/bbl. In fact, in relation to the 2014–2018 oil price slump, several petroleum-producing countries either took action to lower or increase their government take, conducted competitiveness reviews or just did nothing (stayed the course) (Nakhle and Acheampong, 2020; Davis and Smith, 2020; Agalliu et al., 2018; Crystol Energy, 2018). For example, Norway, which is touted as having one of the world’s most stable fiscal regimes, implemented changes to adapt it to local and international conditions (Nakhle and Acheampong, 2020). Norway reduced the total uplift from 22% in 2016 and also reduced CIT marginal rates by one

percentage point per year from 25% in 2016 to 22% in 2019 (Nakhle and Acheampong, 2020). Other governments that reviewed their fiscal terms included Angola with newly elected President João Lourenço enacting several reforms and halving tax rates on small and marginal fields as soon as he assumed office in 2017 (Nakhle and Acheampong, 2020).

Considering the broad totality of the data and modelling exercise, we see that the Ghanaian fiscal system results in AETR levels are less than the IMF benchmark range of between 65 and 85%. However, the inclusion of the State carried and participating interest (state take) into the mix pushes the AETR into the 65%–75% range, as confirmed in other studies such as Nakhle and Lassourd (2019). Within the wider African context, Diouf and Laporte (2017) report the following AETRs at \$50/bbl and 10% discount rate: Senegal (Concession:53%; Production sharing:59%); Congo Republic (Production sharing: 87%); Niger (Concession:80%); Algeria (Concession:124%). Overall, the general level of Ghana's government and state take is within reasonable bounds.

6 REFORMING GHANA'S WINDFALL TAXATION REGIME (AOE)²³ AND OTHER MATTERS ARISING

6.1 *Ghana's Windfall Taxation Regime*

It bears noting that the fiscal regime is constantly being assessed to see how best Ghana can obtain optimum revenues from its industry. One of the fiscal instruments that has been the object of debate and scrutiny between the IOCs and Ghanaian State agencies is the AOE, which is yet to be triggered after ten years of oil production. It is the case that this component of Ghana's fiscal regime is being scrutinised to see how best it can be modified in order to benefit the State.

To capture the economic rent, governments impose a special petroleum windfall or resource rent tax (RRT), which is not paid before a project reaches payback and achieves a certain rate of return (Moore,

²³ This section is largely extracted from a report authored by Nakhle and Acheampong (2017) for the Ghana Oil and Gas for Inclusive Growth (GOGIG programme). The overriding objective of the report was to assess the Additional Oil Entitlement (AOE), Ghana's version of a petroleum windfall tax, its structure and design, strengths and weaknesses, thereby contributing to the existing debate on the year the tax was or will be triggered for the Jubilee field and whether any revenues are indeed overdue as suspected by some local stakeholders.

2017; Johnston and Johnston, 2015; Land, 2010; Boadway and Keen, 2010; Lund, 2009; Garnaut and Ross, 1975, 1979).

Two key features distinguish the RRT from the corporate income tax (CIT):

1. The windfall tax is levied on a project or a field's cash flows whereas the CIT is on a company basis.
2. To calculate the CIT base, deductions include interests and depreciation allowance. In contrast, for the windfall tax, interest expenses are usually not permitted as a deduction, while capital costs secure immediate relief.

The RRT can take many forms:

1. A common method is based on an R-Factor, which is linked to the payback of the investment (the ratio of cumulative post-tax receipts to cumulative expenditures, hence also known as the payback ratio) (Moore, 2017; Johnston and Johnston, 2015; Land, 2010). Theoretically, an R-factor of less than 1 implies that petroleum costs have not been fully recovered yet while a larger R-factor indicates more profitable operations. The RRT is imposed only when a project reaches a specific ratio, for example, $R \geq 1.5$.
2. The other common method is the use of Rate of Return (ROR), or the internal rate of return (IRR), as a threshold: in this case, the RRT is imposed only when cumulative net cash flows (NCFs) turn positive (Moore, 2017; Johnston and Johnston, 2015; Land, 2010). Negative cumulative NCFs are carried forward in one year; they are normally uplifted by a minimum rate of return requirement and added to the next year's NCFs. The uplift is often characterised as a proxy for financing costs or the minimum required ROR for the investor. The accumulation process continues until the cumulative NCFs turn positive and at this point the RRT applies.

The Additional Oil Entitlement (AOE) is Ghana's version of an IRR-based windfall tax scheme in the upstream oil and gas sector. The State is entitled to an additional portion of the contractor's share (referred to as the AOE) of crude oil production from each development and production

area. The AOE is calculated separately for each contractor in each development and production area based on the contractor's NCFs from that area. Subject to specific provisions outlined in the contractor's petroleum agreement, the AOE is computed either monthly, quarterly or annually.

In line with the terms of the petroleum agreement and the underlying literature on windfall taxation, Nakhle and Acheampong (2017) carried out an assessment of the current AOE scheme, as it pertains in the Jubilee agreement with an aim to simplify the existing scheme. In total, four scenarios were modelled:

1. **Scenario 1 (Status Quo/4-Tier AOE)**²⁴: This has four tiers AOE and is calculated based on the post-tax NCF of the project. The trigger IRR threshold starts at 19% real terms and step-wise differential tax rates are charged based on pre-defined IRRs.
2. **Scenario 2 (Three-Tier AOE)**: This scenario is similar to the existing AOE scheme but with a lower IRR trigger threshold (starting at 12.5% instead of 19%—similar to the terms of the Offshore Cape Three Points (OCTP) contract) and using three tiers instead of four. The headline tax rates, applied in Scenario 1, were maintained for consistency, except that the maximum tier AOE rate is now 15% instead of 20%. The aim here is to show that similar outcomes can be achieved by maintaining a maximum three tiers while reducing the minimum threshold IRR to 12.5%.
3. **Scenario 3 (Single-tier and rate special petroleum tax)**: Instead of a multi-tier tax, a single tier tax rate applies at 25%, which results in a relatively higher marginal tax rate (MTR) applied on the contractor's share of crude oil.²⁵ A single 15% pre-determined IRR is used to compound the cash flows. The tax works like Norway's Special Petroleum Tax (SPT) or Australia's petroleum resource rent tax (PRRT) (Norwegianpetroleum.no, 2021; Australian Government Taxation Office, 2021; Deloitte, 2021, Callaghan, 2017). The aim here is to show that similar and sometimes better outcomes can be achieved with a simplified system.

²⁴ Note that for Scenarios 1–3, all the trigger point tax rates were set at 5, 10 and 15% in line with the Jubilee field contract to ensure consistency.

²⁵ MTR is the amount of *tax* paid on an additional dollar of income.

4. **Scenario 4 (R-Factor):** Instead of using the IRR as trigger point, this scenario considers another measure of profitability—the R-factor. An uplift factor is allowed for the costs and the tax has three tiers and all headline tax rates are maintained for consistency. A key difference to the other three scenarios, however, is that it applies on a pre-CIT basis.

The findings indicated that Ghana’s current AOE (Scenario 1) regime lags all the other scenarios in terms of the year it is activated, as well as in terms of the size of the revenues generated to the government (Table 9). It was the only scenario which did not generate any revenues even under the low oil price scenario, unlike the other three (Scenarios 2 to 4). The status quo generated the lowest revenues to the government under all the price assumptions considered because of its higher trigger point. A simple lowering of that trigger, even with a lower maximum tax rate and less tiers, resulted in higher government revenues, also starting at an earlier period. The R-factor (Scenario 4) scheme had the earliest trigger point given its distinctive feature whereby windfall tax is imposed on a pre and not post-CIT basis. However, it did generate the biggest windfall in terms of revenue capture. These results supported the following proposition: Should the government decide to maintain the post-CIT windfall scheme going forward, then it may want to consider a simple flat rate RRT at a higher marginal rate of tax. This is not only computationally tractable but aligns with the administrative capacity of the revenue institutions. Having more tiers is unlikely to translate into higher revenues.

6.2 *Need for Cost Control and Auditing*

Besides the fiscal instruments or even regime type, the ability to keep costs in check (control) is paramount. Cost control is the engine that determines how countries generate enough petroleum revenues—that is, keep the size of the pie in check. In Ghana’s case, monitoring costs are even more pertinent given the hybrid concessionary regime the country has adopted. As highlighted earlier, most of the revenues generated since first oil have come from the State’s direct interest (stake) in the fields via the CAPI and royalties (see Sect. 5.3). These two instruments are not a function of costs (royalties are calculated on gross revenues); they also have lower marginal rates. However, instruments with much higher marginal

Table 9 Scale and timing of AOE revenues

<i>Low-case oil prices</i>	<i>Amount (USD million)</i>	<i>First year triggered</i>
Scenario 1 (Status Quo/4-Tier AOE)	N/A	N/A
Scenario 2 (Three-Tier AOE)	35	2020
Scenario 3 (Special Petroleum Tax)	298	2022
Scenario 4 (R-Factor)	110	2015
<i>Mid-case oil prices</i>	<i>Amount (USD million)</i>	<i>First year triggered</i>
Scenario 1 (Status Quo/4-Tier AOE)	17	2032
Scenario 2 (Three-Tier AOE)	26	2019
Scenario 3 (Special Petroleum Tax)	330	2021
Scenario 4 (R-Factor)	110	2015
<i>High-case oil prices</i>	<i>Amount (USD million)</i>	<i>First Year Triggered</i>
Scenario 1 (Status Quo/4-Tier AOE)	19	2024
Scenario 2 (Three-Tier AOE)	11	2018
Scenario 3 (Special Petroleum Tax)	405	2020
Scenario 4 (R-Factor)	110	2015

Source Nakhle and Acheampong (2017, p. 13)

rates such as the Petroleum (Corporate) Income Tax (35%) and Additional Oil Entitlement (AOE: with corresponding additional profits tax rates varying from 5% to 30%) are dependent on costs and other incentive measures. These incentive measures include the thin capitalisation and ring-fencing provisions, loss carry forwards, and capital allowances (tax depreciation), which all reduce the potential tax earnings—that is, Corporate Income Tax is levied on profit and not on gross revenue. That

is, computing a contractor's net income from petroleum operations for income tax or AOE purposes is subject to eligibility or otherwise for various cost deductions.

Unlike a typical production sharing contract (agreement)—PSC/PSA—where there are clear ceilings on costs in any period using the **cost oil**²⁶ instrument, Ghana's hybrid concessionary regime does not have any cost ceiling. This limits the ability of the State to capture a larger share of the prospective revenues in the absence of strong and effective cost controls. Under the respective petroleum agreements and also Ghana's Model Petroleum Agreements, the Petroleum Commission (the regulator), as well as GNPC (the national oil company), and the Ghana Revenue Authority (GRA), play critical cost auditing and accounting functions. In this regard, some new legislation, such as the Petroleum (General) Regulations 2018 (L.I. 2359) as amended, have been passed to control petroleum costs claimed by the IOCs. For example, under Section 40(9) of L.I. 2359, "*the costs for additional exploration operations shall, in the absence of approval by the Commission, only be allowable petroleum costs where the additional operations result in a new or extended commercial discovery*". This provision seeks to prevent gold plating whereby contractors undertake extra exploration work on their concessions without regulatory approval but seek to claim the costs from revenues within the existing producing concession or ring-fence even in the event of a dry hole. Gold plating within a fiscal regime refers to the unintended consequence or situation whereby the regime gives contractors an incentive to make additional capital investments to claim a more significant share of project revenues and thereby lower returns for the government (Medeiros et al., 2019; Moore, 2017; Sreenivas and Sant, 2009; Ameh, 2005).

Discussions with some industry stakeholders point anecdotally to some oil companies engaging in gold-plating behaviours. In some instances, oil companies have had to make extra unanticipated investments in the fields, which have significantly reduced the tax base. For example, the Jubilee field partners in 2011 had to drill new wells at an estimated US\$1.1 billion cost in addition to US\$400 million of remedial acid stimulations (Offshore Magazine, 2012; Offshore Energy, 2012). Some of the first production wells failed following a fast-tracked development and

²⁶ See Cameron, P. D., & Stanley, M. C. (2017). *Oil, gas, and mining: A sourcebook for understanding the extractive industries*. World Bank Publications.

production programme. The monies spent on these new wells and other remedial works are cost recoverable (petroleum cost) under the respective petroleum agreements signed with the State. This is part of the reasons why Ghana's oilfields have generated an estimated US\$32 billion in value between 2011 and 2020 but only US\$6.5 billion of receipts have accrued to the State.

In effect, the ability of countries to collect enough revenues using such hybrid schemes without any cost recovery limits is highly dependent on strong cost controls and audits. Ghana has over the years improved on its ability to monitor petroleum costs. For example, technical assistance provided by some donors such as the FCDO-funded Ghana Oil and Gas for Inclusive Growth (GOGIG) programme to the Petroleum Commission to purchase industry software for reservoir simulation and cost benchmarking has improved process workflows, thereby lowering costs, boosting production, and increasing productivity. The regulator can now comprehensively review Plans of Development (PoDs) and make cost savings recommendations (GOGIG, 2019). A case in point is the recent review of Aker PoD for the Deepwater Tano Cape Three Points (DWTCTP) block located offshore Ghana, which according to sources, led to US\$450 million cost savings (GOGIG, 2019).

Despite these positives, there are significant institutional challenges regarding the capacity of some state institutions to monitor petroleum costs efficiently. In the absence of a change to the fiscal regime, the ability of Ghana's regulatory and commercial institutions to monitor and audit costs will determine the extent to which the nation will generate significant revenues beyond just royalties and the CAPI.

7 CONCLUSIONS AND POLICY IMPLICATIONS

The study examined the competitiveness of Ghana's petroleum fiscal regime against some key fiscal regime evaluation criteria, namely: efficiency of targeting economic rents, profitability, risk sharing, neutrality and progressiveness. Whether fiscal systems are attractive depends not only on the overall government take, but also several corollary factors. In Ghana's case, one needs to weigh the country's relatively small production base and geological potential vis-à-vis the Ghanaian government's priorities for the upstream sector to create a vibrant industry that can support the local economy.

Based on the study's findings, there is a requirement to further reform and revise the tax regime for Ghana's oil and gas sector as it heads into the next decade of production, even with the competing pressures of the looming . This will help attract the right calibre of domestic and foreign investors and mobilise adequate domestic revenue to help develop and grow the country to foster inclusive development.

We find that the fiscal regime remains favourable overall compared to regional peers within this context. However, the relatively high royalties for new contracts vis-à-vis the country's low resource base could serve as a disincentive to investments as these are often regressive. Also, the current IRR-based AOE profit-sharing discriminates between petroleum agreements for similar geological risks. That is, the AOE does not adequately capture windfall profits with respect to different field sizes. Furthermore, simply lowering the AOE trigger, even with a lower maximum tax rate and less tiers, can result in higher government revenues and earlier timing. Thus, the applicable AOE can benefit from reducing the tiers and lowering the threshold. For example, the multi-tier AOE can be reduced to a single headline rate—for example, 30%, and which is able to generate more revenues for the government.

Ghana can also consider introducing targeted fiscal packages aimed at maximising economic recovery of over 500 mmboe of stranded reserves, which are currently not being exploited for various economic reasons, according to government statistics. The government can encourage IOCs to team up with the national oil company (GNPC) and the Petroleum Commission to develop hub infrastructure or tie in of marginal fields into existing infrastructure. Such an approach needs to be anchored on asset stewardship of critical hubs through regional and area development strategies. Within this setup, targeted fiscal incentives such as reductions in tax on tariff income, small field allowance (SFA) or uplift scheme can be introduced to encourage E&A expenditure within critical hub catchment areas. This can be piloted, targeting specific stranded assets.

Lastly, the introduction of supplementary regulation or an oil taxation manual that explains fiscal terms in greater clarity and syncs with the Income Tax law would benefit all stakeholders. The Ghanaian tax authorities can produce this manual, as in Australia, where the Petroleum Resource Rent Tax Assessment Act 1987 (as amended) provides granular details on how the tax is assessed. The Australian government also provides a detailed Excel-based worksheet and document for illustrative purposes, allowing operators to input their data and select different

assumptions to show the inner workings of the PRRT, including potential taxes due.²⁷ Similarly, in the UK, the HM Revenue & Customs has a comprehensive Oil Taxation Manual that spells out the law and practice for the oil and gas fiscal regime. The manual is regularly updated and covers petroleum revenue tax, ring-fence, corporation tax, supplementary charges, and decommissioning expenditure relief.²⁸

APPENDIX: FISCAL CALCULATIONS—CASH FLOW METHODOLOGY

The project net cash flow (NCF_t) is computed by matching the relationships among the input variables. They are the gross revenues per year (GR_t), royalty paid per year (ROY_t), total recoverable costs per year ($COSTS_t$), income tax paid per year (TAX_t) and additional oil entitlement paid per year (AOE_t). It is defined as:

$$NCF_t = GR_t - ROY_t - COSTS_t - TAX_t - AOE_t \quad (1)$$

Additionally, we estimate the net present value (NPV) by calculating the discounted revenue for each year using the formula:

$$NPV = \sum_{t=P_1}^T \frac{CF_t}{(1+r)^t} - \sum_{t=C_1}^N \frac{I_t}{(1+r)^t} \quad (2)$$

where, CF_t = the cash flow at given time, r = the discount factor, I_t = investments at time t , P_1 = first year of production, C_1 = first year investment, N = total investment years, T = total years of cash flow.

The NPV methodology is justifiable by the fact that it properly accounts for all the relevant revenue streams and costs, considering the time value of these cash flows. Other project metrics such as the internal rate of return (IRR), discounted profitability index (DPI), payback period, undiscounted government take and NPV/BOE are also reported.

The respective components that make up the NCF_t are elaborated as follows:

²⁷ See <https://industry.gov.au/resource/Enhancing/ResourcesTaxation/PetroleumResourRentTax/Pages/default.aspx>.

²⁸ See <https://www.gov.uk/hmrc-internal-manuals/oil-taxation-manual>.

Gross Revenues: The Gross Revenues (GR_t) per year arising out of hydrocarbon sales is the product of the average annual oil price ((P_t)) and the yearly production rate ((Q_t)) for all fields. Oil here refers to the cumulative oil, gas and condensate production in barrels of oil equivalent (boe).

$$GR_t = \sum_{i=1}^T P_i Q_i \quad (3)$$

Royalty: The royalty which is taken as a percentage of the gross revenues and are tax-deductible:

$$ROY_t = \tau \times GR_t \quad (4)$$

Royalty tax rate falls between $0 \leq \tau \leq 12.5\%$ in Ghana's petroleum agreements. Details are provided in Sect. 2.3.5.

Costs: These are the total costs for each field which comprises of exploration and appraisal costs, development costs, operating costs and decommissioning costs. It is given as:

$$\text{Total Cost} = \sum (\text{EA Costs} + \text{Devex} + \text{Opex} + \text{Aband}) \quad (5)$$

Tax: The income tax base is computed by taking the total revenue ceiling (the investor's share of the post royalty revenues) and deducting the following: finance costs (loan interest), recoverable costs (depreciated capital costs, depreciated exploration and appraisal costs, operating costs and decommissioning costs) and any prior period losses carried forward.

Additional Oil Entitlement: The State at any time is entitled to a portion of Contractor's share of crude oil from each separate Development and Production Area. The Additional Oil Entitlement (AOE) is levied on the basis of the after-tax inflation-adjusted rate of return (ROR) which the Contractor has achieved with respect to such Development and Production Area at the time in question. The ROR is calculated on a sliding scale as a resource rent tax in accordance with the following computation:

$$NCF_t = GR_t - ROY_t - COSTS_t - TAX_t \quad (6)$$

$$FA_t = FA_{t-1}(1 + r) + NCF_t \quad (7)$$

$$SA_t = SA_{t-1}(1 + r) + NCF_t - \delta FA_t \quad (8)$$

$$TA_t = SA_{t-1}(1 + r) + NCF_t - \gamma SA_t - \delta FA_t \quad (9)$$

$$YA_t = YA_{t-1}(1 + r) + NCF_t - \tau TA_t - \gamma SA_t - \delta FA_t \quad (10)$$

$$ZA_t = ZA_{t-1}(1 + r) + NCF_t - \beta YA_t - \tau TA_t - \gamma SA_t - \delta FA_t \quad (11)$$

where NCF_t is the net cash flow, GR_t gross revenues, ROY_t royalty paid, $COSTS_t$ total recoverable costs, TAX_t income tax paid, FA_t first account, SA_t second account, TA_t third account, YA_t fourth account, ZA_t fifth account, r compounded internal rate of return and $\gamma, \tau, \delta, \beta$ applicable additional oil entitlement charges.

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Fiscal Policy and Petroleum Revenue Management: Is Ghana on the Path to Beating the Resource Curse?

Joseph Kwadwo Asenso and Ishmael Ackah

1 INTRODUCTION

Fiscal policy is the thread that connects government revenues, including those from petroleum production, to sustainable development outcomes. According to Soli et al. (2008), fiscal policy, if well designed and implemented, can effectively stimulate aggregate demand and promote sustained economic growth. Koh (2017) indicates that fiscal policy

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contributes meaningfully to how a country benefits from its petroleum production. Clearly, it can be used as a stabilization mechanism and spur growth (Kufuor, 2012). This fact is not lost on policymakers in Ghana. Indeed, different forms of fiscal measures have been implemented since independence.

The fiscal policy dynamics of post-independent Ghana can be categorized into three eras. According to Osei and Telli (2017), the first two eras are the periods between 1957 and 1983, which was characterized by post-independence expansionary policies to deal with large infrastructure deficits, low unemployment, and import substitution industrialization measures. The second era, 1983 to 2006, involved the economic recovery and structural adjustment programs. The third era witnessed the discovery and production of oil, beginning from 2007 till date. This era ushered in high expansionary policies due to high expectations from oil revenues (Ackah et al., 2020). For instance, the primary government expenditure as a proportion of originally approved budget increased from 109.5% in 2006, 91% in 2009, to 135% in 2011.¹ It can be inferred that all three eras were characterized by high expenditure with usually, limited revenue base, leading to increased borrowing. Fiscal deficit for 2014, 2015 and 2016 were 2.4, 7.9 and 8%, respectively. In the first three years after discovery, Ghana recorded fiscal deficits to the tune of 11.5% of GDP in 2008 (election-related expenditure), 9.5% of GDP in 2009, and 6.8% of GDP in 2010 (Ackah et al., 2020).

Unsustainable debt has implications. For instance, excessively high debt levels can limit the country's access to the international capital market and can increase the cost of funds, due to the high probability of default. If the government borrows from the domestic market, it can also crowd out the private sector (Kufuor, 2012; Osei-Assibey and Asenso, 2015). The challenge is that fiscal policies may be well designed but not properly implemented. Sowa (2002) posits that some important macroeconomic indicators, such as inflation, were not achieved under the Economic Recovery Programme (ERP: 1983–1994) under the guidance of the World Bank and the IMF due to wrong diagnosis of the economic challenges facing the economy at the time or factors external to the economy such as the country's over-reliance on natural resources. Akosah (2015) finds that unsustainable fiscal policies in the late 1990s

¹ See World Bank Development Indicators (2020) <https://stats2.digitalresources.jisc.ac.uk>.

contributed to the country being classified as a Heavily Indebted Poor Country (HIPC) by the early 2000s.

Guided by this fiscal policy history and the challenge of translating mineral revenues into inclusive development outcomes, a number of laws and regulations were passed when crude oil was discovered in Ghana in 2007. Despite the passage of these laws, fiscal slippages appear to have aggravated after oil production. According to Ackah et al. (2020), fiscal policy immediately after oil discovery was characterized by high spending that led to neither sustained growth nor investments. This phenomenon was exacerbated by the expenditure pressures of the 2012, 2016, and 2020 elections which contributed to a requesting for an IMF program. This was Ghana's 16th visit to the IMF since independence; in all, Ghana has had 17 IMF programs since independence, that is approximately one program every 3.7 years [per political administration]. For example, Ghana's fiscal deficit in 2012 reached 11.8%. This created a lot of skepticism and despondency among the citizenry toward oil production (Brunnschweiler et al. 2020; Aryetey and Ackah, 2018).

Despite the aforementioned challenges, the Petroleum Revenue Management (PRMA) Act 2011 (Act 815) has, as its core objectives, the need to achieve intergenerational equity, fiscal stability, inclusive growth, and sustainable petroleum resource management.² To this end, a percentage of petroleum revenues goes into the Ghana Stabilisation and the Heritage Funds to promote intergenerational equity and fiscal stability. In addition, the allocation to the national oil company, the Ghana National Petroleum Corporation (GNPC), is to achieve high level of local content and local participation and build indigenous capacity for the management of the oil and gas resources. Further, allocations to the Annual Budget Funding Amount (ABFA) are meant to promote the country's diversification efforts, while the funding of the Public Interest and Accountability Committee is to enhance transparency and accountability.

Despite these prudent arrangements, there have been debates as to whether the oil find, and subsequent production, has contributed to fiscal imbalances. This is because despite the low contribution of oil to GDP (i.e., 4.5% of nominal GDP at end-2019), oil price volatility has had significant effects on the economy via the revenue channel. For example,

² See Sects. 9(2), 10(2a), and 21(2) of Act 815.

the oil price fall in 2015 partly led to the request for an International Monetary Fund (IMF) facility, and a huge cut to the capital budget by an estimated 52.4% (Aryetey and Ackah, 2018). The recent outbreak of the COVID-19 pandemic did not spare the economy. The NRG³ (2020) reports that the government's original crude oil price for 2020 was US\$62.6 per barrel, reflecting a positive market outlook. Even with oil prices stabilizing at around US\$40 per barrel, Ghana's growth will still slow down at between 2.6 and 1.5% relative to pre-COVID-19 forecast (6.8%).⁴ The country's oil revenues for the first quarter in 2020 stood at only 18% of the projected oil revenue for the period.⁵ This has partially contributed to additional borrowing and other decisions that can affect the fiscal stability despite the passage of a Fiscal Responsibility Act, 2018 (Act 982) and withdrawals from the Ghana Stabilisation Fund.

Are these fiscal challenges affecting Ghana's preparedness to overcome the oil curse? Graham et al. (2019) posit though that it might be a bit early to decidedly say Ghana's oil and gas sector currently exhibit signs of both a curse (pro-cyclical expenditure, issues with accountability, challenges with supervision of oil funded projects leading to cost and time over runs, etc.), and a blessing (investments in agriculture, creation of opportunities for Ghanaians through the implementation of the local content regulations, increased transparency, investment in human capital, etc.). This chapter attempts to contribute to discussions on fiscal policy, oil revenues, and oil curse relationship. Specifically, this study critically examines whether Ghana is implementing petroleum revenue related fiscal measures that can help the country overcome the oil curse. It thus:

- i. discusses the rationale for the setup of natural resource funds such as the Stabilisation and Heritage Funds under the Petroleum Revenue Management Act (PRMA);
- ii. analyzes the extent to which the PRMA and other laws such as the Public Financial Management Act have been able to adequately address issues relating to revenue volatility and expenditure smoothing in the budget (dealing with pro-cyclical fiscal policy)

³ Natural Resources Governance Institute.

⁴ See Ghana's projected growth to slip from 6 to 2%-Ghana Business News.

⁵ See <https://www.gnbcc.net/News/Item/4936>.

- iii. reviews the key fiscal policy implications of Ghana's continuous reliance on natural resource revenues; and
- iv. reviews and benchmarks the governance, transparency, and accountability mechanisms of the various petroleum funds.

2 OVERVIEW OF GHANA'S FISCAL POLICY AND NATURAL RESOURCE MANAGEMENT

Ghana's desire at independence was to be a trailblazer in both political and economic development on the African continent. Indeed, at independence, Ghana's GDP per capita was at par with that of South Korea. Osei and Telli (2017) recount that in order to meet the need for sustained development, the first government invested heavily in socio-economic infrastructure such as schools, roads, hospitals, dams, import substitution industries, among others. Examples of these included the Volta River Project which birthed the Akosombo Dam, VALCO Aluminium Smelter, and the Tema Township. The adoption and implementation of the 7-Year Development Plan in the early 1960s was in line with the country's import substitution industrialization agenda (Osei and Telli, 2017). The Plan dedicated about 20% of public finances to infrastructure development.

Without a corresponding increase in its revenue base, Ghana started facing serious fiscal challenges by the mid-1960s (Aryeetey and Fenny, 2017). With a large informal sector and a low tax base, there were sustained budget deficits and high inflation. Consequently, the country experienced negative growths in 1966, 1972, 1975, 1979 and 1981. By early 1980, per capita GDP had reduced to \$739, from \$1009 in 1960 (Aryeetey and Fenny, 2017). This trend continued into the twenty-first century and into the oil production era. The high budget deficits, high inflation, poor GDP growth, and high domestic debt contributed to the adoption of the ERP in 1983.⁶

A major aim of the ERP was to lower government expenditure, while increasing revenue in order to reduce the budget deficit and curb inflation. This was done through privatization of non-performing state

⁶ See <https://www.imf.org/external/np/pfp/ghana/ghana0.htm#:~:text=Ghana%20launched%20an%20economic%20recovery,government%20involvement%20in%20the%20economy>.

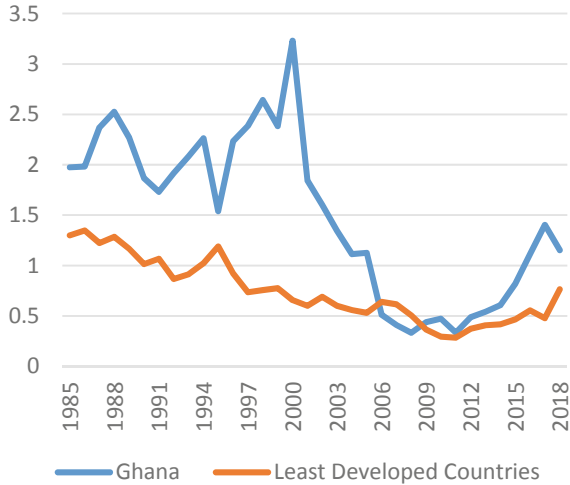


Fig. 1 Interest payment on external debt as a percentage of GNI (*Source* IMF [2020])

enterprises, tax efficiency, and other reforms. While the ERP chalked some successes (promoting the injection of private capital and growth in real GDP, improved balance of payments, etc.), there were challenges (those who were in the non-export related sectors lost jobs, while inequality increased).⁷ Figure 1 shows the interest payments on external debt as a percentage of the GNI. Figure 2 shows that Ghana's interest payments started coming down by the early 2000s and by mid-2000s was at par with LDCs, driven primarily by the HIPC initiative.

Despite the development of plans and their implementation, the goals of fiscal policy such as economic diversification were not achieved. This may be due to a number of reasons. First, more emphasis was placed on spending without the corresponding efforts at mobilizing revenues. This led to rapid debt accumulation as shown in Fig. 3. For instance, at independence, the fiscal policy focus was on increasing capital investments and investing in state owned enterprises to drive the import substitution industrialization agenda. Second is the over-reliance on revenues from export of natural resources. Ghana's economy since independence has

⁷ See <http://countrystudies.us/ghana/70.htm>.

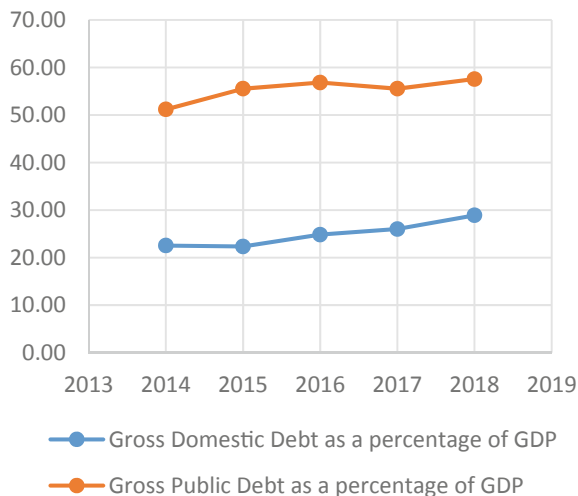


Fig. 2 Debt to GDP ratio (*Source* IMF [2020])

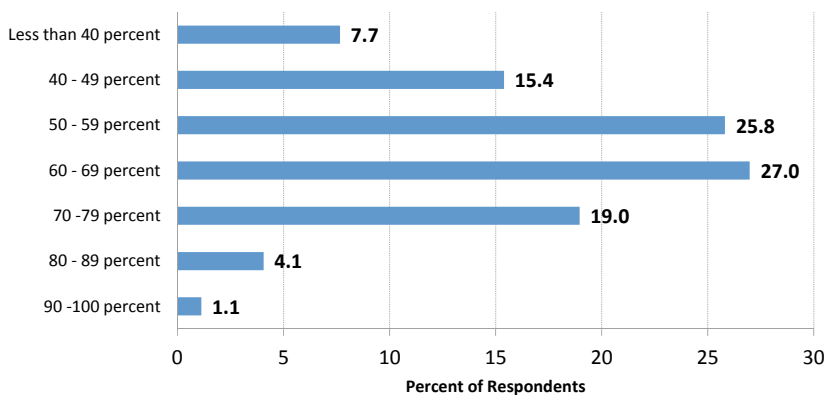


Fig. 3 Current year spending share (*Source* Ministry of Finance [2010])

been dominated by three primary commodities to generate export earnings: gold, cocoa, and most recently, oil. Indeed, on average, between 1970 and 2019, natural resource rent contributed 9.2% to GDP per

annum.⁸ This leads to three main challenges. It encourages pro-cyclical expenditure, as the prices of natural resources are exogenous to price-takers like Ghana (Ramey and Ramey, 1994; Aryetey and Ackah, 2018). This contributes to high domestic and external borrowing, uncompleted projects and project time and cost overruns. Increased borrowing from the domestic market can crowd out the private sector. The third is election-related expenditure. According to Asiama et al. (2014), the country has experienced low fiscal adjustment and fiscal excesses during election years. The final factor is fiscal leakages. This ranges from corruption, waste, and illicit financial flows.

3 WHY SET UP NATURAL RESOURCE FUNDS: THE CASE OF THE GHANA PETROLEUM FUNDS

Ghana has had an extensive history with natural resource exploitation, particularly, gold, diamond, manganese, and bauxite. Prior to the discovery of petroleum in commercial quantities in June 2007, the country and its partners had drilled well over 100 exploratory wells since the late 1890s, with most of them disappointingly being dry wells. This went on until the Saltpond Field, a marginal field, was discovered in 1970.

After long periods of natural resource exploitation, Ghana's experience with natural resource rents for both oil and non-oil resources prior to 2011 had been anything but structured, transparent, and optimal. Communities from where these resources were being exploited were in a sorry state, even though they generated huge sums of export revenues for the economy (Hilson and Banchirigah, 2009). Roads were not paved, schools and hospitals were dilapidated, and the non-resource economy was ill-developed. Hospitals in such communities recorded many cases of respiratory diseases, which were mostly attributed to the effects of the mining activities in those areas.

At the national level, resource rents could not be tracked, as they were co-mingled with other state resources in the Consolidated Fund and used for the government's fiscal operations—both capital and recurrent expenditure (Edjekumhene et al., 2018). For example, until petroleum revenue reporting commenced in 2012, very senior persons in government (politicians and other public servants alike) had no idea of the

⁸ See <https://data.worldbank.org/indicator/NY.GDP.TOTL.RT.ZS?locations=GH>.

mode of collection of and the destination account of the Saltpond Field royalties, which were barely paid anyway.⁹

In effect, natural resource revenue management in the country was rather opaque, with no particular guidelines on how to mainstream them into appropriation tools or expenditure processes, once it hit the National Treasury. Added to this was the fact that the country was ill-prepared to effectively cope with resource revenue declines, occasioned by either price or output declines or both. There was no mechanism for dealing with the threat of price declines, for example, with the only response being to cut expenditure whenever it arose, making fiscal policy conduct rather procyclical. That is, government tends to spend more and expand when oil prices are high and cut expenditure when oil prices are low.

Furthermore, there was no apparent plan to ensure intergenerational equity, as the focus was on in-year expenditure of resource revenues, rather than developing a culture that set some of such revenues aside for future use. Thus, Ghana did not have an account that had resource savings for future use.

The lack of a clear plan to cushion the economy against unexpected resource revenue shortfalls and provide for future generations elicited a new way of thinking about resource revenues. This new paradigm of thinking was informed by the following:

- the country's own experiences with resource revenue management in the mining sector;
- international forums in 2010 that discussed how Ghana could avoid the resource curse by managing its petroleum revenues optimally; and
- a nation-wide survey, covering about 1,000 respondents, on citizens' perspectives on the best ways to manage the revenues from the new petroleum industry.

3.1 Synthesis of International Forums and Nationwide Survey

The international forums, as already indicated, had the primary objective of providing an avenue where Ghana could learn from the positive and/or

⁹ See <https://www.graphic.com.gh/business/business-news/piac-detects-wrong-figures-from-saltpond-oil-fields.html>.

negative experiences of countries that were already in the upstream petroleum business. These countries included Norway, Trinidad and Tobago, as well as Nigeria, next door. Some of the key lessons from the forums were the need to separate petroleum revenues from other government revenues to facilitate expenditure tracking and the establishment of rainy-day funds to promote counter-cyclical fiscal policies.

The nation-wide survey, led by the Ministry of Finance, took over from there to design questionnaires that teased out critical themes to serve as pointers in the development of a proposed legislation to guide petroleum revenue management. The survey was organized in 2010. The key thematic areas of the survey included the following:

- mode of revenue collection and allocation;
- how much of revenue collected to be spent in the current year and how much of it to be saved;
- managing what was allocated for current spending;
- managing the amount set aside for savings; and
- transparency and accountability.

Approximately 91.9% of respondents were of the view that petroleum receipts should be separated from other revenues, with 7.6% preferring that the revenues be lodged into the Consolidated Fund, as shown in Fig. 4. Majority of respondents were also of the opinion that no more than 60–69% of the revenues collected should be spent in the current year and the rest saved for future use, as shown in Fig. 3.

Furthermore, Fig. 4 details how respondents wanted revenues to be treated. In addition, majority of respondents supported the idea of the establishment of two separate savings accounts, rather than one, with the view to cultivating a savings culture, regardless of the size of the savings amounts, as shown in Fig. 5 (Fig. 6).

Among other things, the international forums and the survey results led to proposals to establish a separate fund to receive petroleum revenues, ensure transparency, establish a spending-savings rule and establish two separate accounts to receive petroleum revenues for purposes of saving. These and other proposals were presented to Parliament as the Petroleum Revenue Management Bill (PRMB) for consideration and subsequent passage into law.

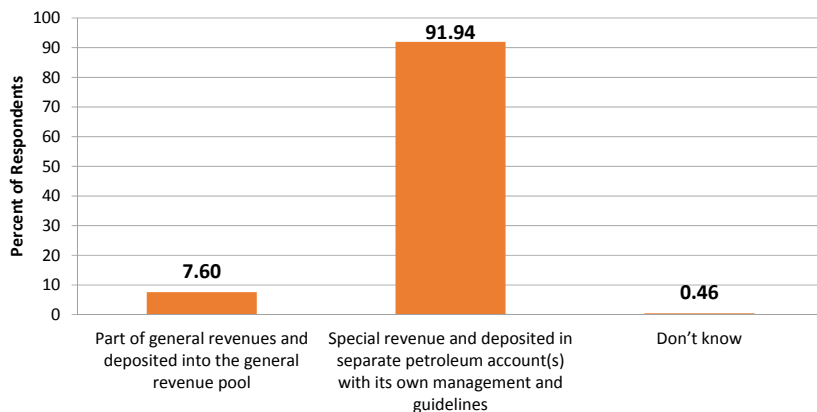


Fig. 4 Treatment of expenditure

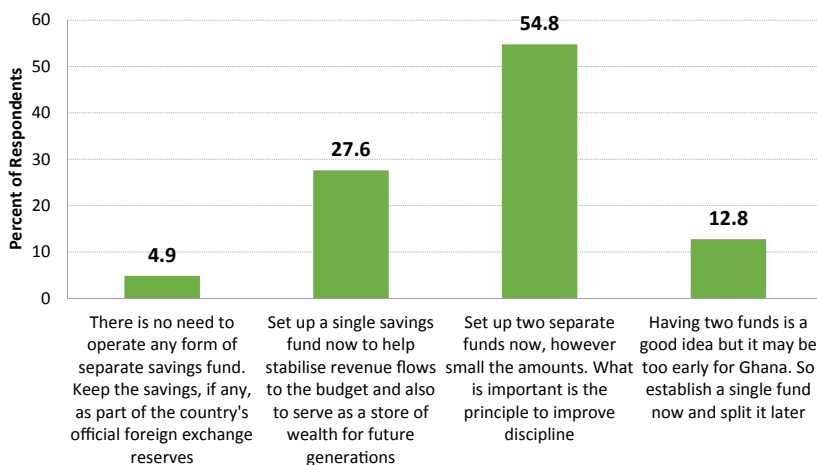


Fig. 5 Number of savings accounts to be established (*Source* Ministry of Finance [2010])

Having deliberated on the PRMB, Parliament accepted the key proposals therein, passing the Bill into law (i.e., the PRMA), with presidential assent being granted on April 11, 2011. The PRMA was

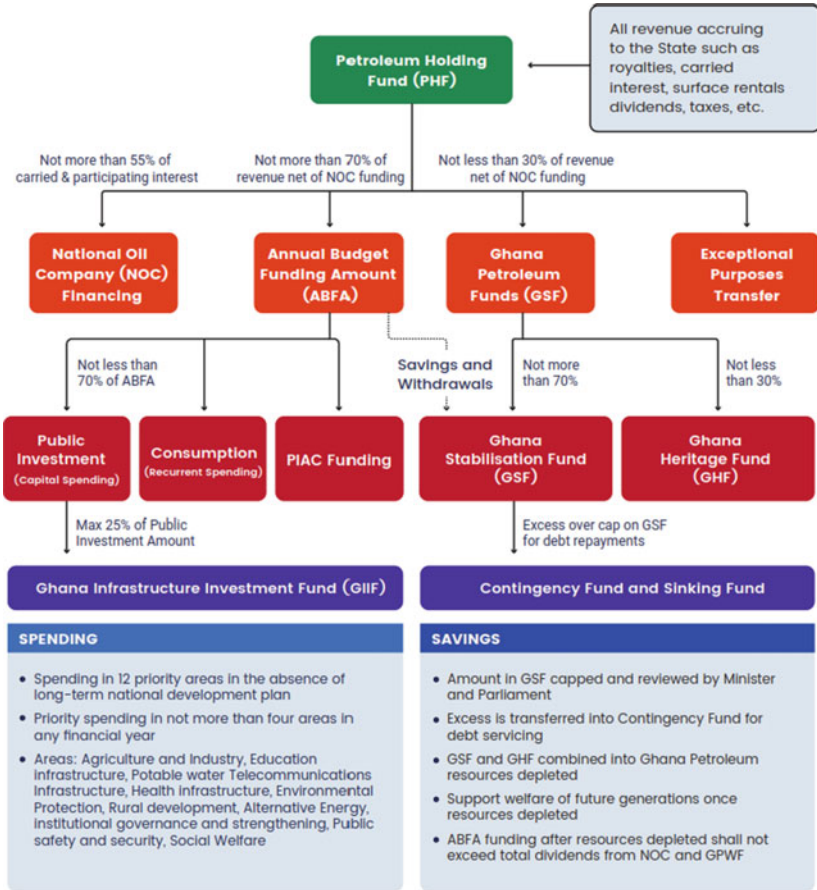


Fig. 6 General framework for petroleum revenue distribution (Source PIAC [2017])¹⁰

subsequently amended in 2015 (Act 893). Some of the revised provisions include firming up the clause which guaranteed transfers to the GPFs per every lifting, the funding of PIAC and a provision to provide

¹⁰ See https://www.piacghana.org/portal/files/downloads/simplified_guide_to_ghanas_petroleum.pdf.

funding to GIIF for infrastructure development. Some of the provisions of the PRMA, which were borne out of the recommendations from the international forums and the nation-wide survey included the following:

- establishment of the Petroleum Holding Fund, a new account established for the purpose of receiving petroleum revenues;
- transfer of not more than 70% of petroleum receipts, net of the allocation to the National Oil Company (NOC), to the annual budget for current spending. This amount was called the Annual Budget Funding Amount (ABFA). The remaining amount was to be saved;
- establishment of two separate savings accounts—the Ghana Stabilisation Fund (GSF) and the Ghana Heritage Fund (GHF)—with the objective of receiving the portion of the petroleum revenues that are earmarked for savings.

3.2 Petroleum Revenue Management Framework

All petroleum revenues (from corporate tax, royalties, carried and participating interest, surface rentals, etc.) are deposited into the Petroleum Holding Fund (PHF).

The PHF is an intermediary fund designed to collect and disburse petroleum revenues. GNPC receives 55% or less of the carried and participating interest. The budget receives not more than 70% or less of the amount net of GNPC's allocation (called the benchmark revenue at the time of revenue projection). The benchmark revenue is the expected petroleum revenue based on a seven-year moving average of price and a three-year average of output.¹¹ The percentage of petroleum revenue that goes into the budget is the Annual Budget Funding Amount (ABFA). The ABFA is shared between the priority areas, PIAC, and usually the Ghana Infrastructure Investment Fund. Not less than the remaining 30% of the benchmark revenue goes to the Ghana Petroleum Funds, which is shared between the GSF (not less than 21%) and the GHF (not less than 9%) (Table 1).

¹¹ See the first schedule (Section 17) of the Petroleum Revenue Management Act (PRMA), 2011 (815) for the formula. According to Section 7 of the amended PRMA (Act 893), the Minister for Finance can recommend a revision of the benchmark revenue to parliament if it becomes evident that unexpected changes in price or quantity can lead to high over or under projection.

Table 1 Petroleum Funds and their purpose

<i>Petroleum fund</i>	<i>Purpose of fund</i>	<i>Share of benchmark revenue^a</i>
Annual Budget Funding Amount	This portion of petroleum revenues goes to support the government's annual budget	Not more than 70% of the Benchmark revenue
Ghana Stabilisation Fund	This portion of petroleum revenue is to cushion the impact on or sustain public expenditure capacity during periods of unanticipated petroleum revenue shortfalls	Not more than 21% of benchmark revenue
Ghana Heritage Fund	This is to provide an endowment to support development for future generations when petroleum reserves have been depleted	Not less than 9% of benchmark revenue

^aThe Benchmark revenue means the estimated revenue from petroleum operations expected by the Government for the corresponding financial year. This is calculated on the basis of actual and expected average unit price of crude oil and natural gas derived from a seven-year moving average, the seven years being the 4 years immediately preceding the current financial year, the current financial year itself, and 2 years immediately following the current financial year

Sections 9 and 10 of the PRMA establish what is collectively known as the Ghana Petroleum Funds (GPFs), which is made up to the GSF and the GHF. These two funds were established to receive the portion of the petroleum revenues that are dedicated for savings.

3.2.1 The Ghana Stabilisation Fund

Section 9 of the PRMA established the GSF to serve as a counter-cyclical tool that enables the state to smoothen its long-term expenditure of petroleum revenues. The GSF, thus, has the object of cushioning the impact on or sustaining public expenditure capacity during periods of unanticipated petroleum revenue shortfalls. These revenue shortfalls could result from price or output declines or both.

For example, the crude oil price decline in 2015, through to the early part of 2017, and the recent COVID-19 induced price fall, resulted in a dramatic decline in petroleum revenues in Ghana. In 2016, a fault with the turret bearing of the FPSO Kwame Nkrumah (the Jubilee FPSO), which led to more than six weeks of shutdown, further exacerbated the revenue shortfall, as shown in Fig. 7.

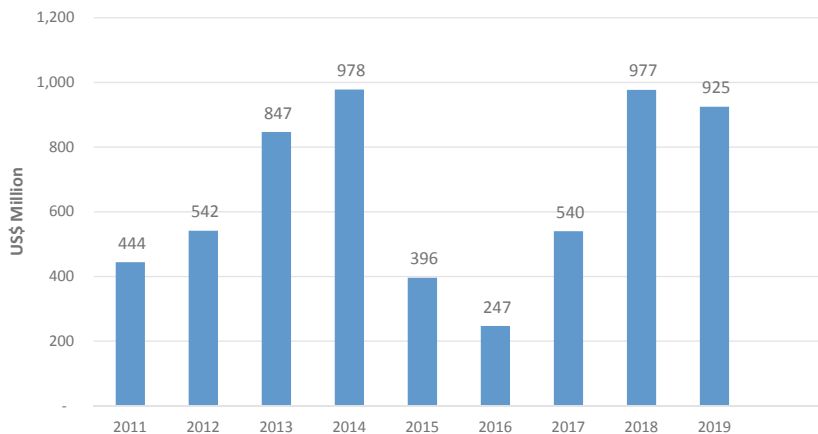


Fig. 7 Various annual and reconciliation petroleum reports, 2011–2020 (*Source* Ministry of Finance) <https://mofep.gov.gh/publications/petroleum-reports>

Under these circumstances, Section 12 (as amended) of the PRMA can be invoked to sustain public expenditure. However, the government refrained from invoking Section 12, having chosen to invoke Section 23 by capping the Fund and using the excess over the cap for debt repayment and contingency. Invoking Section 12 at the same time would have constituted double dipping, even though it is permissible under the PRMA.

3.2.2 *The Ghana Heritage Fund*

Given the exhaustible nature of petroleum resources, most of the respondents were of the view that it was necessary to put some of the petroleum revenues aside for future generations, given that some of them would not have the benefit of enjoying petroleum revenues otherwise. The GHF, thus, was established to ensure intergenerational equity. Its accumulated interest can only be accessed for spending only after the year 2026. The Act does not currently allow for the principal amount to be used.

However, in recent times, the relatively low returns on the GHF, compared with the high cost of borrowing by the state has led to calls for

a rethink of the practice.¹² This suggestion was rejected by various stakeholders, who are of the view that the government technically has access to 90% of the petroleum revenues and if that has not made a serious impact, 9% would scarcely make an impact.¹³ The resistance was partially attributed to a perception of limited accountability in the spending of the ABFA and general mistrust of duty bearers.¹⁴ According to Ackah (2021), African countries including Ghana should re-examine and reposition sovereign wealth funds to better serve the needs of their citizens now and in the future.

3.3 *Dealing with Pro-Cyclical Fiscal Policy*

One of the key challenges of resource revenue management has to do with pro-cyclical fiscal policy, given the volatility of commodity prices. Resource-rich countries tend to experience boom and bust cycles, depending on how the prices of their commodity exports fare in any given period (Moss and Young, 2009). These boom and bust cycles, to a large extent, determine how countries tailor their fiscal policy, with an increased tendency to spend more in boom periods and less in bust periods. For instance, Adam and Mihalyi (2017) report that Chile introduced a structural balanced rule in 2001 to save when there was copper price boom so that when the market bust, the government could have some savings to rely on.

Ghana has had its fair share of revenue volatility since it started producing petroleum in commercial quantities. Having sold crude oil for more than US\$100 per barrel in 2011 through to August 2014, and enjoying the associated revenue, the country was faced with the harsh reality of declining petroleum revenue, resulting from the persistent decline in crude oil prices in the last quarter of 2014, through to 2016, as shown in Fig. 8.

Even though the decline in crude oil prices was inevitable, after having stayed at US\$100+ per barrel for almost four years, the precipitous fall in

¹² See <https://www.modernghana.com/news/539730/npp-spits-fire-over-heritage-fund.html>.

¹³ See <https://www.modernghana.com/news/539236/well-resist-govt-attempts-to-use-heritage-fund.html>.

¹⁴ See <http://www.theoacheampong.com/2017/02/heritage-fund-debate-builds-up-the-heritage-fund-must-not-be-touched-dr-theo-acheampong/>.



Fig. 8 Brent crude oil price trend, 2011–2018 (*Source* Based on Bloomberg Data)

the last quarter of 2014, where Brent crude moved from approximately US\$101 per barrel in August to US\$56 per barrel in December of that year, was largely unexpected. Virtually everyone was taken by surprise, including key industry experts, oil producers, and marketers. There was a glut of the commodity on the market as the United States moved to near energy self-sufficiency, on the back of increased shale oil production, and new producers also raced to ramp up production to take advantage of high prices.

With OPEC having decided that it was not going to cut production to keep prices up, hoping that shale producers would be driven out of business by the impending low prices vis-à-vis their relative high costs of production, the decline in crude oil prices got out of control, without the ability to forecast when it would abate. Ironically, the glut in the market remained as the expected rapid collapse of shale businesses failed to materialize, until OPEC decided to intervene by cutting production, given that the decline in production from shale producers was still not enough to even out demand and supply.

It is this air of uncertainty around the upstream oil business that legislations such as the PRMA sought to address by putting mechanisms in place to ensure that the country implemented counter-cyclical fiscal policies that placed it on the borderlines of the permanent income hypothesis.

3.4 *The PRMA, Revenue Volatility, and Expenditure Smoothing*

The in-year revenue and expenditure guide in the PRMA begins with the revenue projection, known as the Benchmark Revenue (BR) projection. The BR is defined by a benchmark price, which is a seven-year moving average of four historical price data, the current and two outer years. Again, a benchmark output is a three-year average of output, made up of the previous year's output, the current year's output, and a projection of the following year's output. A projection of corporate income taxes and surface rentals is added to the projected revenue derived from the benchmark price and output.

3.4.1 *BR Prices*

Given that the PRMA was assented to by the president on April 11, 2011, the 2011 national budget did not utilize the BR formulae in the PRMA. However, a price of US\$100 per barrel was adopted, making it possible for the government to introduce petroleum revenue into the budget. Ghana uses Brent price as a benchmark for its pricing, given that its oil has similar characteristics as Brent. The BR model was applied for the first time in the last quarter of 2011 for the 2012 annual budget. This yielded a price of US\$90 per barrel, a price considered modest, given that actual prices were in the hundreds. The model continued to spew out modest price projections from thereon until 2014. Achieved average prices over the years were consistently above the BR until 2014, when prices started weakening, as shown in Fig. 9.

The BR price for 2015 was approximately US\$86 per barrel. This was estimated in August 2014, with the actual price for July 2014 being at circa US\$102 per barrel but with every indication that prices were going to exit the US\$100 per barrel phase. The historically high prices (4 historical prices) had outweighed the relatively modest price projections by industry experts for 2015 and 2016. Crude oil price forecasts at the time hovered around US\$80–90 per barrel, so the BR price was not thought to be far-fetched.

By November 2015, however, the time of presenting the national budget to Parliament, Brent crude price had declined to the lower 70s and upper 60s, well below the BR price of US\$86 for 2015. That notwithstanding, the BR price had been certified and the parent law did not give room for a revision. Thus, all of a sudden, a model that was giving modest price projections had become untenable.

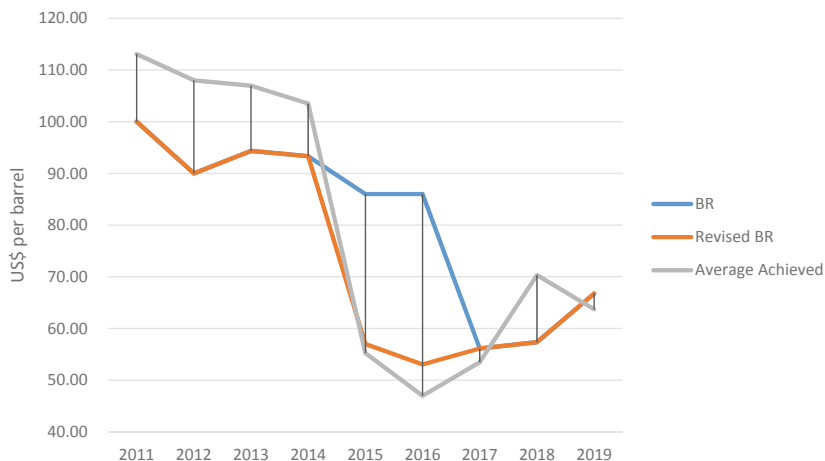


Fig. 9 BR, Revised BR and average achieved prices, 2011–2019 (*Source* Based on Ministry of Finance Data)

Given the rigid nature of the PRMA, the government had to work with the BR price in the first six months of the year but thankfully, proposals for amendment to various aspects of the law had reached Parliament and this included a proposal for the BR projection to be amended,¹⁵ if the government did not think that it was attainable.

3.4.2 BR Output

The very first BR output (for the 2012 budget) used a two-year average of the then current year and one future year, given that the production of the previous year (2010) was rather negligible. Thus, the government used the actual production up to September 2011 and a projection for the last quarter of that year as well as the projected output for 2012 to derive the BR output for 2012.

The BR output projection for 2012 was 90,000 barrels of oil per day (bopd), against an actual output of 71,997 bopd. The low production resulted from some technical challenges with some of the Jubilee Field

¹⁵ See Section 7(2) of Petroleum Revenue Management (Amendment) Act, 2015 (Act 893).

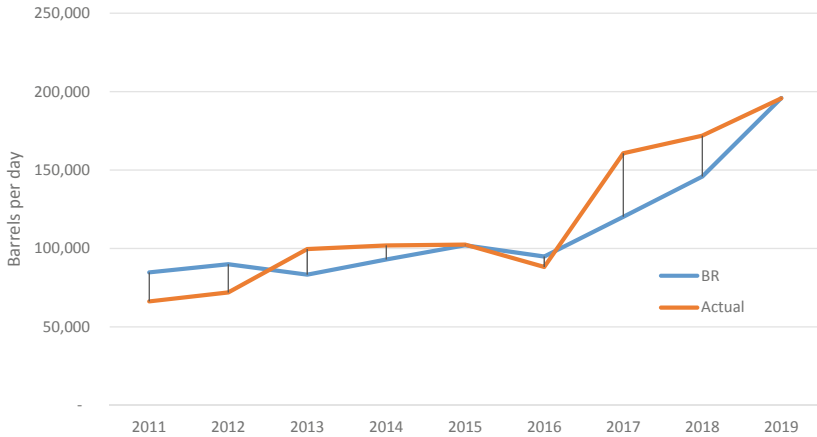


Fig. 10 BR and actual output, 2011–2019 (*Source* Based on Ministry of Finance Data)

producing wells.¹⁶ Between 2013 and 2015, however, the actual output was higher than the BR output, as production increased on the Jubilee Field, until the Jubilee FPSO turret bearing fault caused a dramatic reduction in production in 2016 to levels that the debut production of the TEN field could not make up for.

Thereafter, production picked up markedly in 2017, when the planned Jubilee FPSO turret works that required downtime were deferred to 2018. Furthermore, TEN production more than tripled from the 2016 levels, with the SGN Field coming online for the first time to boost overall output. Production in 2018 and 2019 continued to be above the BR output, as shown in Fig. 10.

3.4.3 Revenue

Price and output movements determine what the projected and actual revenue will be for any given year. The achievement of the revenue target for any given period is, thus, contingent on the price and output assumptions that are used.

¹⁶ See http://country.eiu.com/article.aspx?articleid=323538416&Country=Ghana&topic=Economy_1.

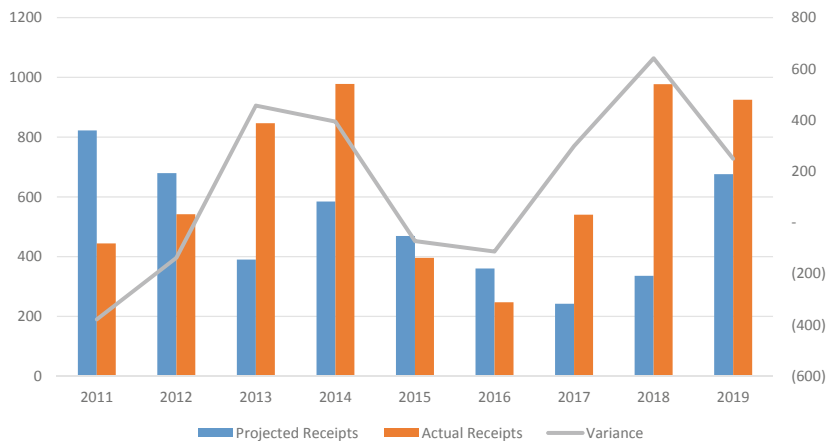


Fig. 11 Projected and actual petroleum revenues, 2011–2019 (*Source* Based on Ministry of Finance Data)

Figure 11 shows that petroleum revenues underperformed their projected levels in 2011 and 2012, while overperforming in 2013 and 2014. Realized revenues fell below the 2015 and 2016 targets; however, revenues exceeded expectations in 2017 to 2019.

Clearly, the over-projected revenue for 2011 was as a result of lower output than anticipated, rather than low price, just as that of 2012. However, in addition to the output shortfall in 2011, the 2012 revenue projection also included a forecast for corporate income tax, which did not materialize, due to challenges with a key producing well on the Jubilee Field, thus, reducing general receipts and the receipts of all parties involved.

In addition to these, there are two instances where revenue shortfalls could be attributed to price shortfalls: 2015 and 2016. While the revenue shortfall of 2015 was exclusively a price effect, that of 2016 was both price and output effect.

3.5 *The PRMA and Counter-Cyclicality*

3.5.1 *ABFA Shortfalls*

The PRMA architecture is one that intrinsically provides for counter-cyclical fiscal policy. The fiscal framework is such that the GSF receives 30% of the net petroleum revenues and all the excess amounts over the quarterly ABFA allocation. In effect, in years where petroleum revenues outperform projections, the excess amounts are saved.

Conversely, when petroleum revenues underperform projections, expenditure levels are sustained by withdrawals from the GSF, in line with Section 12 of the PRMA. Subsection 2 states that the amount to be withdrawn to make up for the revenue shortfall shall be the lesser of:

- a. 75% of the estimated amount of the shortfall of that quarter; or
- b. 25% of the GSF's opening balance of the financial year in question.

There were four (4) instances in which Section 12 of the PRMA could have been invoked to make up for shortfalls in the ABFA: 2011, 2012, 2015, and 2016. The years 2011 and 2012 were the early years of the implementation of the law and there was every intent to grow the GSF, thus, the hesitancy to drawdown on the GSF. However, a total of US\$53.69 million was withdrawn from the GSF for the ABFA in the second quarter of 2015 to make up for the shortfall in the ABFA in the first quarter. Even though there could have been subsequent drawdowns in the third and fourth quarters of that year, the government elected not to exercise this right. This was partly because the government had made another withdrawal from the GSF, based on Section 23 of the law. A total of US\$47.51 million had been withdrawn for debt repayment and another US\$23.76 million for the Contingency Fund (Table 2).

In 2016, there were no drawdowns on the GSF for ABFA shortfalls, debt repayment, or for contingency, even though there were grounds to make drawdowns for ABFA shortfalls in the year.

3.5.2 *Capping the GSF*

Another mechanism that requires a drawdown on the GSF draws its strength from Section 23 of the PRMA, which allows the Minister to cap the GSF and use the excess amount over the cap for debt repayment or contingency. That said, the efficacy of this mechanism as a counter-cyclical instrument depends on the amount withdrawn and whether it aligns with

Table 2 Annual allocations, withdrawals, and reserves of the GPFs

<i>Year</i>	<i>GSF (US\$M)</i>	<i>GHF (US\$M)</i>
2011	54.81	14.40
2012	16.88	7.24
2013	245.73	105.31
2014	271.76	116.47
2015	15.17	6.50
2016	29.51	12.65
2017	142.68	61.15
2018	305.72	131.02
Allocation since inception to Dec 2018	1,082.28	454.74
Total allocation since inception to Dec 2018	1,537.02	
Withdrawals	714.61	–
Reserves (Dec 2018)	381.20	485.17
Total Reserves (Dec 2018)	866.38	

Source Ackah and Gyeyir (2021)

the revenue trajectory over time. Gyeyir (2019) posits that the capping will defeat the fiscal stabilization function of the fund.

There have been four (4) withdrawals from the GSF, based on Section 23: 2014 (US\$305.68 million), 2015 (US\$71.27 million), 2018 (US\$283.97 million), and 2019 (US\$189.13 million). While the first two (2) withdrawals were split between debt repayment and contingency, the last two (2) were exclusively for debt repayment.

To a large extent, the cap on the GSF has been one of the key reasons behind the government's decision not to drawdown for ABFA short-falls (albeit legal), as that would constitute "double dipping" and could undermine the Fund's ability to perform the purpose for which it was set up.

The excess over the cap has been used to liquidate some notable debts such as the outstanding US\$250 million of the 2007 Eurobond, which was paid in 2017. Furthermore, US\$100 million of the funds transferred into the Sinking Fund was used to pay down the country's debt in 2016, even after the government had initially turned down the chance to borrow what was thought to be a penal rate on the international capital market. This act, arguably, helped the country secure a slightly lower interest rate than what was originally offered.

The capping of the GSF has not followed any particular order, even though the cap was set such that the balance in the GSF, post-drawdown would be more than enough to expiate for in-year shortfalls in the ABFA. The PRMA Regulations, which was passed in November 2018, has tied the cap to the average ABFA over three years, the three years being the current, previous, and one outer year.

4 OVERVIEW OF GLOBAL TRANSPARENCY BENCHMARKS FOR OIL AND GAS RESOURCE REVENUES

Oftentimes, natural resources have been said to have that transformative capacity for resource-rich economies if good governance arrangements exist. The likes of Norway and Canada are testaments to the nexus that exists between good governance of the extractive sector and sustainable socio-economic development of countries. The successes of these nations are attributable to prudent management of the resource, including robust transparency and accountability mechanisms. These mechanisms are characteristics, the absence of which results in a manifestation of the resource curse syndrome. The extractive sector is easily susceptible to corruption and opaque governance practices because it is a highly technical sector, has less corporate checks and balances due to limited competition, and involves the exercise of high political discretion.

4.1 Global Benchmarks

4.1.1 Santiago Principles

The Santiago Principles refer to a set of twenty-four (24) generally recognized principles that reflect appropriate governance and accountability arrangements as well as the conduct of investment practices by Sovereign Wealth Funds (SWFs) on a prudent and sound basis. The principles are guided by four (4) objectives: to help maintain a stable global financial system and free flow of capital and investment; to comply with all applicable regulatory and disclosure requirements in the countries in which they invest; to invest on the basis of economic and financial risk and return-related considerations; and to have in place a transparent and sound governance structure that provides for adequate operational controls, risk management, and accountability.

According to the International Working Group of Sovereign Wealth Funds (2008), the principles were established in response to the need to further analyze the issues of investors and recipients of Sovereign Wealth Funds and leveraged findings of an IMF commissioned sovereign wealth fund survey on structures and practices. The principles are categorized under three (3) broad themes, which are: legal framework, objectives, and coordination with macroeconomic policies; institutional framework and governance structure; and investment and risk management framework. The first thematic area has principles that elicit governance and institutional robustness of SWFs ensuring consistency between investment strategies and stated policy objectives of SWFs. The second thematic area assures a clearly defined and alienated institutional roles for owner(s), governing body(ies) and management to catalyze operational independence, free of political influence, in the management of SWFs. The final thematic area discusses the crafting of a clear investment policy and risk management framework which are indicative of a SWF's commitment to a disciplined investment plan and practice as well as the soundness of its investment operations and accountability.

For the purposes of the focus of this research (transparency and accountability of petroleum revenues), only the principles that touch on transparency and accountability are itemized in Table 3.

4.1.2 Extractive Industry Transparency Initiative

The Extractive Industry Transparency Initiative (EITI) standard is an extractive sector global requirement intended to promote public disclosures of information and accountability along the value chain of minerals, oil, and gas exploitation including revenue receipts and management by governments. Launched in 2002, the principles, which were agreed in 2003 by a diverse group of countries, companies, and civil society in London, form the foundation of the EITI mechanism. According to the EITI, the disclosures and accountability arrangements are to foster robust public and corporate governance of extractive resources, promote understanding of natural resource management and provide data to inform reforms for greater transparency and accountability in the sector. The initiative is implemented in member countries by a local Multi-Stakeholder Group comprising representatives of government, industry, and civil society. The progress of countries in meeting the EITI standard is assessed by the International EITI Board and ranked as “satisfactory,”

Table 3 Applicable Santiago Principles

<i>Generally accepted principle and practice item</i>	<i>Narrative of principle</i>
GAPP 4	There should be clear and publicly disclosed policies, rules, procedures, or arrangements in relation to the SWF's general approach to funding, withdrawal, and spending operations
GAPP 6	The governance framework for the SWF should be sound and establish a clear and effective division of roles and responsibilities in order to facilitate accountability and operational independence in the management of the SWF to pursue its objectives
GAPP 10	The accountability framework for the SWF's operations should be clearly defined in the relevant legislation, charter, other constitutive documents, or management agreement
GAPP 11	An annual report and accompanying financial statements on the SWF's operations and performance should be prepared in a timely fashion and in accordance with recognized international or national accounting standards in a consistent manner
GAPP 12	The SWF's operations and financial statements should be audited annually in accordance with recognized international or national auditing standards in a consistent manner
GAPP 16	The governance framework and objectives, as well as the manner in which the SWF's management is operationally independent from the owner, should be publicly disclosed
GAPP 17	Relevant financial information regarding the SWF should be publicly disclosed to demonstrate its economic and financial orientation, so as to contribute to stability in international financial markets and enhance trust in recipient countries

(continued)

Table 3 (continued)

<i>Generally accepted principle and practice item</i>	<i>Narrative of principle</i>
GAPP 18.3 (Subprinciple)	A description of the investment policy of the SWF should be publicly disclosed
GAPP 22.3 (Subprinciple)	The general approach to the SWF's risk management framework should be publicly disclosed
GAPP 23	The assets and investment performance (absolute and relative to benchmarks, if any) of the SWF should be measured and reported to the owner according to clearly defined principles or standards

“meaningful progress,” “inadequate progress,” and “No progress” (Table 4).

4.1.3 *Resource Governance Index*

The Resource Governance Index is a measure of the robustness of extractive sector governance arrangements in a resource-rich country. The Natural Resource Charter, an exposition on the “decision chain” for leveraging resource endowments for an inclusive and sustainable socio-economic development of resource-rich countries, forms the intellectual foundation of the Resource Governance Index.¹⁷ The Resource Governance Index was instituted to respond to the need to diagnose in detail the challenges and successes of resource governance and analyze trends such that it promotes public debates and peer learning for improving country-specific governance arrangements to catalyze extractive resource-based socio-economic development.

The composite index integrates three (3) components—value realization, revenue management, and enabling environment—cascading further down to incorporate sub-components. Each of the sub-component within value realization and revenue management relates to a precept in the Natural Resource Charter and its accompanying Natural Resource Benchmarking Framework. The transparency benchmarks as presented in Table 5 are therefore adopted from the Natural Resource Benchmarking Framework.

¹⁷ 2017 Resource Governance Index accessed from https://api.resourcegovernanceindex.org/system/documents/documents/000/000/046/original/2017_Resource_Governance_Index.pdf?1498599435.

Table 4 2019 EITI requirements

<i>Applicable requirements</i>	<i>Narrative of standard</i>
Requirement 2: Legal and Institutional Framework, including allocation of contracts and licenses	This requires implementing countries to make disclosures regarding: legal framework and fiscal regime; mechanisms for granting of rights to exploit extractive resources (license and contract allocation); maintenance of a publicly available register of licenses; contracts with agreed terms for exploiting extractive resources; beneficial ownership information; and state participation including rules and practices governing the financial relationship between the SOE and the State and audited financial statements/main financial items
Requirement 3: Exploration and Production	This requires public disclosures of: exploration activities; production data including volumes and value; and export data including volumes and value
Requirement 4: Revenue Collection	This requires comprehensive disclosure of company payments and government revenues from the extractive sector. It considers disclosure of taxes and revenues; sale of State's share of production or other revenues collected in kind; infrastructure provisions and barter arrangements; transportation revenues disaggregated by project, company, government equity, and revenue stream. These disclosures must be timely and of assured quality
Requirement 5: Revenue Allocations	This requires disclosures of information related to revenue allocations, enabling stakeholders to understand how revenues are recorded in the national and, where applicable, subnational budgets, as well as track social expenditures by companies. The EITI Requirements related to revenue allocations include: distribution of revenues; subnational transfers; and revenue management and expenditures
Requirement 6: Social and Economic Spending	Under this requirement, implementing countries are encouraged to disclose information related to revenue management and expenditures, helping stakeholders to assess whether the extractive sector is leading to the desirable social and economic and environmental impacts and outcomes. The EITI Requirements related to revenue allocations include: social and environmental expenditures by companies; SOE quasi-fiscal expenditures; an overview of the contribution of the extractive sector to the economy; and the environmental impact of extractive activities

<i>Applicable requirements</i>	<i>Narrative of standard</i>
Requirement 7: Outcomes and Impact	<p>This requires the MSG to ensure that government and company disclosures are comprehensible, actively promoted, publicly accessible, and contribute to public debate. It also requires implementing countries to make EITI disclosures publicly accessible. The MSG is further required to take steps to act upon lessons learnt; to identify, investigate, and address the causes of any information gaps and discrepancies; to consider the recommendations resulting from EITI implementation; and to review the outcomes and impact of EITI implementation on natural resource governance</p>

Table 5 Transparency and accountability benchmarks based on the natural resource benchmarking framework

<i>Transparency and accountability benchmark</i>	<i>Summary of benchmark</i>
Transparency	This benchmark considers: access to the legal framework governing the sector; presence of disclosure rules that enable access to information on resource management; and existence of effective information management systems that support access to information; publication of data according to open data standards; and availability of data on a comprehensive set of resource governance and management issues
Official Oversight	This benchmark considers the official role of public institutions such as the legislature and supreme audit institutions in holding governments to account in the management of extractive resources. It also considers control of corruption by governments and how they effect measures to deter, detect, and prosecute corruption
Communications and Public Oversight	This benchmark considers: implementation of a government communication strategy that informs citizens of the cost of and manages citizen expectation of the benefits of extraction; consist of respect and upholding of civic and political freedoms by government; media and civil society effectiveness in terms of improving public accountability in natural resource management; implementation of independent research into resource governance by research institutions such as think tanks and civil society groups, journalists and academic institutions; and active promotion and enforcement of professional standards of conduct and engagements in extractive industries by professional associations and unions

4.1.4 *Africa Mining Vision (AMV)*

In spite of the enormous mineral resource endowment in Africa, poverty is prevalent among the peoples of the continent. These resources are not being effectively harnessed to improve the economies of mineral resource-rich countries on the continent, mainly because most of these resources are exported in their raw state without value addition. To ensure that mineral resources are effectively harnessed to address poverty and sustainable and inclusive development challenges on the continent, the Africa Mining Vision of a “Transparent, equitable, and optimal exploitation of mineral resources to underpin broad-based sustainable growth and socio-economic development” was adopted by the First AU Conference of African Ministers responsible for mineral resources development in October 2008. The AMV is founded on seven (7) pillars based on which nine (9) clusters have been developed to operationalize the Vision.

The Vision recognizes the importance of transparency in the drive to optimize mineral resources for sustainable, broad-based socio-economic growth and development such that one of the pillars/tenets is dedicated to transparency: “Fostering a transparent and accountable mineral resource sector in which resource rents are optimized and utilized to promote broad-based economic and social development.” This transparency-centered pillar has been integrated in the development of the clusters and action plan for operationalizing the AMV. Table 6 summarizes the transparency indicators and adaptations for the oil and gas sector.

4.2 *Ghana’s Transparency and Accountability Mechanisms for Oil and Gas*

Transparency and accountability arrangements in Ghana are founded on Article 35(8) under the Directive Principles of State Policy of the 1992 Constitution which states that “*The State shall take steps to eradicate corrupt practices and the abuse of power.*” This provision is further actioned in governance frameworks including Acts of Parliament and regulations.

In the oil and gas sector, there are transparency provisions in the *Petroleum (Exploration and Production) Act, 2016 (Act 919)*, which is the parent Act for the upstream petroleum sector, and its accompanying *Petroleum (Exploration and Production) (General) Regulations, 2018 (LI 2359)*. These provisions go to the heart of transparency of petroleum revenues such that they furnish accountability actors with data that define

Table 6 Transparency indicators adapted from the Action Plan for Implementing the Africa Mining Vision

<i>Cluster</i>	<i>Transparency indicator under cluster</i>	<i>Adaptation for oil and gas</i>
Cluster 1—Mining Revenues and Mineral Rents Management	Extent to which competitive and transparent mineral concession systems are implemented	Transparent and competitive allocation of rights to exploit oil and gas resources
Cluster 3—Building Human and Institutional Capacities	Availability of updated and comprehensive sources of information to the public and other stakeholders	Public and stakeholder access to comprehensive information on oil and gas resource exploitation and management
Cluster 5—Mineral Sector Governance	Extent of public disclosure of relevant information on the mining sector Existence of legislation and policy for transparency and public access to information Number of policies, laws, and regulations on public participation	Existence of legislation and policy for transparency and public access to information and participation

revenue accruals from exploitation of petroleum resources to government. The contractual terms that border on revenue mobilization, as determined in petroleum agreements and which are disclosed through the publishing of these agreements, include carried and participating interests assumed by the National Oil Company, royalty rates, petroleum income tax rates, withholding tax rates, surface rentals, windfall tax (additional oil entitlements), and signature bonuses.

Specifically, Regulation 21 of LI 2359 requires that the sector Minister publicly discloses, inter alia, fiscal terms of petroleum agreements in the Gazette, on the Ministry's website and in at least two State-owned newspapers after Parliament has ratified the agreement. Additionally, Section 56 of Act 919 obligates the Petroleum Commission, the regulator of the upstream petroleum sector, to publish and maintain a publicly accessible register of petroleum agreements, licenses, permits, and authorizations. Ghana complied with this provision in 2017 by launching the portal—<https://www.ghanapetroleumregister.com-a> publicly accessible register of petroleum agreements. This portal has information on the country's exploration history, legislations, contract areas, and relevant

petroleum agreements as well as some information on procurement activities pursuant to *Regulation 40 of the Petroleum (Local Content and Local Participation) Regulations, 2013 (L.I 2204)*. While information on the petroleum agreements have been kept updated, some aspects of the portal such as the procurement activities and outcomes of the first competitive licensing (bidding) round have not been updated.

The legal framework for petroleum revenue governance is primarily set in the Petroleum Revenue Management Act (PRMA), 2011 (Act 815) and its amendments (Act 893). The PRMA provides the framework for the collection, allocation, and management of petroleum revenue in a responsible, transparent, accountable, and sustainable manner for the benefit of the citizens of Ghana.

The PRMA, in keeping with transparency and accountability principles, underscores in Section 49, the commitment to manage and perform ancillary duties in relation to petroleum revenue and savings in accordance with the highest internally accepted standards and good governance. In Section 8 of the PRMA and to enhance transparency and accountability, the Minister for Finance is required to publicly disclose petroleum receipts, total petroleum output lifted and the reference price in the Gazette, in at least two State-owned newspapers and on the Ministry's Website. The PRMA also outlines fiscal rules for allocation to the petroleum funds established by the PRMA and withdrawals and utilization of same. For the purpose of emphasis, these petroleum funds and objectives have been outlined in Table 1.

The Minister for Finance is required, under Section 15 of the PRMA, to reconcile actual total petroleum receipts and the ABFA of the immediate preceding year, the report of which is to be submitted to Parliament and published in the Gazette as well as in a minimum of two State-owned newspapers.

Specific provisions for the management of sovereign wealth funds are also outlined in the PRMA. Sections 26 and 27 discuss investment guidelines and rules for investing the Ghana Stabilization Fund and the Ghana Heritage Fund. The qualifying instruments into which these Funds can be invested include:

- (a) a debt instrument denominated in internationally convertible currency that bears interest or a fixed amount equivalent to interest that is of an investment grade security and that is issued by or guaranteed by the International Monetary Fund, World Bank or a sovereign State other than

the Republic of Ghana, if the issuer or guarantor has investment grade rating; (b) an internationally convertible currency deposit with or a debt instrument denominated in an internationally convertible currency that bears interest issued by the Bank for International Settlements, the European Central Bank, the Central Bank of a sovereign State, other than the Republic of Ghana, with a long term investment grade rating; or a derivative instrument that is solely based on an instrument that satisfies the requirements of paragraphs (a) and (b) and where its acquisition reduces the financial exposure to the risks associated with the underlying instruments prescribed by the Minister.

The Bank of Ghana—the Manager of the Funds—is required to publish semi-annual reports on the performance and activities of the Ghana Stabilization Fund and the Ghana Heritage Fund in 2 State-owned newspapers and on the Bank’s website. The Reports must also be submitted to the Legislature. Additionally, the Minister for Finance, under Section 48 of the PRMA, is obligated to submit annual reports on the Petroleum Funds to Parliament and publish same in a manner that enhances public access. Furthermore, Sections 45 and 46 mandate the Auditor-General to, respectively, conduct annual and special audits of the Petroleum Funds and to submit the associated audit reports to Parliament as well as publish them. This provision promotes the oversight responsibility of the Legislature of the Petroleum Funds in order to ensure accountability of the Funds.

Transparency and accountability of petroleum revenues are further enhanced by the establishment of the Public Interest and Accountability Committee (PIAC)—a citizen-led accountability committee—under Section 51 of the PRMA: to monitor compliance with the PRMA in terms of management and utilization of petroleum revenues; provide a platform to encourage public debates around how management of petroleum revenues aligns with stated development priorities; and to conduct independent assessment of the use of petroleum revenues to aid Parliament in the performance of its oversight responsibility.

Ghana is also a member of the EITI and has therefore committed to complying with EITI requirements which require disclosures of government revenue receipts and company payments in the extractive sector. After becoming a candidate country in 2007, Ghana published in 2008, its first report on the 2004 financial year which was focused on the mining

sector.¹⁸ After commercial discovery of oil and subsequent commencement of production in 2007 and 2010, respectively, Ghana produced its first EITI report on the petroleum sector in 2013 focusing on happenings in the 2010–2011 financial years.¹⁹

Nevertheless, there are also some significant risks that threaten to undermine well-intended government actions, which we outline below. Firstly in 2015, the government made amendments to the PRMA, which culminated in the Petroleum Revenue Management (Amendment) Act, 2015 (Act 893), to deal with deficiencies in the original Petroleum Revenue Management Act, 2011 (Act 815). Some of the amendments in Act 893 allowed for revising Benchmark Revenues by the Minister for Finance through Parliament. Also, per the amendment, a maximum 25% of the amount allocated for public investment expenditure portion of the ABFA is to be allocated to the Ghana Infrastructure Investment Fund (GIIF)—one of the main sources of funds for the GIIF is the ABFA. GIIF is a body corporate wholly owned by the Republic of Ghana and established by the Ghana Infrastructure Investment Fund Act, 2014 (Act 877).²⁰ The Fund’s mandate is to mobilize, manage, coordinate, and provide financial resources for investment in a diversified portfolio of infrastructure projects in Ghana for national development.

Some ABFA funds were allocated to GIIF between 2015 and 2017 in accordance with Section 5(1b) of Act 877. Specific allocations were GHS189.03 million (US\$41.88 million) in 2015, GHS68.05 million (US\$17.22 million) in 2016, and GHS29.20 million (US\$6.92 million) in 2017. This represented also 16, 25, and 24% of total allocation to the ABFA in the respective years. There were no allocations to GIIF between 2018 and 2020, as highlighted in various PIAC reports.²¹ For example, PIAC (2018: pp. 65, 125)²² highlighted that:

¹⁸ See <https://eiti.org/ghana>.

¹⁹ Ibid.

²⁰ See Ghana Infrastructure Investment Fund Investment Policy Statement. https://www.mofep.gov.gh/sites/default/files/reports/economic/GIIF%20Investment%20Policy%20Statement_April62017.pdf.

²¹ See PIAC Annual Reports for 2018 to 2020.

²² See PIAC Annual Report for 2018. https://www.piacghana.org/portal/files/downloads/piac_reports/piac_2018_annual_report.pdf.

For the first time since its establishment in 2014, the Ghana Infrastructure Investment Fund (GIIF) received no allocation from the Annual Budget Funding Amount as required by the PRMA.... Given the important contribution of the Ghana Infrastructure Investment Fund (GIIF) to some infrastructure projects, PIAC calls on the Ministry of Finance to ensure that there is constant allocation and disbursement to the Fund as prescribed by the PRMA, to facilitate the execution of legacy projects.

A reason for the non-funding of GIIF between 2018 and 2020 was partly because of the government's earlier intention to overhaul the institution as well as the passage of the *Earmarked Funds Capping and Realignment Act, 2017 (Act 947)* in March 2017 which provided that the earmarked funds for each financial year should be equivalent to 25% of total revenue. The rationale for such capping, according to the Minister for Finance, Mr. Ken Ofori-Atta, was to deal with the rigidities in public expenditure—inability to shift public spending from one expenditure line to another such as debt servicing—and free up public resources by ensuring that only 25% of tax revenues encumbered by those funds such as GIIF is available.²³ Act 947 stopped the funding flows to GIIF via the ABFA for three years. At the same time as the flow of funds to GIIF ceased, government allocated more ABFA funding to new priority areas in education such as funding the flagship Free Senior Secondary School ('Free SHS') policy.

Given the persistent calls by civic actors, including PIAC, over the thin spreading and thus negligible impact of petroleum revenues on the real sector of the economy, it stands to reason that GIIF should have been allocated more ABFA revenues to allow it to undertake some of the big ticket or transformative infrastructure projects. Such projects would not only have catalyzed economic development but also generated substantial financial returns to the nation. For example, PIAC (2019: p. 15)²⁴ notes that:

²³ Daily Graphic. (2019). You can't cap assemblies common fund - Supreme Court to govt. Available at: <https://www.graphic.com.gh/news/general-news/supreme-court-declares-capping-of-assemblies-common-fund-unconstitutional.html> (Accessed: 4 November 2021); See also Section 2 of Act 947.

²⁴ See PIAC Annual Report for 2019. https://www.piacghana.org/portal/files/downloads/piac_reports/piac_2019_annual_report.pdf.

After reviewing GIIF's investment of US\$30 million in the Kotoka International Airport (KIA) Terminal 3 project, and the subsequent returns of US\$5.5 million of the initial investment in three (3) years, the Committee recommends more of such investments in high-yielding capital projects.

In March 2021, the Ghanaian government reversed its stand through the *Ghana Infrastructure Investment Fund Amendment Act 2021 (Act 1063)*. Act 1063 repealed Section 9 of the Earmarked Funds Capping and Realignment Act, 2017 (Act 947) and reassigned the 25% of the ABFA to GIIF to fund direct infrastructure expenditure.²⁵ The expectation is that GIIF will now be fully funded going forward to undertake much-needed big ticket public infrastructure investments. The above highlights the difficult political economy choices that countries such as Ghana with persistent fiscal challenges have had to make—that is, financing public capital investments versus recurrent spending.

Secondly, the decision to allocate up to 25% of the public expenditure portion of the ABFA to the GIIF provided further incentives for changing the law as and when the government of the day considered it expedient. In 2019, two members of Parliament, Benjamin Kpodo of Ho Central and Richard Quashigah of Keta, asked the Supreme Court to define “total government rule” as per Article 252(2) of the 1992 Constitution.²⁶ The Supreme Court ruled to include the ABFA as part of the total national revenue for determining the allocation to the District Assembly Common Fund (DACF) as per Article 252(2) of the 1992 Constitution. This decision reversed the original principle that petroleum revenue shall not be “*used as the basis for the determination of any statutorily earmarked funds*” as provided in Section 3(5)(b) and “*outside of the allocation of the Petroleum Holding Fund, extra budgetary activities or statutory earmarking of petroleum revenue for any consideration is prohibited*” as provided in Section 22 of the *Petroleum Revenue Management Act, 2011 (Act 815 as amended)*.

²⁵ See Section 5(a) of Act 1063.

²⁶ See Kpodo, MP and Another Vrs Attorney-General (J1/03/2018) [2019] GHASC 39 (12 June 2019). <https://ghalii.org/gh/judgment/supreme-court/2019/39>; Two NDC MPs ask Supreme Court to define “total revenue of Ghana”. MyJoyOnline.com (2021). Available at: <https://www.myjoyonline.com/two-ndc-mps-ask-supreme-court-to-define-total-revenue-of-ghana> (Accessed: 4 November 2021).

In essence, this was challenged by politicians who needed increased allocation to their District Assemblies and more so given some fears that the government was starving the DACF to fund other fiscal exigencies such as debt servicing. This judgment has moved petroleum revenues from intended purposes to an earmarked Fund such as the DACF that does not have rigorous safeguards as the PRMA. PIAC (2021) indicated that an amount of GHS129.26 million, representing 5% of budgeted ABFA, has been allocated to the DACF following the Supreme Court decision.²⁷ Being a Supreme Court judgment, it questions the prohibition of earmarking petroleum revenues provided for in Section 22 of Act 815. Basically, this has opened the law up for future amendments that could eventually mutilate the entire fiscal framework.

Lastly, as also highlighted in various PIAC and other statutory reports there are significant inefficiencies and wasteful public spending in Ghana generally, and specifically with ABFA-funded projects. This is despite the enactment of the *Public Financial Management Act 2016 (Act 921)*. It remains to be seen the extent to which the *Petroleum Revenue Management Regulations, 2019 (L.I. 2381)* and the *Public Financial Management (Public Investment Management) Regulations 2020 (L.I. 2411)*, which both provide measures to address general and petroleum spending inefficiencies will be able to deal with these fiscal excesses (Table 7).

5 CONCLUSION

Ghana's discovery of oil and gas in 2007 was greeted with cautious optimism. Several forums were held to learn from the experiences of oil producers—the good and the bad. The Ministry of Finance conducted a survey in addition to these forums to solicit the views of Ghanaians on how best to manage the resource and the accruing revenue. These efforts culminated in the passage of the Petroleum Revenue Management Act, 2011 (Act 815 as amended). Since then, separate accounts have been

²⁷ See 2021 Semi-Annual Report of the Public Interest and Accountability Committee (PIAC). https://www.piacghana.org/portal/files/downloads/piac_reports/piac_2021_semi-annual_report.pdf; *¢129.26 million of ABFA allocated to District Assembly Common Fund yet to be disbursed – PIAC report*. MyJoyOnline.com (2021). Available at: <https://www.myjoyonline.com/129-26-million-of-abfa-allocated-to-district-assembly-common-fund-yet-to-be-disbursed-piac-report> (Accessed: 4 November 2021).

Table 7 Performance of Ghana in relation to Global Disclosure Benchmarks

<i>Provision</i>	<i>Aligned global transparency arrangement</i>	<i>Compliance level of Ghana</i>
Existence of legislation and policy for transparency and public access to information and participation	<ul style="list-style-type: none"> • Santiago Principles • EITI Standard • Natural Resource Benchmarking Framework • Adaptation from the Africa Mining Vision 	Compliance with this provision is evidenced in publicly available legal frameworks such as Act 919, L.I 2359, Act 815, all of which have provisions on transparency and public access to information and participation. Act 815 which governs petroleum revenue management provides public disclosures of petroleum revenue utilization and management and the encouragement of public debates around the nexus between utilization and achievement of stated development priorities

(continued)

Table 7 (continued)

<i>Provision</i>	<i>Aligned global transparency arrangement</i>	<i>Compliance level of Ghana</i>
Transparency in right allocation to explore oil and gas resources	<ul style="list-style-type: none"> • EITI Standard • Natural Resource Benchmarking Framework 	<p>The E&P law, Act 919, requires that rights to explore petroleum resources are allocated in a competitive bidding process. It however outlines conditions under which rights can be allocated through direct negotiations. In pursuance of the provision on competitive bidding, Ghana in 2018 began processes to allocate 6 petroleum blocks through a mix of competitive bidding and direct negotiations. Winners of the bid were publicly disclosed. However, negotiations to reach an agreement are still ongoing.</p> <p>GAP: The timeline for commencing negotiation and award of block was not complied with resulting in delayed petroleum agreements^a. Moreover, there is no public record to indicate that the invitation to tender, including biddable terms, was publicly disclosed which is in contravention of Section 10(6) of Act 919^b.</p>
Public Disclosure of Exploration and Production Data	<ul style="list-style-type: none"> • EITI Standard • Natural Resource Benchmarking Framework • Adaptation from the Africa Mining Vision 	<p>These disclosures are made in a number of reports which are publicly available. These reports include: the Ministry of Finance's Reconciliation Report on the Petroleum Holding Fund and Annual Reports on the Petroleum Funds, the Public Interest and Accountability Committee's Semi-Annual and Annual Reports, and the Ghana EITI's Reports on the Oil and Gas Sector. This data is disclosed at the project level which is positive. For instance, in the 2019 Reconciliation Report, the Greater Jubilee Field was reported to have produced 31,915,377 barrels of oil and 51,279.70 MMScf of associated gas^c.</p>

Provision

Public Disclosure of Revenue Collection Data

- Santiago Principles
- EITI Standard
- Natural Resource Benchmarking Framework

*Aligned global transparency arrangement**Compliance level of Ghana*

These disclosures are made in a number of reports which are publicly available. These reports include: the Ministry of Finance's Reconciliation Report on the Petroleum Holding Fund and Annual Reports on the Petroleum Funds, the Public Interest and Accountability Committee's Semi-Annual and Annual Reports, and the Ghana EITI's Reports on the Oil and Gas Sector. The Auditor-General's Report on the management of petroleum funds also discloses company payments that are outstanding

GAP: In some instances, the Petroleum Reports produced and published by the Ministry of Finance are without the Audited financial statements of the Petroleum Funds which is in contravention of Section 48(2)(a) of the PRMA. This has been attributed to delays in producing the reports. For instance, the 2018 Auditor-General's Report on the management of the Petroleum Funds, which needed to be integrated in the 2019 Annual Report on Petroleum Funds was published in May 2020. Moreover, the Investment Advisory Committee which advises the Minister for Finance on investment of the SWFs was only re-constituted on 14 January 2019. The question that begs asking therefore is: *Against what investment advice were allocations to the GSF and GHF in 2017 and 2018 invested?*

(continued)

Table 7 (continued)

<i>Provision</i>	<i>Aligned global transparency arrangement</i>	<i>Compliance level of Ghana</i>
Public Disclosure of Revenue Allocations Data	<ul style="list-style-type: none"> • Santiago Principles • EITI Standard • Natural Resource Benchmarking Framework 	<p>These disclosures are made in a number of reports which are publicly available. These reports include: The Ministry of Finance's Budget Statement and Economic Policy, Reconciliation Report on the Petroleum Holding Fund and Annual Reports on the Petroleum Funds, the Public Interest and Accountability Committee's Semi-Annual and Annual Reports, and the Ghana EITI's Reports on the Oil and Gas Sector</p> <p>GAP: The co-mingling of petroleum revenues with other Government of Ghana funds makes monitoring of revenues quite challenging. Secondly, the thin spreading of petroleum revenues across several projects creates both time and cost overruns making projects more expensive. Again, it is difficult to understand the basis for the selection of the 2020–2022 priority areas to receive ABFA funding which has been reiterated in PIAC. Finally, the exercise of discretionary powers by the Minister for Finance to cap the GSF could be abused</p>

Provision

Transparency in Social and Economic Spending

- Santiago Principles
- EITI Standard
- Natural Resource Benchmarking Framework

*Aligned global transparency arrangement**Compliance level of Ghana*

These disclosures are made in a number of reports which are publicly available. These reports include: The Ministry of Finance's Budget Statement and Economic Policy, Reconciliation Report on the Petroleum Holding Fund and Annual Reports on the Petroleum Funds, the Public Interest and Accountability Committee's Semi-Annual and Annual Reports, and the Ghana EITI's Reports on the Oil and Gas Sector. The Public Interest and Accountability Committee is particularly tasked with the responsibility of monitoring utilization of petroleum revenues and with encouraging public debates around the efficiency of spending such that development priorities are met.

GAP: Accountability regarding unutilized ABFA is generally lacking. Civil Society attempts to elicit this information from government have generally been futile. At best, responses indicate that such unutilized revenues are lodged in the Treasury Single Account where it leaves the transparency and accountability remit of the PRMA. Moreover, government has for the fourth time delayed release of official data regarding ABFA spending to enable PIAC produce its Semi-Annual Reports which is in contravention of the PRMA.^e Further, instead of linking expenditure to inclusive national plans, priority areas are often determined by political party manifestoes

(continued)

Table 7 (continued)

<i>Provision</i>	<i>Aligned global transparency arrangement</i>	<i>Compliance level of Ghana</i>
Official Oversight	<ul style="list-style-type: none"> • Natural Resource Benchmarking Framework • EITI Standard • Santiago Principles 	<p>The 1992 Constitution of Ghana, under Article 268, indicates that any agreement that seeks to allocate the right to exploit extractive resources in Ghana must be ratified by Parliament. Act 919 reiterates this requirement under Section 10(13). Additionally, the PRMA requires that reports on management of petroleum revenues are submitted to Parliament to aid in carrying out its oversight responsibility. Other institutions with mandate to provide oversight of petroleum revenue utilization are the Public Interest and Accountability Committee and the Auditor-General</p> <p>The general public including civil society organizations, the media, research institutions, and think tanks are furnished with information to aid in the public's oversight of petroleum revenue management</p>
Communications and Public Oversight	<ul style="list-style-type: none"> • Natural Resource Benchmarking Framework • EITI Standard 	

^aGhana's First Oil Licensing Round Monitoring Report accessed on 16 December 2020 at <https://storage.googleapis.com/stateless-accp-africa/2020/08/71587c32-new-report-updated.pdf>

^bIbid.

^cThe 2019 Reconciliation Report on the Petroleum Holding Fund accessed on 19 December 2020 at https://mofep.gov.gh/sites/default/files/reports/petroleum/2019-Petroleum-Annual-Report_2020-04-23_v2.pdf

^dPIAC's Semi-Annual Report on the Management of Petroleum Revenues for the Period January to June, 2020 accessed on 19 December 2020 at https://www.piacghana.org/portal/files/downloads/piac_reports/piac_2020_semi-annual_report_.pdf

^eIbid.

created for the receipt and management of petroleum revenues. Indeed, the PRMA has diversification objectives (through the ABFA investment), budget stabilization objectives (through the Stabilization Fund), and intergenerational equity objectives (through the Heritage Fund). There are a number of transparency provisions, such as the creation of the Public Interest and Accountability Committee (PIAC) and the publication of petroleum information that ensure that citizens are informed on how the petroleum revenues are spent. Indeed, in the 2017 Resource Governance Index, Ghana scored 90% in the Voice and Accountability sub-component placing 8th out of 89 countries.

Despite these successes, there are limitations that need to be addressed to build a revenue management system capable of overcoming the oil curse. Prominent among these is the use of ruling party manifestos as the basis for ABFA priority allocation. While this may be understandable, most political party manifestoes are drafted without much empirical analysis. This means the potential effect of a particular priority on the economy is not estimated before they are selected. Efforts should be made to link the ABFA priority selection to long-term national development plans, as prescribed by the Law.

Secondly, often, an assessment of existing priority areas for oil funding is not carried out before new ones are selected. Thirdly, while Ghana has performed creditably, with regard to transparency, there is usually incomplete information regarding unutilized ABFA. Fourthly, unsustainable borrowing and high interest payments can narrow the benefits of petroleum revenues. These and other challenges need to be addressed for citizens to significantly feel the benefits of petroleum revenues. In a nutshell, though Ghana has made progress, there is more room for improvement.

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The PRMA as Ghana’s Petroleum-Based Sovereign Wealth Fund (SWF): Fiscal Framework and Performance

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1 INTRODUCTION—RECAP AND RATIONALE

For over a year, before Ghana’s first export of crude oil from the Jubilee Oil Fields in 2010, the outcome of public consultations resulted in a citizens’ mandate to Parliament to pass the Petroleum Revenue Management Act, 2011 (Act 815), hereinafter referred to as “PRMA”. The general view was the need to learn from past experiences in using revenues from the country’s natural resources, notably its production and export of agricultural produce and minerals, including cocoa and gold. It was necessary to change course in managing its new oil find in a better way than it had done in the past.

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Besides the public, the Bill to Parliament from the Presidency and Cabinet reflected experiences from other oil-producing countries such as Nigeria, Norway, and Trinidad and Tobago. The PRMA consultative team or committee, led by the Ministry of Finance (MOF), had members from the Presidency, Ministry of Energy, Bank of Ghana (BOG), and civil society. Based on the committee's recommendations and draft bill, a PRMA national forum was held at the Accra International Conference Centre (AICC) at which the following fiscal issues in the draft Bill to Parliament were discussed.

- a. **Pool all midstream and upstream revenues into a Petroleum Holding Fund (PHF), with sources of income** that include direct and indirect taxes, non-tax revenues such as fees and royalties, and proceeds from sale of the State's share of crude oil and gas production.
- b. **Give annual approving authority to Parliament to allocate from the PHF into primary Funds and budgets** comprising, the state oil company, namely, Ghana National Petroleum Corporation (GNPC); the Ghana Petroleum Funds (GPF) comprising the Ghana Stabilization Fund (GSF) and Ghana Heritage Fund (GHF); the central government Budget [called the Annual Budget Funding Amount (ABFA)]; and later the Public Interest and Accountability Committee (PIAC).
- c. **Keep a judicious balance between "consumption" and "development" expenditure in the use of ABFA:** as explained in the next section, after GNPC's allocation, the PRMA apportions the balance of the PHF to the Heritage Fund (9%), Stabilization Fund (21%), and ABFA (70%).
- d. **Focus on development projects:** the PRMA also provides that 70% of the ABFA's 70% (49% of post-GNPC allocation) is dedicated to *development or capital* projects in 4 priority sectors that Parliament approves every three (3 years); with the remaining 30% being assigned to recurrent or consumption expenditure.
- e. **Adopt a rules-based mechanism for the allocations** to limit the discretionary powers of Ministers over the *primary* and, since 2014, the *secondary* funds, namely (a) the Sinking Fund and the Contingency Fund, as derived from "capping" of the Stabilization Fund, with the express approval of Parliament; and (b) the Ghana Infrastructure Investment Fund (GIIF), with source from the ABFA and

flows from the increase in the VAT rate from 15 to 17.5%—both of which were repealed in 2017 but with the former restored by the 2022 Budget.

- f. **Give investment advisory role over the GPF to a Committee** that includes staff of MOF and BOG to adopt a prudent, conservative, and non-aggressive approach to managing the funds—the primary reason for the low incomes that is irksome to some Ghanaians who may not be familiar with the potential risks of an aggressive stance.
- g. **Assign audit, monitoring, and supervisory roles** to Parliament, the Auditor-General, and the Public Interest and Accountability Committee (PIAC)—which have raised issues such as “non-existent”, “non-visible”, and poor-quality projects, and accountability for gaps in incomes and disbursements.

These elements ensure that the revenues specified under Section 6 of the Petroleum Revenue Management Act (PRMA) 2011 (Act 815) flow into the Petroleum Holding Fund. A second goal is an **important but delicate balance** among fiscal objectives, including savings, spending, fiscal stabilization, debt management, investment or development, and crisis management. However, this fiscal balance is often at risk, mainly due to unplanned political-economy mandates and testing the boundaries of ministerial discretion.

This threatens to put the Act along the same path as the failed pre-PRMA prioritization of spending under the 1992 Constitution (e.g., rural development and the District Assemblies Common Fund [DACF]) and Acts of Parliament (e.g., Ghana Education Trust Fund [GETFund], National Health Insurance [NHIL], Ghana Road Fund (GRF)). Some of these had clear political-economy undertones, such the proxy Value Added Tax [VAT] rate increase that formed the basis for enacting the NHIL, GETFund, and GIIF.

2 SUMMARY OF THE ALLOCATION OF PETROLEUM REVENUES

The PRMA judiciously distributes the flows into the Petroleum Holding Fund (PHF) into various primary and secondary Funds. Table 1 summarizes the mode of distribution from the PHF into the various Funds. The initial balance of the primary funds in the PRMA are among (a)

Table 1 Distribution of petroleum revenues

<i>Item</i>	<i>Fund and description</i>	<i>Share/percent</i>
	Revenue pool	
A	Petroleum Holding Fund (PHF): All petroleum tax & non-tax revenues; and sales of State share by GNPC	100% (strictly non-discretionary)
	Budget-based allocations	
B	GNPC: equity, operational and investments costs	Annual budget approved by Parliament
C	PIAC: supervisory and operational expenses	
	Net amount (percent after GNPC & PIAC deductions)	
D	Ghana Petroleum Funds (GPF): rules-based “reserve” accounts	30%
D.1	Ghana Heritage Fund (GHF): savings account for future generations	9%
D.2	Ghana Stabilization Fund (GSF): buffer against budget shortfalls	21%
	<i>o/w percent of excess, after “cap” is approved by Parliament under the Public Financial Management Act (PFMA), 2016 (Act 921) and the 1992 Constitution</i>	
D.2.1	Sinking Fund: To redeem and restructure the public debt	75% of excess after “cap”
D.2.2	Contingency Fund: meet national emergency needs	25% of excess after “cap”
E	Annual Budget Funding Amount (ABFA): annual budget needs	70%
E.1	Capital Budget: 4 sectors/uses, reviewed every 3 years by Parliament	70% of ABFA (49% of total)
E.2	Recurrent Budget: “goods & services” and debt service (2014–2016)	30% of ABFA (21% of total)
E.3	Ghana Infrastructure Investment Fund (GIIF) Act, 2014 (Act 877)—leverage to borrow from capital budget for commercial projects	15% of ABFA

Source Author’s construct

investments by GNPC; (b) a budget buffer to protect the budget against shortfalls that may lead to unplanned deficits, borrowing and debt distress (Stabilization); (c) savings for future generations (Heritage); and (d) general budget needs (ABFA), with a mandatory 49% tilt that favors capital or development expenditure in 4 priority sectors.

In 2014, in capitalizing on the “capping” of the Stabilization Fund under Section 24(4) of the PRMA, upon the recommendation of the

Minister, Parliament created three secondary funds, named after the Table 1 numbering as (F) Sinking Fund (public debt repayment and management); and (G) Contingency Fund (national emergencies C). It is necessary to note that these are, respectively, optional and mandatory requirements under the 1992 Constitution that successive governments could not implement. Finally, given the need for more visible and self-financing projects, Parliament passed the (H) Ghana Infrastructure Investment Fund (GIIF) Act, 2014 (Act 877) with revenue flows from the ABFA and dedicated to financing “self-financing” commercial projects with positive rate of return.

2.1 *Flows into the Petroleum Holding Fund [PHF]*

The PHF is set up as a Public Fund at BOG, as a Chapter 13 constitutional requirement and under Section 2 of the PRMA to receive and disburse the petroleum revenues. Upon the respective approvals by Parliament, the shares are transferred into the Consolidated Fund (e.g., ABFA) and other Public Funds (e.g., GNPC Budget, GIIF, Contingency and Sinking Funds). Section 6 provides for the following to “constitute the gross receipts of the PHF”—

- a. royalties from oil and gas, additional oil entitlements, surface rentals, other receipts from any petroleum operations and from the sale or export of petroleum;
- b. any amount received from direct or indirect participation of the government in petroleum operations;
- c. corporate income taxes (CITs) in cash from upstream and midstream petroleum companies;
- d. any amount payable by the national oil company (NOC) as CIT, royalty, dividends, or any other amount due in accordance with the laws of Ghana; and
- e. any amount received by the government directly or indirectly from petroleum resources not covered by paragraph (a) to (d), including where applicable, capital gains tax derived from the sale of ownership of exploration, development and production rights.

Under Section 7 “*revenue due from the direct or indirect participation of the Republic in petroleum operations, including the carried and participating interests (CAPI), shall be paid into the Petroleum Holding Fund (PHF)*”.

Section 3 *vests the Ghana Revenue Authority (GRA) with responsibility to assess, collect, and account for the revenues, including auditing and compliance.* Section 4 adds to this responsibility, the receipt of petroleum receipts in kind, as denominated in US Dollars while *Section 5 prevents the use of the PHF as basis for credit or collateral (for debts, guarantees, commitments or other liabilities) or borrowing for the government or any other entity.*

2.2 *Income from Revenue Sources*

Table 2 shows the incomes generated from the sources mentioned above from 2011 to 2020, when Ghana started to export crude oil and later produce non-associated gas. The table shows that the peaks for revenue generation were 2013 and 2014 and the period from 2018 to 2020, which includes the increase in crude oil production from the TEN and SANKOFA fields from 2017. The lowest point of the revenue flows was in 2016, which followed the tumbling of crude oil prices, globally, from late-2014. It was also due to the damage to the turret bearing of the Jubilee field Floating, Production, Storage and Offloading (FPSO) offshore vessel.

The two graphs in Fig. 1 show that the Carried and Participating Interest (CAPI) which is the value of production output accruing the State, generated the most revenues (58%) to the State over the decade, followed by Royalties (25%), and Corporate Income Tax or CIT (17%). In terms of total annual receipts, as noted, the peaks were reached in 2013 and 2014 (price effect) as well as 2018 and 2019 (output and price effects).

As noted, given the fact that Ghana had only one oil field (i.e., Jubilee) from 2011 to 2016, the gradual rise in revenues from 2012 to 2014 was on account of the high crude oil prices. This is clearly illustrated in the price trends in Fig. 2. Hence, much of the initiatives that were started to realize the objectives of investment, budget stability, emergencies (contingency), and debt management were calculated to take advantage of the high prices. However, from a budgetary perspective, the downsides include the escalation of a burdensome subsidy program at the

Table 2 Details of petroleum receipts into the PHF (US\$ million)

<i>Details of petroleum receipts (US\$ million)</i>		2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Total
#		2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Total
1	Royalties	122.17	150.98	175.17	192.81	104.21	58.23	135.86	265.61	236.79	195.36	1,637.19
2	Carried & participating Interest (CAPI)	321.95	390.43	453.57	499.33	270.08	149.94	365.44	548.33	505.99	300.93	3,805.99
3	Surface rentals	-	0.57	1.53	1.78	0.47	0.47	1.35	0.94	1.11	0.93	9.14
4	Corp Income Tax	-	-	216.99	284.55	20.41	29.55	52.23	160.61	191.14	168.77	1,124.24
5	PHF income	-	-	-	0.12	0.03	0.073	0.45	1.64	2.55	0.23	5.10
6	Interest on late payments	-	-	-	-	-	-	0.00	-	-	0.18	0.18
7	Price differentials	-	-	-	0.30	0.42	-	-	-	-	-	0.72
8	Gas [CAPI+]	-	-	-	-	0.55	8.92	-	-	-	-	9.48
9	Total receipts	444.12	541.98	847.26	978.89	396.17	247.18	555.33	977.13	937.58	666.40	6,592.04
10	Receipts (GHS million)	690.26	979.32	1,645.59	2,774.92	1,449.92	972.55	2,452.18	4,709.74	5,188.30	3,838.84	24,701.61

Source: MOF petroleum reports

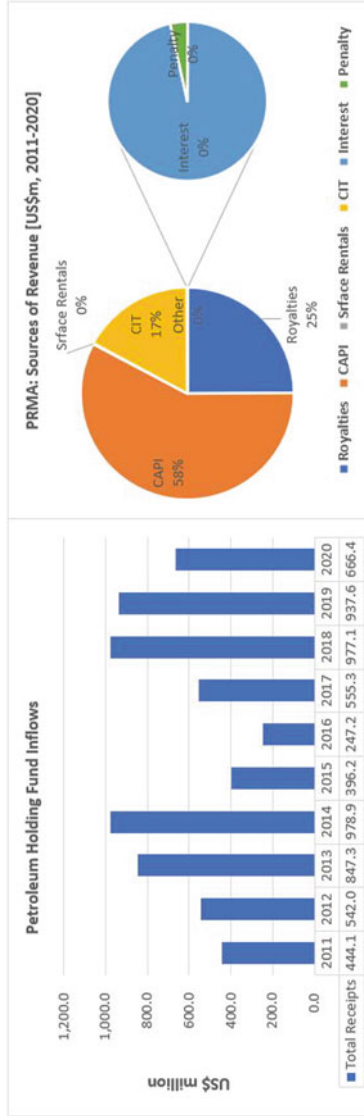
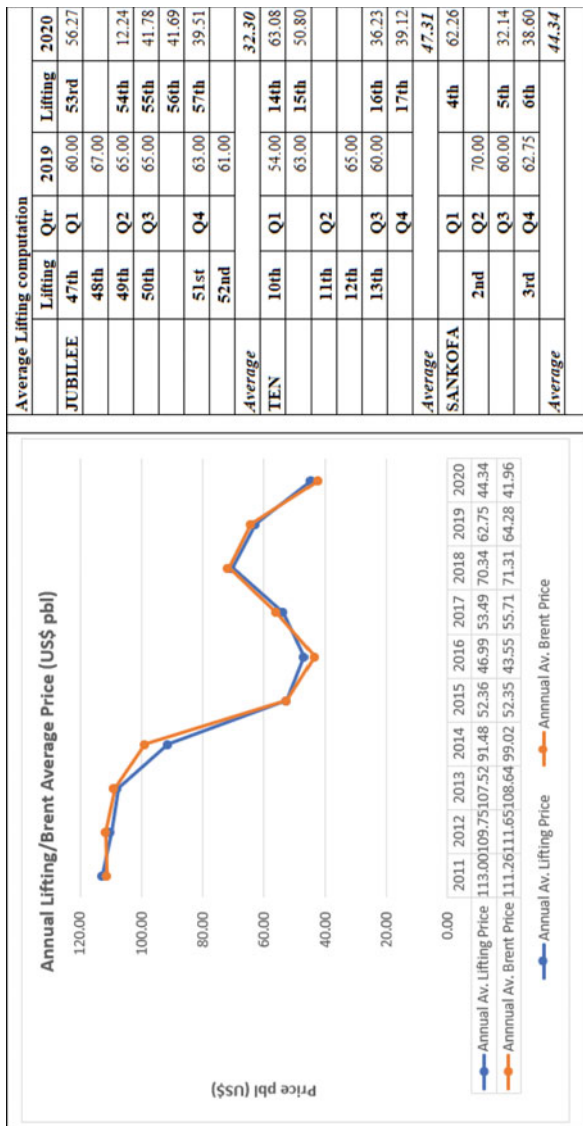


Fig. 1 Petroleum receipts into PHF (percent of total)



Average Lifting computation

Lifting	2019				Lifting	2020
	47th Qtr	48th Qtr	49th Qtr	50th Qtr		
JUBILEE	60.00	67.00	65.00	65.00	54th	56.27
					55th	12.24
					56th	41.78
					57th	41.69
					57th	39.51
					61.00	
Average						32.30
TEN	10th Q1	54.00	63.00	63.00	14th	63.08
	11th Q2				15th	50.80
	12th Q3	65.00				
	13th Q4	60.00			16th	36.23
					17th	39.12
Average						47.31
SANKOFA	Q1				4th	62.26
	2nd Q2	70.00				
	3rd Q3	60.00			5th	32.14
	3rd Q4	62.75			6th	38.60
Average						44.34

Fig. 2 Lifting and Brent price trends (Source Table 1 of petroleum report [2019])

pump from high consumer prices. The importance in adhering to the PRMA’s fiscal management initiatives like the Stabilization, Sinking, and Contingency Funds shows in the trends for petroleum receipts and prices (Fig. 2). It is also important to note that the fall in crude oil prices from 2014 to 2016 followed other setbacks such as the “single-spine” wage policy overruns from 2009 to 2015, the disruption in gas supply from the West Africa Gas Pipeline that gave rise to the “dumsor” power crisis and further back, and the effects of the global financial crisis.

The main policy thrust was the start of a “counter-cyclical” policy to take advantage of the positive price and output trends to prepare for the inevitable “booms and busts” in global economic management. In this regard, it is necessary to note that the second dip in prices from 2019 is also associated with falling global demand in the BRIC economies and the devastating impact of the COVID-19 crisis—for which an initial amount of about US\$380 million was released from the Stabilization Fund in 2020 to support the initial expenses for the pandemic.

2.3 *Primary Outflows from the PHF [2011 to Date]*

The PRMA’s transparent and comprehensive reporting rules require the Minister and PIAC to present annual reports to Parliament and put others in the public domain, including newspapers, gazettes, and social media. The reports, published since 2011, cover output, prices, finance, and PHF allocations. Table 3 shows a summary of the flows of funds from the PHF into the main funds besides the amount that goes to PIAC for its public accountability and advocacy duties—in addition to roles assigned

Table 3 Distribution of petroleum receipts (US\$m): 2011–2020

<i>Distribution of petroleum receipts (US\$m): 2011–2020</i>											
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Total
GNPC	208.0	231.0	222.3	180.7	126.9	88.5	126.7	305.3	260.6	397.4	2147.2
ABFA	167.0	286.6	273.2	409.1	239.3	98.4	127.1	235.1	395.5	546.8	2777.9
GSF	54.8	16.9	245.7	271.8	15.2	29.5	95.1	305.7	188.3	233.3	1456.2
GHF	14.4	7.2	105.3	116.5	6.5	12.7	40.7	131.0	80.7	100.0	615.0
Total	444.1	541.6	846.6	978.0	387.8	229.0	389.6	977.1	925.0	1277.4	6996.3

Source MOF petroleum reports

Ghana Stabilization and Heritage Funds. It shows that the PRMA prioritizes a progressively larger control over petroleum resources, through national oil company or GNPC; and a larger portion of the ABFA to expand infrastructure to enhance development and job creation. It is in this context that there has been recent concerns about the proper use the petroleum resources by GNPC.

Apart from 2013, 2014, and 2019, the percentage shares to GNPC are above 30% while the Heritage Fund gets the lowest allocations—only occasionally exceeding 10% of total revenues. This is important, given the concerted effort made in 2018 to use sweep or reduce the Heritage Fund to support the budgetary expenses—instead of the role of a generational fund. Figure 4 illustrates the dips in 2012 and 2015, the result of a “cap” and drawdown, with the COVID-related withdrawal in 2020 keeping the ratio at nearly 20%.

As at the time of publication, the “cap” has not been removed by Parliament, which recommendation has to come from the Ministry of Finance. The ABFA’s highest peaks in 2012 and 2015 (above 50 and 60%, respectively) are unmatched. The allocation to secondary funds from the Stabilization Fund to the Sinking Fund (i.e., debt management), Contingency Fund (i.e., emergency) as well as from the ABFA to the Ghana Infrastructure Investment Fund (GIIF) are discussed in later paragraphs.

The expected restoration of the “cap” of the Stabilization Fund in 2015 did not occur in 2017, even as crude oil prices recovered above

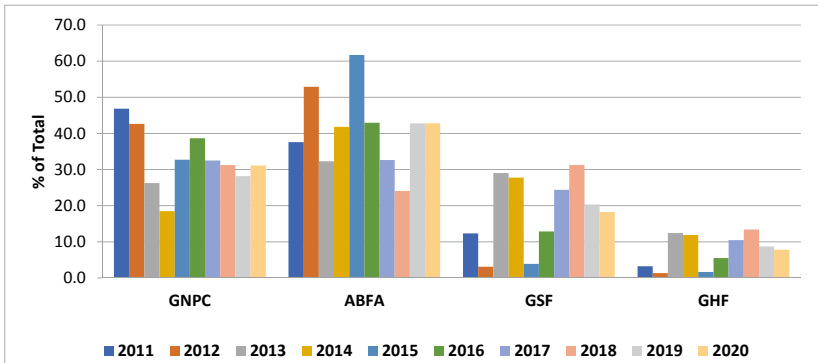


Fig. 4 Distribution of petroleum receipts (2011–2020) (%) (Source MOF petroleum reports)

US\$50 per barrel (pbl) and petroleum output also increased significantly from two (2) additional oilfields. Hence, without belittling the impact of COVID-19, the government was the most endowed before and after the current crisis—given the highest drawdown of about US\$380 million from the Stabilization Fund; an IMF COVID-19 concessional loan of US\$1 billion; further total support of about US\$750 million from the World Bank, African Development, and other lenders; BOG's US\$1.7 billion budget bailout; and assistance from other bilateral and multilateral funds.

2.4 *Utilization of PHF Inflows (2011–2020)*

The most visible use of the petroleum funds is the Annual Budget Funding Amount (ABFA), which is the substantive source for the recurrent and capital budgets, including the funding of GIIF for two years. However, given the succession of crisis since 2008, the Stabilization Fund grew but was depleted rapidly as an experiment in using a “budget buffer fund” in smoothening the economy through booms and busts. Besides the Contingency Fund for emergency, its capping provided funds for slowing down the rate of accumulation of public debt from 2014 to 2016 through the Sinking Fund. The Heritage Fund is principally a savings fund while GNPC's allocation for upstream activities is of a quasi-fiscal nature.

2.4.1 *ABFA Allocations to Priority Sectors*

The PRMA constrains the use of the flows into the ABFA in two ways: parliamentary approval of sectors for spending; and allocation of 70% of the inflows for capital projects. The first sectorial selection approved by Parliament was from 2011 to 2016 while the second spanned from 2017 to 2020. As Table 5 shows, there was a heavy focus on infrastructure development, notably roads, in the first ABFA budgeting and allocation.

In contrast, the focus of utilization of the ABFA since 2017 has been education expenditure—obviously linked to the Free Senior High School (FSHS) program that extends government sponsored subsidy for second-cycle institutions beyond the current limited free tuition in public schools. Table 6 shows the prioritization, but it is necessary to note that the previous allocations (2011–2016) also include the nation's apparent obsession with education through infrastructure programs (e.g., basic “schools-under-trees” and “E-schools” for progressively FSHS).

Table 5 Nominal priority sector distribution (2011–2016 and 2017–2020)

<i>Annual Budget Funding Amount (ABFA) sector distribution (2012–2016), GHS million</i>							
#		2012	2013	2014	2015 /1	2016	Total
1	Expenditure/loans (oil/gas infrastructure)	100.0	137.9	163.1	390.5	0.0	791.5
2	Agric modernization	72.5	13.6	170.6	27.0	27.7	311.4
3	Roads, rail and other infrastructure	232.4	372.1	215.7	451.6	199.4	1,471.2
4	Capacity building (incl. oil/gas)	112.0	20.2	0.0	135.9	83.0	351.1
	Total utilized (Sectors)	516.8	543.8	549.4	1,005.1	310.2	2,925.3
5	PIAC	0.0	0.0	0.0	0.0	1.0	1.0
	Total ABFA utilization	516.8	543.8	549.4	1,005.1	311.1	2,926.2
	Balance unutilized			666.1			
<i>Note</i> 2015 1/ January–September 2015							
<i>Annual Budget Funding Amount (ABFA) sector distribution (2017–2020), GHS million</i>							
#		2017	2018	2019	2020	Total	
1	Agriculture	49.1	126.2	71.6	79.0	325.9	
2	Education/health service delivery	211.0	442.6	617.2	698.2	1,969.1	
	<i>o/w: Education</i>	202.4	419.9	570.9	na	1,193.1	
	<i>o/w: Health</i>	8.7	22.7	46.3	na	77.7	
3	Roads, rail and other infrastructure	70.8	255.4	579.3	1,990.8	2,896.2	
	<i>o/w: Industrial development</i>	na	na	na	31.8	31.8	
	Total utilized (Sectors)	330.9	824.1	1,268.0	2,768.0	5,191.1	
4	PIAC	1.3	3.5	2.9	3.1	10.9	
	Total ABFA utilization	332.3	827.7	1,270.9	2,771.1	5,202.0	

However, despite being called “soft capital”, the current distribution tilts the balance more toward recurrent expenditure under the budget classification.

The ratios to total distribution in Table 6 and Fig. 5 shows the use of oil revenues to prioritize loans that support the energy sector. As noted later, another goal is to use the **secondary allocation** process to set up the Sinking Fund, through “capping” the stabilization, to reduce the rate of

Table 6 Allocation of ABFA (2011–2016, % of total)

<i>Annual Budget Funding Amount (ABFA) sector distribution (2012–2016)</i>							
<i>Percent (%) of totals</i>							
#		2012	2013	2014	2015 /1	2016	Total
1	Expenditure/loans (oil/gas infrastructure)	19.3	25.4	29.7	38.9	0.0	27.0
2	Agric modernization	14.0	2.5	31.1	2.7	8.9	10.6
3	Roads & other infrastructure	45.0	68.4	39.3	44.9	64.1	50.3
4	Capacity building (incl. oil/gas)	21.7	3.7	0.0	13.5	26.7	12.0
	Total utilized (Sectors)	100.0	100.0	100.0	100.0	99.7	100.0
5	PIAC	0.0	0.0	0.0	0.0	0.3	0.0
	Total ABFA utilization	100.0	100.0	100.0	100.0	100.0	100.0

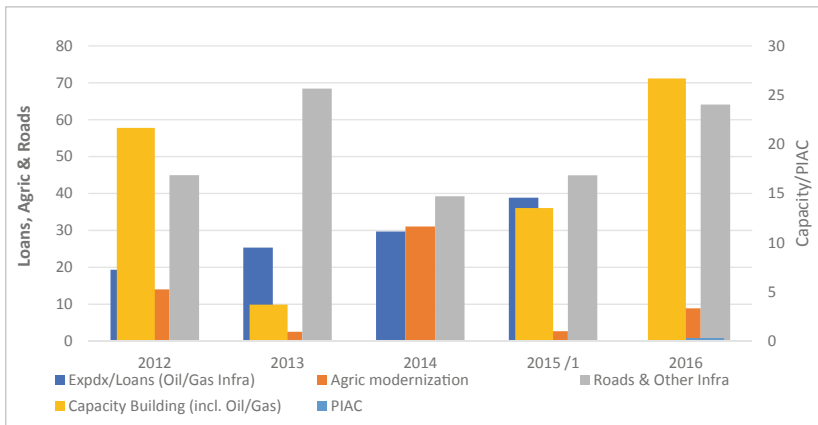


Fig. 5 Priority sectors [% of totals]: 2011–2016

accumulation of public debt. It was also used to set up of the Contingency Fund to better manage national emergencies. It is necessary to note that the Sinking Fund and contingency provisions are mandatory requirements under the 1992 Constitution.

In comparison, the percent of total outcomes in Table 7 and Fig. 6 shows that the heavy use of oil revenues to fund recurrent education

Table 7 Allocation of ABFA (2017-date, % of total)

<i>Annual Budget Funding Amount (ABFA) sector distribution (2017–2020)</i>						
<i>Percent (%) of totals</i>						
#		2017	2018	2019	2020	Total
1	Agriculture	14.8	15.2	5.6	2.9	6.3
2	<i>Educ/health svc delivery</i>	63.5	53.5	48.6	25.2	37.9
	<i>o/w: Education</i>	60.9	50.7	44.9	na	22.9
	<i>o/w: Health</i>	2.6	2.7	3.6	na	1.5
3	Roads, rail and other infra	21.3	30.9	45.6	71.8	55.7
	<i>o/w: Industrial development</i>	na	na	na	1.1	0.6
	Total utilized (Sectors)	99.6	99.6	99.8	99.9	99.8
4	PIAC	0.4	0.4	0.2	0.1	0.2
	Total ABFA utilization	100.0	100.0	100.0	100.0	100.0

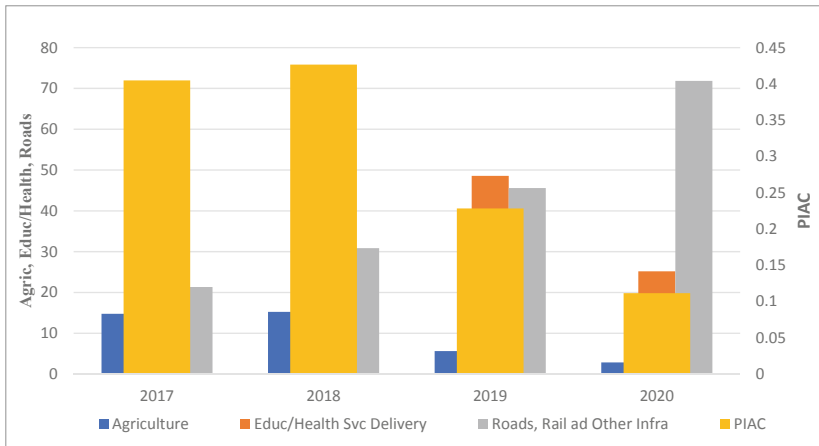


Fig. 6 Priority sectors (% of total): 2017–2020

expenditure has tapered in recent years. This seems to reflect public backlash against (a) the apparent diversion of ABFA funding from the 70% required for infrastructure—thus exceeding the overall 30% for recurrent expenditure; and (b) aborted attempts to “sweep” the Heritage and Stabilization Funds to finance the FSHS. The result is the use of expensive loans, especially the 2019 and 2020 Sovereign Bonds, to finance

education, and push the nation further down the road to public debt distress.

2.4.2 *Stabilization Fund Flows and Drawdowns*

Given the succession of crisis such as the global financial crisis (from 2007/8), the BRIC-led precipitous fall in commodity prices, notably crude oil (2015), and recent COVID-19 pandemic (2020), the **Stabilization Fund** has seen relatively rapid disbursements and dents in its annual balances than would have been the case with a smoother economic or fiscal operation. Some notable omissions were the stoppage of flows into the Contingency Fund and Sinking Fund in 2016—in the latter case, despite allocations made to redeem the 2007 Sovereign Bond. There is also no record of the flows into the GIIF from the ABFA since the repeal of the PRMA in 2017. Table 8 shows the effect of the rules-based withdrawals under Sections 9 to 20 of the PRMA for reverse transfer into the ABFA for budget support when the deficit falls below a given quarterly estimate. These include transfers for debt and emergency management to the Sinking Fund and Contingency Funds.

Apart from the initial years of oil production and exports in 2011 and 2012, the dips in the closing balances of the Stabilization Fund occurred in 2015 and 2020. The drawdowns in 2014 were to set up the **Contingency Fund** under Article 177 of the 1992 Constitution. This was a mandatory constitutional provision that successive governments had not implemented. The other drawdowns for debt management were channeled through the **Sinking Fund** to start the “buy-back” for the 2007 Sovereign Bond, with barely three (3) years to maturity.

The final release in 2015 was the real rules-based drawdown to support the budget, as a result of the crushing impact of specific events on the economy. These include the waning effect of the global financial crisis and “single-spine” wage overruns, the damage to the turret bearing of the Kwame Nkrumah FPSO that adversely affected output, and the precipitous fall in crude oil prices between late-2014 and 2016.

The 2020 Petroleum Report (ref: Table 21) attributes the withdrawals from the Stabilization Fund from 2018 to 2020 to support debt management and with the cap remaining in place—a situation that could adversely affect the ability of the State to respond effectively to future crisis. Paragraph 142 simply notes: “*In line with Section 23(4) of the PRMA, Act 815 and Act 893, as amended the cap remained unchanged at US\$100 million as set by the Minister of Finance, as part of the Minister’s*

Table 8 Flows, returns, and allocations from the Stabilization Fund

	<i>Ghana Stabilization Fund (GSFs)—US\$ millions</i>										
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	
Opening balance	0.00	54.81	71.90	319.03	286.64	177.40	207.75	353.05	381.20	388.59	
Annual receipts	54.81	16.88	245.73	271.76	15.17	29.51	142.68	305.72	188.30	116.63	
Investment incomes	0.00	0.21	1.41	1.55	0.54	0.85	2.63	6.41	8.22	2.32	
Bank charges	0.00	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	
Sub-total	54.81	71.90	319.03	592.33	302.35	207.75	353.05	665.18	577.72	507.53	
Less "cap" transfers:											
Contingency Fund				(17.43)	(23.76)						
Sinking Fund/debt				(288.25)	(47.51)			(283.97)	(189.13)	(307.54)	
ABFA					(53.69)						
Closing balance	54.81	71.90	319.03	286.64	177.40	207.75	353.05	381.20	388.59	199.99	

mandate under the PRMA 2011, (Act 815) section 23(3)) with a Parliamentary resolution. The accumulated excess over the cap at the end of second half of 2020 stood at US\$99,989,122.92". This is curious since most of the 2020 drawdown were used as COVID-19 budget support and under emergency provisions that channeled the funds through the Contingency Fund. Given the exclusion of some exceptional receipts and payments from the computation of the rules-based fiscal balance or budget deficit, it is necessary for Parliament to include a precise computation of conditions for Stabilization Fund releases in the PRMA regulations.

2.4.3 *Heritage Fund and Annual Returns*

As compared to the Stabilization Fund, the PRMA does make provision for withdrawals from the Heritage Fund for 15 years since it is the nation's savings vehicle for future generations. As noted earlier, a move to reverse this provision of the PRMA and withdraw all or part of the Heritage Fund for education expenditure was resisted successfully. Table 9 shows the inflows and savings made on the Fund—with the low earning being a major criticism of the Fund.

Given the no-withdrawal provision, the Heritage Fund has grown steadily without the oscillation that characterizes the Stabilization Fund—the counterpart to the Ghana Petroleum Fund (GPF). The lowest inflow into the Fund were in 2012 (US\$7.24 million) and 2015 (US\$6.5 million), in the latter case, due to the sharp decline in crude oil prices and problems with the Jubilee field FPSO. It picked up in 2017 and 2018 with the additional output from the TEN and Sankofa fields. However, it slowed in 2019 and 2020, ostensibly on account of COVID-19 (too early for 2019) and despite the comparatively strong flows into the ABFA in 2020.

2.4.4 *GNPC Use of Oil Revenues*

The PRMA does not make the National Oil Company—GNPC and, potentially, Ghana Gas Company—the fiscal agent, as in some countries. Instead, it recognizes and positions them in the use of oil revenues to achieve objectives such as managing the investment or equity share of production and other developmental mandates. Hence, as seen from Tables 10 to 13 and Fig. 5, the Corporation takes a significant share of oil revenues, based on an annual budget that is approved by Parliament. Its disbursements and operations also form part of the Annual Petroleum

Table 9 Flows and returns on the Heritage Fund

<i>Heritage Fund (GSEs)—US\$ millions</i>	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Opening balance	0.00	14.40	21.69	128.13	248.92	259.38	276.96	344.79	485.17	579.61
Annual receipts	14.40	7.24	106.31	116.47	6.50	12.65	61.15	131.02	80.70	49.98
Investment incomes	0.01	0.06	1.13	4.33	3.98	4.95	6.70	9.38	13.76	15.23
Bank charges	0.000	(0.003)	(0.01)	(0.01)	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)	(0.38)
Closing balance	14.41	21.69	129.13	248.92	259.38	276.96	344.79	485.17	579.61	644.45

Table 10 Breakdown of PHF inflows to GNPC

<i>Utilization of GNPC's share of Jubilee & TEN petroleum revenue (2011-2020)</i>											
<i>US\$ million</i>											
<i>SRN</i>	<i>Receipts from Jubilee & TEN fields</i>	<i>2012</i>	<i>2013</i>	<i>2014</i>	<i>2015</i>	<i>2016</i>	<i>2017</i>	<i>2018</i>	<i>2019</i>	<i>2020</i>	<i>Totals</i>
1	Level A receipts (Equity): Jubilee	132.5	68.3	36.4	65.9	58.1	34.6	73.8	82.6	74.2	626.4
2	Level B (30%+ Net Proceeds): Jubilee	75.5	154.1	100.5	60.9	27.5	55.1	53.1	68.2	17.7	612.6
3	Level A receipts (Equity): TEN	-	-	-	-	-	68.8	117.9	71.6	68.4	326.7
4	Level B (30% Net Proceeds): TEN	-	-	-	-	-	23.5	41.8	32.2	20.6	118.1
5	Level A receipts (Equity): Sankofa	-	-	-	-	-	-	-	10.6	12.2	22.8
6	Level B (30% Net Proceeds): Sankofa	-	-	-	-	-	-	-	14.1	5.5	19.6
7	Gas receipts (30% of Net Proceeds)	-	-	-	-	-	-	-	-	-	-
8	Total amount received	208.0	222.4	136.9	126.8	85.6	182.0	286.6	279.3	198.6	1,726.2

Report that the MOF submits to Parliament, as part of a crucial PRMA requirement.

A significant part of revenues that flow to oil companies in many countries, as operational incomes, are routine and not mandatory inflows into the PHF under the PRMA. These include a share of royalties and CAPI (carried and participating interest) flows. This is not just necessary for the consolidation that is a fiscal objective but compliance with the PRMA requirement for all upstream and midstream direct and indirect oil revenues to be pooled in the PHF. This establishes the rationale for including GNPC in PHF disbursements and its reverse role in utilization of petroleum funds—notably “cash calls” for its Equity contributions in projects, explorations and development, and operational expenses—that is about 30% of total petroleum flows for the review period and second to the ABFA at about 40%.

As Table 10 shows, GNPC received about US\$1.8 billion of oil revenues between 2012 and 2011 for these purposes—with the PHF allocations getting close to US\$300 million annually in 2018 and 2019. The rise in returns from equity and net proceeds from managing the State’s CAPI shares are consistent with the addition of the TEN and Sankofa fields.

In comparison, Table 11 gives details of the related cash outflows for Equity “cash calls” that the GNPC makes on behalf of the State for its interests and for exploration, development, capital projects, and administration costs.

The summaries in Table 12 and two graphs in Fig. 7 compare the allocation for core petroleum functions of GNPC and its administration and other costs. They suggest strongly that GNPC allocates most funds to equity contributions, explorations and development, often in conjunction with its external and domestic partners. Table 13 and Fig. 7 confirm that, apart from 2020, GNPC has allocated 50% and above of its PHF and other resources to its core mandate. The change in trend also shows in the spike of its other allocations that have never exceeded 3–17% in 2020.

2.5 *Tilt Toward Consumption Expenditure*

Despite the promising but modest outcomes from implementing Ghana’s SWF initiatives, there was a subtle debate from 2017, which became vigorous later, to dilute the balance underlying the PRMA. The push was to sweep all or part of the Heritage Fund and, to a lesser extent,

Table 11 Disbursements of PHF for state and GNPC activities

<i>Utilization of GNPC's share of Jubilee & TEN petroleum revenue (2011-2020)</i>		<i>US\$ million</i>									
SRN	<i>Uses of amounts allocated</i>	2012	2013	2014	2015	2016	2017	2018	2019	2020	<i>Totals</i>
1	Jubilee Equity financing costs	132.5	76.3	39.6	93.5	67.2	40.4	73.7	71.0	48.5	642.7
2	TEN Equity financing costs	0.0	0.0	0.0	0.0	25.6	63.4	131.2	79.6	64.3	364.1
3	Sankofa/OCTP ENI project	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.8	7.1	23.9
4	Exploration & Devt projects	30.3	9.9	9.2	17.2	0.0	19.1	47.5	28.7	17.2	179.1
5	Staff costs	7.7	9.7	5.9	10.2	16.4	13.9	24.3	21.7	22.9	132.7
6	Administration	0.0	2.0	1.2	23.6	2.2	0.7	6.7	1.2	1.2	38.8
7	Capital projects	0.0	0.0	0.0	1.8	12.6	7.9	13.0	6.8	17.2	59.3
8	General operational expenditure	9.4	7.8	6.2	16.7	12.5	13.9	43.9	35.2	10.6	156.2
9	Downstream project/BNP	28.1	31.3	0.0	0.0	0.0	4.8	4.7	14.2	5.7	88.8
10	SOPCL	0.0	0.0	0.0	0.4	0.4	0.2	1.4	1.0	1.4	4.8
11	GOG gas-related enclave roads	0.0	0.0	0.0	26.0	7.6	6.8	4.1	2.3	11.7	58.5
12	Repayment of Karpower loan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.6	14.6
13	GNPC: foundation, relations etc.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	44.5	44.5
14	Subsidiary expenditure	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.6	3.6
15	BOG charges	0.0	2.3	1.3	0.0	0.0	0.0	0.0	0.0	0.0	3.6
16	Total expenditure	208.0	139.3	63.4	189.4	144.5	171.0	350.5	278.5	270.5	1,815.1
17	Net (receipts less expenditure)	0.0	83.1	73.5	(62.6)	(58.9)	11.0	(63.9)	0.8	(71.9)	
18	Add: cash b/f	0.0	61.7	141.7	187.2	124.1	68.0	79.0	15.1	272.6	
19	Total cash available	0.0	144.8	215.2	124.6	65.2	79.0	15.1	15.9	200.8	

Table 12 GNPC's disbursement of PHF and other revenues (2011–2020, US million)

<i>Utilization of GNPC's share of Jubilee & TEN petroleum revenue (2011–2020)</i>		<i>Summary: use of funds (US\$ million)</i>									
SRN		2012	2013	2014	2015	2016	2017	2018	2019	2020	Totals
1	Jubilee, TEN & Sankofa costs	133	76.3	39.6	93.5	92.8	103.8	204.9	167.4	119.9	1,030.7
2	Exploration & capital costs	58.4	41.2	9.2	45.0	20.2	38.6	69.3	52.0	70.0	403.8
3	Admin costs	17.1	19.5	13.3	50.5	31.1	28.5	74.9	58.1	34.7	327.7
4	Other costs	0.0	2.3	1.3	0.4	0.4	0.2	1.4	1.0	45.9	52.9
5	Total expenditure	208.0	139.3	63.4	189.4	144.5	171.0	350.5	278.5	270.5	1,815.1

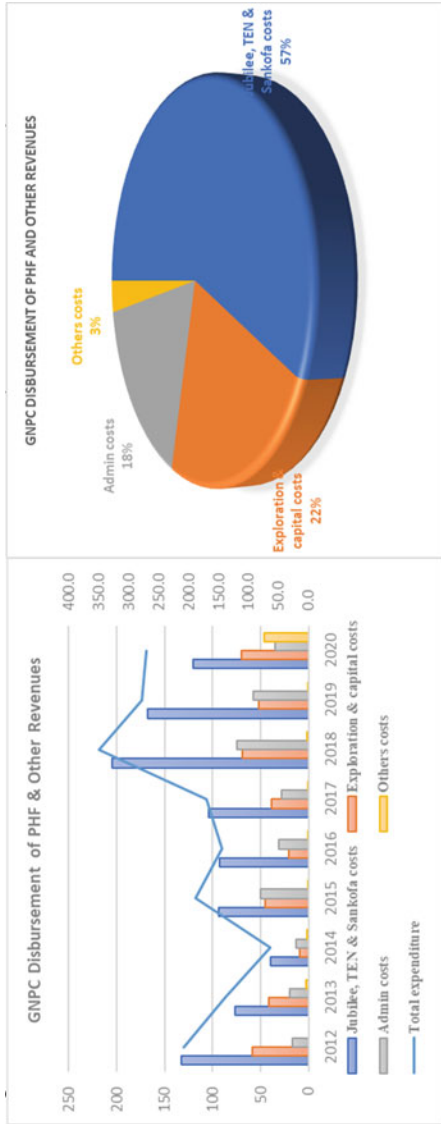


Fig. 7 GNPC's disbursement of PHF and other revenues (2012–2020, % of totals)

the Stabilization Fund to meet “current” budget needs. The real difficulty is an inability to raise sufficient revenues to finance an expansionary current budget program, notably, the popular but fiscally unsustainable Free Senior High School Program. The move risked tilting the “balanced” PRMA allocations toward a dominant annual “consumption” expenditure budget.

- *The first case for depleting the GPF (GSF and GHF) is to prioritize “current budget needs”.* However, it is *euphemism for consumption* that formed the basis for setting up the GPFs. Consequently, lessons were drawn from countries with both good and bad experience in designing the PRMA.
- *The second is the low earnings debate on the Heritage and Stabilization Funds.* The PRMA is based on GHF-type funds being normally invested in low-risk “conservative” plans. The goal is to keep the principal or capital sum safe at the expense of low returns. Most of those debating the issue of returns insist on making about investment strategy and do not favor the dismantling of the PRMA framework and its basic elements.
- *The high investment income proponents tend to overlook the Acts and Resolutions of Parliament that permit various secondary allocations from the GSF into the Sinking Fund and GIIF.* Overall, these actions by the House have led to setting up the Contingency Fund under the 1992 Constitution for crisis management; the Sinking Fund for debt management—which relate to loans that underpin most major investments; and GIIF to lead in borrowing for commercial projects with positive internal rates of return (IRR).

Hence, one of GIIF’s maiden decisions is to invest in the new Terminal 3 at the Kotoka International Airport. Hence, the Heritage and Infrastructure Funds combine to give the country a better balance risk portfolio.

3 AVOIDING ANOTHER “EARMARKED” PHF TRAP

The framers of the PRMA had envisaged the possibility that the managers of the petroleum funds could lose focus, as has been the situation with existing “*earmarked*” trust and development funds. Consequently, the PRMA expressly includes provisions that protect the ring-fenced resources

from certain known risk. Section 22 specifically states: “*Outside of the allocation of the Petroleum Holding Fund, extra budgetary activities or statutory earmarking of petroleum revenue for any consideration is prohibited*”. It is necessary to consider the ruling of the Supreme Court on this specific issue.

The PRMA mechanism is superior to other ring-fencing or earmarking, management and assignment of our natural resources, and budget flows. These include (a) the independent “Board” and “capping” that undermine the statutory funds (with liabilities and no “Funds”)—DACE, GETFund, NHIL, Road Fund and, lately ESLA; (b) reliance on the “Auditor-General”, almost exclusively, to track public spending; and (c) past natural resource flow assignments such as minerals, cocoa, and timber.

The PRMA adds to several “*earmarked funds*” that make it difficult to manage the budget. While they promote accountability and prudent investment of the petroleum flows, the PHF also ring-fences or “earmarks” specific budget resources under quasi-fiscal controls. Typically, the corporate-type funds have perpetual succession under “semi-independent” Boards of Directors.

- ***District Assemblies Common Fund (DACF)***: The 1992 Constitution requires that the Government allocates 5% of total annual revenues to local or sub-national governments (SGS) called Metropolitan, Municipal and District Assemblies (MMDAs) to complement their internally generated funds.
- ***Ghana Education Trust Fund (GETFund)***: The original source of this fund is 2.5% of VAT on taxable supplies and is dedicated education recurrent and infrastructure expenditure, including scholarships to students in foreign and local schools or institutions at the secondary school and tertiary institution levels.
- ***National Health Insurance Levy (NHIL)***: Originally, this is similar in structure to the GETFund, also with inflows from 2.5% of VAT taxable supplies—both with a right to VAT input tax credit (ITC) and refunds—and dedicated to the national health insurance scheme.
- ***Ghana National Road Fund***: This is a portion of petroleum product levies and road tolls that the Ministry of Roads and Highways uses for new roads as well as repairs of existing and new highways, roads, bridges, and other specified transport infrastructure.

- *Internally Generated Funds (IGF)*: The original 2015 Incomes and Fees Act has been used to streamline the approval for MMDAs and counterpart Ministries, Departments and Agencies (MDAs) to utilize different percentage of internally generated revenues from the fees and levies they collect to meet operational and development expenses.

It is estimated that about 25–30% of central government taxes are allocated to MDAs and MMDAs from these resources. While the purpose is to improve on general administration and implement specific development projects, the funds suffered setbacks that resulted in the central governments also taking both legal and unapproved measures to retain part of the revenues to resolve budget annual budget constraints.

These older earmarked funds have undergone several difficulties that impede their smooth and inefficient operations. They include the following—

- *Quasi-fiscal liabilities instead of asset funds*: Almost all of “Funds” are laden with debt and, thereby, not succeeded in creating the appropriate “funds” or asset classes to enable them pursue and achieve their stated objectives. Furthermore, these debts often accrue as quasi-fiscal debt to the central government.
- *Imposing a cap on the revenue inflows*: A decision that was made in 2015 to “cap and realign” the earmarked or statutory funds to central government fiscal mandates in their core areas is now extended to align the “caps” from diverse sectors to a single and “priority” spending in areas that may not be related to the original goal of the funds.
- *Delays in releasing the funds*: Given the enormous amounts that are set aside for the statutory fund, often in a crisis, the central government collects the revenue streams but does not release them promptly for use by the management and boards of the funds.
- *High administration costs and undue expansion of mandates*: the administration of the funds is not always measured to the reality of the nation’s developing country status and fiscal capacity. Hence, their mandates are often overstretched to the point where they seek subsidies or “bailout” from the central government.

- *Pledging the funds for loans:* At the moment, in the case of the GETFund and Road Fund, most of their future revenue streams are used to service debt facilities that were used to support the FSHS program and an expanded infrastructure program. The remaining flows worsen the plight from delayed releases and expanded mandates discussed earlier.
- *Decoupling “straight levies” from underlying VAT structure:* The conversion of the NHIL and GETFund into straight levies that deny registered businesses from claiming input tax credit or refunds has complicated general administration and compliance with national taxes. Given the non-achievement of revenue goals, despite the tax-on-tax (multiple or compounded taxation) or “cascading”, it can be argued that significant tax evasion and tax avoidance are occurring.

While all these may not apply to the smooth flow of the PHFs, elements often appear to affect their smooth operations, including distorting the distinction between the PRMA’s mandates on capital and recurrent expenditure. Similarly, some concerns raised by PIAC and the Auditor-General point to accountability issues in disbursing the petroleum funds.

4 CASE FOR MAINTAINING THE CURRENT PRMA STRUCTURE

To repeat the point, the gem in the PRMA is to *concurrently* (a) save for future generations; (b) stabilize the budget to better manage deficits, contingencies, and public debt; and still (c) allocate the *larger portion* of oil revenues to development and annual operational expenditure.

- *As Fig. 8 shows, the ABFA and GNPC received about 41 and 31% of PHF resources, respectively.* Moreover, 8% of the balance of 28% went into the Heritage Fund while the remaining 20% for the Stabilization Fund is also a buffer for the budget. Hence, if the goal is *judicious budget balance*, then the model is superior to the ad hoc management of mineral and agricultural funds in the past.
- *The Heritage and Stabilization Funds are not idle, they form part of BOG reserves:* It is a mistake to view the petroleum

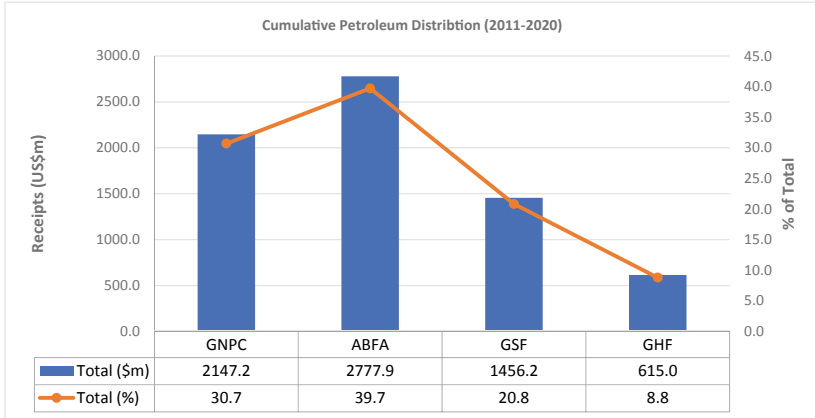


Fig. 8 Cumulative annual revenues and percent (%) of total

funds as idle since the balances form part of BOG's core reserves. Before the major COVID-19 drawdowns, the total balances under BOG management were above US\$1 billion. Hence, rather than contribute to the cedi's stability, a major withdrawal of the Heritage Fund for immediate alternative fiscal use would have resulted in a depletion of reserves that would have had an adverse impact.

- *On debt management, Table 14 shows that the nation can use the Sinking Fund and other fiscal or financial market tools to manage its public debt and achieve results.* Ghana used US\$550 million of oil revenues to redeem short-term domestic and foreign bonds—with remaining US\$200 million being refinanced from the World Bank Guaranteed Bond in 2015.
- *The “buy-back” strategy used the entire US\$1 billion of the Guaranteed Bond and Sinking Fund to redeem a significant amount of domestic and foreign “interest-only” public debt instruments that were close to maturity.* It also used the Bond proceeds to refinance and covert a considerable amount of these particular instruments to (i) long-tenor facilities with low interest rates; and (ii) repay both interest and principle from the Sinking Fund flow, as a permanent source of debt repayment.
- *A major achievement was to redeem the balance of about US\$200 million of the 2007 Sovereign Bond on the 10th anniversary of its*

Table 14 Public debt performance (2013–2020)

<i>Debt to GDP ratio (2013–2020)</i>									
	2012	2013	2014	2015	2016	2017	2018	2019	2020
External Debt	22.8	20.9	28.6	33.2	32.0	29.6	28.7	32.3	37
Dom Debt (w/B-O)	25.0	22.0	22.5	22.4	24.8	26.0	28.9	30.2	39.1
Dem Debt w/o B-O	25.0	22.0	22.5	22.4	24.8	26.0	25.7	27.0	32.7
o/w Bailout	0.0	0.0	0.0	0.0	0.0	0.0	3.2	3.2	6.4
Total (w/o B-O)	47.8	42.9	51.1	55.6	56.8	55.6	54.4	59.3	69.7
Total (w/B-O)	47.8	42.9	51.1	55.6	56.8	55.6	57.6	62.5	76.1
<i>Rate of change: percent [%]</i>									
	2012	2013	2014	2015	2016	2017	2018	2019	2020
External Debt		(8.3)	36.8	16.1	(3.6)	(7.5)	(3.0)	12.5	14.6
Dom Debt (w/B-O)		(12.0)	2.3	(0.4)	10.7	4.8	11.2	4.5	29.5
Dom Debt w/o B-O		(12.0)	2.3	(0.4)	10.7	4.8	(1.2)	5.1	21.1
o/w Bailout		0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
Total (w/o B-O)		(10.3)	19.1	8.8	2.2	(2.1)	(2.2)	9.0	17.5
Total (w/B-O)		(10.3)	19.1	8.8	2.2	(2.1)	3.6	8.5	

issuance on October 4th, 2017. As Table 14 above and Fig. 9 (below) also shows, the rate of accumulation of public debt also started to decline since the declaration of HIPC in the mid-2000s—a policy that was surprisingly reversed when no “buy-backs” were made from the Sinking Fund in 2017 and 2018.

- *Similarly, a part of the drawdown in 2014 and 2015 was through the Contingency Fund for national emergencies under the control of Parliament.* The nation scored another first when the Government requested the House to approve the withdrawal of a modest GHS15 million from the Contingency Fund to assist victims of the flooding and fire disaster that occurred at the Kwame Nkrumah Circle in 2015. The exclusive use of the Contingency Fund for this transaction implies that, unlike the previous “capping” application, none of the excess was used for debt service even, though, as noted earlier, the setting up of the Sinking and Contingency Funds fulfills important mandates since the Constitution was promulgated in 1992.
- *A budget or fiscal re-classification could undermine the Stabilization, Heritage, Sinking and Contingency Funds.* The first issue

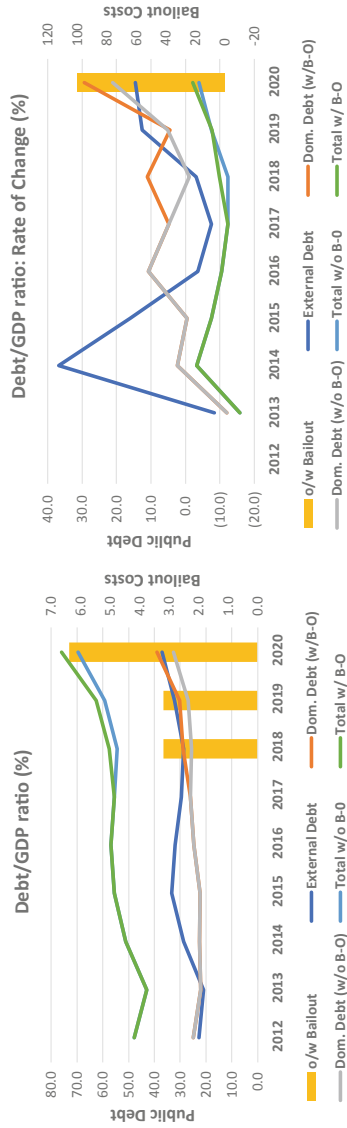


Fig. 9 Rate of Accumulation of Public Debt

relates to confusing elements of spending in pursuit of “human capital” with the budget classification of “capital” or “development expenditure”—as used in the PRMA. There is no denying that the PRMA refers strictly to the latter fiscal construct and not the meaning adduced by proponents to deplete the Heritage and Stabilization Funds to finance recurrent education expenditure.

Secondly, a critical look at the Budget suggests that the inclusion of the GPF in budget “financing” implies that they are available to support deficits entirely—not as “reserves” that can only be withdrawn by law or under existing fiscal rules under the PRMA. There is no current budget financing provision in the PRMA for the Heritage Fund—a role that is assigned to the rules-based withdrawals from the Stabilization Fund.

In line with Ghana’s LMIC status, it is necessary to adopt the appropriate International Public-Sector Accounting Standards (IPSAS) under the PFM or GIFMIS reforms—as part of the proper accounting and classification of assets, investments, reserves, or liabilities in the Public Accounts, Budgets and other financial statement.

5 NEED FOR FISCAL RULES FOR “UNFUNDED” POLITICAL MANDATES

A major cause of fiscal overruns, pressure on statutory funds, and inappropriate use of oil revenues are unplanned political-economy promises. Often, these ambitious and expansionary expenditures lack clear fiscal mandates or budget provisions for achieving them. They go beyond the fiscal challenges such as borrowing, deficits, and debt pressures and affect the external reserves as well as crowding out credit to the private sector because of the need to borrow at high interest rates to finance them. Recent examples that add to the traditional expansion of infrastructure without adequate funding include errors in piloting the Single Spine, subsidies, and the free SHS program.

The need arises for supporting promises with clear revenue-raising or cost-cutting measures to preserve budget thresholds for existing expenditure. These include the preservation of fixed percentages of revenue allocated for compensation, amortization, transfers, and “pipeline” or

ongoing capital projects. This is to augment the passage of fiscal management and budget responsibility laws that have not stopped the budget imbalances arising from the unfunded mandates. Hence, to protect the efficient use of the petroleum resources, the Public Financial Management Act, 2016 (Act 921) must be amended to ensure that proponents give the source of funds for political promises.

Recent Events Support the Need for Fiscal Balance

The PRMA assumes that current generations must invest in, not entirely spend or consume on behalf of future generations. Generations “roll on” and current ones must comply with prudent fiscal measures and a savings habit that meet contemporary and inevitable economic shocks. These crisis may be (a) domestic (e.g., drought its effect on power generation and agricultural output); and (b) external, including falling demand in advanced countries that lead to falling commodity prices and setbacks like the global financial crisis (GFC) and health pandemics such as SARS/Ebola or the recent COVID-19 pandemic).

As noted from the COVID-19 discourse, *the best time to prepare for crisis is in good times, not during the period of crisis*. This notion is derived from the inevitability of crisis in managing economies and the need to set up counter-cyclical policies, including emergency funds, to contain economic and other downturns. The immediate effect of all crises for developing countries is fiscal overruns giving rise to budget deficits, borrowing, and rising public debt. Ghana’s ability to increase the draw-down on its Stabilization Fund from Ghc250 million or approximately US\$13 million (during the collapse of crude oil prices in late-2014) to about US\$380 million (for COVID-19 relief in 2020) is a modest but good example of crisis management.

Hence, if the priority of a nation that came into new resources includes development, savings and investment, then the PRMA was crafted well for these goals. It was sufficient to allocate about 30% of annual petroleum revenues to consumption, including that of GNPC. Moreover, sectors such as education, that are touted for oil revenue prioritization have statutory funds “earmarked” to them already.

6 CONCLUSION—NEED TO ALLOW THE FIRST REAL “FUNDS” TO MATURE

Crude oil prices are increasing again at a time of increased output from the Sankofa and TEN fields. Ghana has a unique opportunity to improve the balance among consumption, budget buffers, savings and investment while strengthening BOG reserves through protecting the Heritage and Stabilization Funds. With adherence to the PRMA, it can use the secondary reserves to manage its public debt and contingencies in an efficient manner.

Ghana will regret the improper and unbalanced use of natural resource flows for which many nations have been chastised. It stands accused of using another “valuable asset” on consumption, at the expense of savings and investment—when even those who argue for depletion of the SWF profess admiration for countries such as Norway, Trinidad and Tobago, and Botswana. These countries use their natural resources to plan to borrow at low costs to build infrastructure.

As the wait for the 15-year PRMA review period, one generation should not live off the sacrifices of predecessors who also had “current budget needs”—an occurrence that will also short-change and burden its successors. There will be a generational overlap to facilitate the discourse and review. Ahead of the remainder of this period, Ghana should aim to preserve a principal sum in the Heritage Fund and utilize part of the interest earned to boost investments, preferably through the GIIF.



Local Content and Local Participation in the Oil and Gas Industry: Has Ghana Gotten It Right?

Austin Dziwornu Ablo and William Otchere-Darko

1 INTRODUCTION

The extraction of natural resources can be harnessed to transform economies structurally. Oil and gas resource endowments, however modest, have significant implication for local and national economies. Petroleum extraction has become central to global geopolitics, and today, most of the global conflicts mainly related to natural resources are linked to petroleum. While climate change has set in motion research and

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development into sustainable energy sources, exploration and hydrocarbon extraction have also increased significantly in recent times. Recent economic growths in China, India, and the need to diversify American energy sources have expanded oil and gas extraction frontiers (McCaskie 2008; Rupp 2013). Thus, many countries in sub-Saharan Africa and Latin America have become hot zones for petroleum exploration and production (EIA 2010; Deheza and Ribet 2012; Cust and Mihalyi 2017).

The contribution of natural resources extraction to development outcomes is, however, not clear-cut. The economies of countries like Norway, Malaysia, and Botswana were transformed by natural resource endowment (Larsen 2006; Lipková and Hovorkova 2018). Before the 1970s, Norway had the lowest GDP per capita in comparison to Sweden and Denmark. But following the discovery and production of oil on the Norwegian continental shelf, Norway's GDP per capita has become the highest among its neighbours (Erling 2006). Today, Norway has become the model country for how natural resource endowments can be harnessed for broad-based socio-economic development (Larsen 2006). As perhaps the quintessential welfare state, Norway has managed its oil resources effectively to ensure a sustained economic growth, providing free health care, education, and affordable housing schemes for low-income households.

For several developing countries, however, natural resource extraction has been linked to negative development outcomes. Countries such as Nigeria (Humphreys et al. 2007), Bolivia (Auty 1994), Sudan, Equatorial Guinea, Democratic Republic of Congo and Angola (Karl 2007) have suffered conflicts, environmental degradation, increased poverty and inequality. While the link between resource extraction and negative development outcome is not clear-cut, many scholars have shown that in weak regulations and institutions, corruption and mismanagement, natural resources extraction rather than promoting development can result in underdevelopment (Dobbs et al. 2013).

Conceptually, the failure of natural resource wealth to engender positive development is viewed as the 'Resource curse' or 'Paradox of Plenty' (Sachs and Warner 1995). Many natural resource-rich developing countries suffer the 'Dutch Disease' due to the tendency to over-rely on the export of natural resources to the neglect of other sectors of the economy—manufacturing, agriculture and services (Humphreys et al. 2007). As income from the extractive sector increases, it can crowd out manufacturing and other exports (Frankel 2010). With an over-emphasis

on oil and gas extraction, many countries, including several in Africa countries fail to diversify their economies and thus expose state budgets to fluctuations in the international commodities market. Therefore, the failure of African countries to manage the volatilities on the international commodities market has adverse impacts on development. In Ghana, for instance, Ablo (2019) observed that revenue from the oil industry in the first half of 2016 experienced a 55% reduction when compared to the same period in 2015 when revenue was US\$274.47 million due to plunging oil prices on the international market.

The resource curse thesis posits that weak and corrupt institutions undermine the judicious management of natural resource wealth and create the space for elites to capture benefits from the resource sector (Mohan et al. 2018). In Ghana, scholarly works by World Bank (2009), Adams et al. (2019), Owusu (2018) and Gyimah-Boadi and Prempeh (2012) have all cautioned that without necessary mechanisms, Ghana's oil and gas wealth could adversely affect the economy. Thus, institutional reforms and legal frameworks that can promote local participation have been viewed as critical to averting the resource curse.

The orthodox resource curse approach has been criticised for its over-emphasis on the internal weaknesses of developing countries. For instance, Ayelazuno (2014) contends that even if developing countries can put strong institutional mechanisms, they only minimise the internal risks of resource curse but not the external risks. The link between resource extraction and the risks of civil conflicts has been criticised for its simplistic approach to resource-related conflicts. According to Ross (2004), civil wars in resource-abundant countries are caused by various mechanisms and not necessarily inequity in the distribution of resource benefits. In effect, any attempt to view the resource-development nexus as a duality of either blessing or curse is an over-simplification that fails to consider the complex dynamics of resource extraction and development.

Recent discourse focuses on the 'Africa Rising' narrative—the view that natural resources extraction has spurred GDP growth in African economies (Africa Progress Panel 2013). This perspective is based on the steady growth in socio-economic indicators, with several African governments making more concrete efforts to bridge gender gaps and inequality (Africa Progress Panel 2013). However, many critics view the 'Africa Rising' discourse as based on statistical illusion without any consideration for the growth dynamics experienced across Africa (Jerven 2015; Acheampong 2013). Crucially, fluctuations in oil prices (including the recent

COVID-19 pandemic-impacted freefall and resurgence) have significantly impacted African economies and exposing the continued reliance on primary natural resource commodity exports, thus questioning the notion of a resource-driven socio-economic development.

The discovery of commercial quantities of oil and gas off Ghana's western coast in 2007 sparked debates on the role of the extractive sector in the country's economy. The debates are driven by the fact that after the long history of gold mining in Ghana, the country remains underdeveloped (Hilson 2002). In other words, the experiences of Ghana's traditional mining sector underpinned the importance of getting the policy and implementation mechanisms right in the oil and gas sector. In 2016, crude oil constituted 12.1% of Ghana's exports and was among the country's top three export earners behind cocoa (23.1%) and gold exports (44.2%) (GHEITI 2018: 111–112). Thus, without any significant resource-driven development, many questions were raised about how Ghana could harness its oil and gas resource wealth to promote broad-based socio-economic development. Increasing attention is paid to improved institutions, transparency and accountability, regulation, revenue management, and local participation to help minimise the potential curse that may stem from Ghana's oil and gas resource wealth (Ayanoore 2021).

In 2013, the petroleum local content and participation law were passed to promote the engagement of local personnel, goods, and services at each level of the oil and gas industry value chain. In this chapter, we critically analyse Ghana's local content law (LCL), emphasising the successes and challenges of implementing the law. It also highlights how LCLs can foster linkages between the petroleum and Ghanaian economies to promote broad-based socio-economic development.

Building on a long period of fieldwork in Ghana's oil and gas industry (between 2010 and 2021), we rely on interviews and review of secondary data sources to analyse Ghana's LCL. We argue that the potential for the LCL in promoting inter-sectoral linkages is undoubted. The LCL has created opportunities for some Ghanaian businesses, promoted employment, and encouraged technology transfer. In its eight-year existence, however, Ghana's LCLs have faced significant challenges in implementation. These include lack of transparent and accurate data on contracts and local employment levels, limited partnerships between Multinational Corporations (MNCs) and local oil companies, certification challenges for Ghanaian companies, unresponsiveness of public institutions to local

business needs, and the use of local companies as fronts for foreign ones. On employment, many Ghanaians dominate onshore and low-echelon offshore positions with unfair labour practices that undermine the upward job mobility of Ghanaians. It is concluded that attention should be paid to processes that will enhance local capacity through training and skill enhancement, technology transfer, research and development, and regulatory enforcement to promote local participation and foster broader national development.

2 THE RELEVANCE OF LOCAL CONTENT LAWS FOR INTER-SECTORAL LINKAGES IN THE EXTRACTIVE SECTOR

According to Ferguson (2005), sub-Saharan Africa's (SSA) extractive sector is delinked from national economies. Unlike the orthodox resource curse thesis' over-emphasis on the internal inefficiencies of SSA countries as the cause of the negative development outcome of resource extraction, Ferguson (2005) observed that much of the resources extracted from SSA countries are not properly linked to national economies. The lack of proper linkages and integration between oil and gas extraction and economies limits the potential for growth beyond tax revenues. The conclusion is that 'capital "hops" over "unusable Africa," alighting only in mineral-rich enclaves that are starkly disconnected from their national societies' (Ferguson 2005: 380). To minimise this disconnection, LCLs can promote inter-sectoral linkages (Tordo et al. 2013).

While countries across the globe pursue different pathways to promote natural resources-led development, the role of policies and regulations is undoubted. In recent times, policymakers and scholars are emphasising LCLs to encourage linkages between the resource sector and national economies. With the emergence of LCLs in the North Sea in the 1970s, many oil and gas producing countries today have LCLs because the discovery and extraction of oil and gas heighten expectations for structural transformation of economies. The successful implementation of LCLs in Norway, Malaysia, and Brazil has played a significant role in their economies and influenced many oil-producing countries to promote LCLs (Azevedo Filho et al. 2019). LCLs are policy tools that governments use to generate benefits from a particular sector to encourage economic development beyond tax receipts which have traditionally been

the bedrock of African government's revenue from the resource sector (Olawuyi 2019).

LCLs can promote linkages between the extractive sectors and broader national economies. The linkages can be fiscal, side-stream, horizontal, backwards among others. According to Sadik-Zada et al. (2019) and Bloch and Owusu (2012), promoting forward, backward, fiscal, or consumption linkages between the extractive and national economies can stimulate broad-based socio-economic development. Thus, with its potential to promote local participation, LCLs are critical policy tools to drive various linkages between the oil and gas sector, national economies, and international linkages (Fig. 1).

Bloch and Owusu (2012) contend that the fiscal linkages to national economies take the form of tax receipts by governments from the extractive sector. In other words, fiscal linkages constitute windfall rents (royalties, corporate taxes, personal income taxes, dividends) received by governments as part of agreements with oil companies. In Ghana, tax receipts by the government from the oil and gas sector are significant but constantly vary (see Fig. 2). In the first half of 2016, for instance, government tax receipts were US\$126.41 million, a 55% reduction in revenue compared to the 2015 figures of US\$274.47 million (PIAC 2016). Similarly, the total petroleum receipt for the first half of 2020 was about US\$322 million, an 11.32% reduction when compared

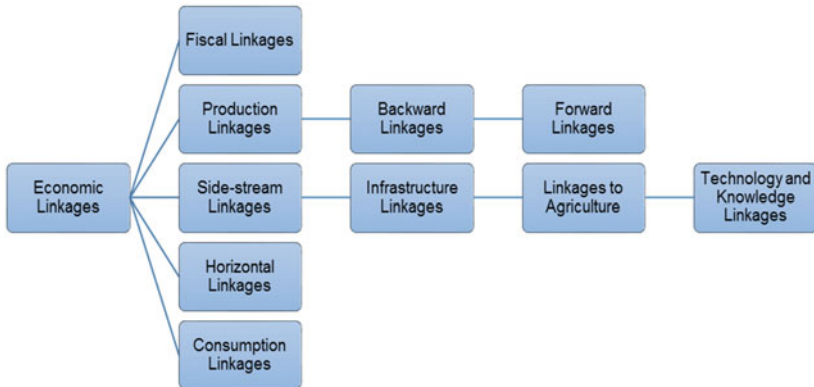


Fig. 1 Forms of linkages in the extractive sector (Source Extractives Hub <https://www.extractiveshub.org/topic/view/id/47/chapterId/523>)

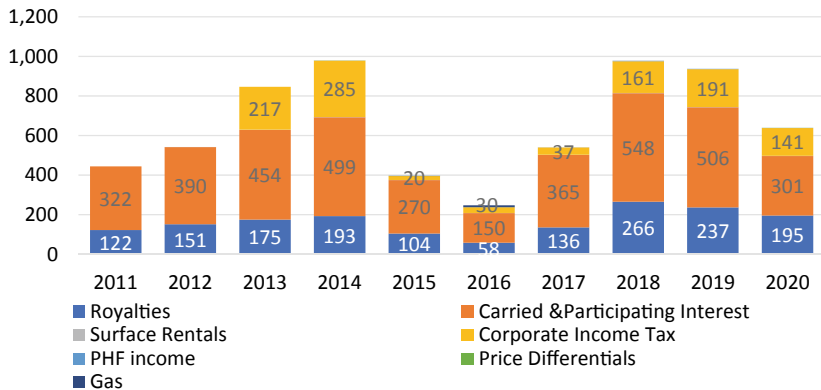


Fig. 2 Analysis of petroleum receipts, 2011–2020 (US\$ million) (Source: Ministry of Finance/Bank of Ghana)

to the same period in 2019. Revenues from Ghana’s oil industry have been utilised for various social and infrastructure projects. Between 2018 and 2019, for instance, the government of Ghana spent over US\$34 million of petroleum revenue on student tuition as part of the ‘Free Senior High School programme’. Essentially, for developing countries to derive the maximum positive development outcomes from their extractive industries, fiscal linkages alone will not suffice. Fluctuations on the international commodities market and the recent COVID-19 pandemic have led to significant reductions in tax receipts with adverse implications for government budgeting.

Another form of linkage that can emerge through the proper implementation of LCLs is forward linkages, which involves processing commodities for export. Forward linkages can be achieved with a robust industrial base. In many sub-Saharan African economies, excluding South Africa, the industrial sector has not seen significant growth since independence. Thus, apart from the export of raw materials, there is limited processing of extractive resources for export. For instance, in Ghana’s oil and gas industry, crude oil is exported without processing, as the Tema Oil Refinery—the country’s only oil refinery—is not adequately positioned to process crude from local oil fields. Thus, in 2014, workers from the Tema refinery criticised management for the lack of capacity to refine oil from the Jubilee fields (*Daily Graphic* 2014). Currently, gas

is processed from Ghana's oil fields but only for the domestic market (Ablo and Asamoah 2018). About 25% of Ghana's domestic energy is from LPG, with nearly a quarter produced locally.

LCLs can also promote consumption linkages, which take the form of expenditure of profits and wages accruing from oil and gas extraction. In 2015, annual salaries for local and foreign petroleum workers in Ghana were \$52,000 and \$115,000, respectively (Obeng-Odoom 2020: 146; Ablo 2018). Notwithstanding these gaping disparities, these salaries provide significantly larger disposal incomes compared to the average salaried Ghanaian.¹ This enables workers to invest into other ventures, including agriculture and commercial activities as part of consumption linkages. Ablo (2012: 77–80) details the commercial ventures of rig workers' wives and family members enabled by the workers newly found oil wages. However, in cases of tax avoidance and illicit repatriation of incomes and profits outside the country, consumption linkages can become deleterious. Nonetheless, consumption linkages can be critical for stimulating both local and national economies.

LCLs also facilitate backward linkages by boosting the supply of inputs for commodity production. For many sub-Saharan African countries, backward linkages provide the best opportunity for development. Such linkages hinge on a strong local supply chain, enabled by LCLs. For companies, backward linkages enable access to inputs and services at a potentially lower cost (for instance, due to reduced transport cost and limited import tariffs). In Ghana, studies have shown that many Ghanaian companies can service the oil and gas industry (Ablo 2020; Ayanoore 2021; Overå 2017; Ovadia 2016).

3 THE CONTEXT OF PETROLEUM GOVERNANCE IN GHANA

Since independence, Ghana has made significant progress with formulating various laws and regulations for its extractive sector. Some of the critical frameworks that guided activities in the oil and gas sector included the PNDC Law 84 (Petroleum Exploration and Production Law), which set out the policy framework and described the role of the Ministry

¹ The yearly nominal wage received by a Ghanaian worker for 2017 was around \$1400 (ILO 2020: 175).

of Energy. The PNDC Law 64 also established the Ghana National Petroleum Corporation (GNPC). This state company—GNPC—carries out petroleum exploration and production and enters into joint ventures and production sharing agreements for the government of Ghana.

In 2011, the Petroleum Commission of Ghana was established by the Petroleum Commission Act, 2011 (Act 821) to regulate the upstream oil and gas industry. The Commission oversees applications, permitting, and has established a Local Content Committee tasked to promote local participation in the oil and gas industry value chain. Additionally, the Petroleum Revenue Management Act, 2011 (Act 815), as amended, guides how petroleum revenues are mobilised and used and established the Public Interest and Accountability Committee (PIAC) under Section 51 as part of efforts to promote transparency and accountability.

Additionally, Ghana has been Extractive Industry Transparency Initiative (EITI) compliant since October 2010, leading to the establishment of the Ghana Extractive Industry Transparency Initiative (GHEITI) at the Ministry of Finance. As an EITI compliant country, the government of Ghana is required to be open and accountable in the management of the country's natural resources. Transparency—be it freedom of information or frequent publication of government economic data—has implications for the quality of governance. As an EITI compliant country, the government of Ghana aims to prudently manage revenues from the country's resources, especially the new oil and gas. While EITI compliance has promoted transparency in Ghana's oil revenue flow, the transparency has not translated into accountability (Van Gyampo 2016; Andrews and Okpanachi 2020). For instance, in 2013, the African Centre for Energy Policy published a Report that flagged the discretionary administration of Ghana's Annual Budget Funding Amount (ABFA) by the Ministry of Finance (ACEP 2013). Similarly, since 2018, there has been a standoff between the Ministry of Finance and the Public Interest Accountability Committee over the release of ABFA data (PIAC 2018; Bokpe and Acquah 2018). Thus, while there is transparency on revenue receipts, the government of Ghana has not been necessarily accountable. Consistently, various governments have used petroleum revenues in ways that are not aligned with the letter and spirit of the Petroleum Revenue Management Act.

3.1 *Legislative Framework/institutional Arrangements for Local Content in Ghana*

The Petroleum (Exploration and Production) Act, 1984 (PNDCL 84) was one of the first key pieces of legislation introduced in Ghana's oil sector. The law vested potential petroleum resources in the state (vested in the PNDC on behalf of the people), with the power to grant exploration rights to oil companies. The subsequent Model Petroleum Agreement (MPA) introduced in 2000 also provided boilerplate contracts between the state and oil companies. Both PNDCL 84, the MPA and subsequent petroleum agreements which were signed with the IOCs included provisions on local content such as direct employment and personnel training, and procurement of goods and services. In essence, some elements of local content have been part of Ghana's regulatory architecture as evidenced in the petroleum agreements signed with the IOCs. The Petroleum (Exploration and Production) Act, 1984 (PNDCL 840) was repealed by the Petroleum (Exploration and Production) Act, 2016 (Act 919), six years after the start of production in the offshore Jubilee oilfields. The 2016 Act made provisions for regulating upstream exploration, transport, licensing and general management, including local content and local participation. The 2018 Petroleum Exploration and Production (General) Regulations (L.I. 2359) also provided additional regulations for contractors, including expanding on local content and local participation requirements.

A major policy initiative that preceded the 2016 law was the *Petroleum (Local Content and Local Participation) Regulations 2013*, L.I. 2204, which was passed in 2013. The LCL primarily aims at promoting Ghanaians' participation at each level of the oil and gas industry value chain. As stated earlier, requirements for local participation predate the LCL, evidenced in articles 20 and 21 of the 2000 Model Petroleum Agreement even before oil discovery. The drive to promote local participation in Ghana's extractive sector is therefore not new. Various legislations and contracts both in the mining and petroleum sectors have some forms of local-content requirements. However, L.I. 2204 was specifically tailored to create the space for Ghanaians' engagement in the upstream petroleum sector. In this section, we critically unpack Ghana's LCL to assess progress made and challenges.

In L.I. 2204, local content is defined as *'the quantum or percentage of locally produced materials, personnel, financing, goods and services rendered*

Table 1 Local-content targets in Ghana's LCL

<i>Item</i>	<i>Start (%)</i>	<i>5 years (%)</i>	<i>10 years (%)</i>
1. Goods and services	10	50	60–90
2. Recruitment and training			
a. Management staff	30	50–60	70–80
b. Technical core staff	20	50–60	70–80
c. Other staff	80	90	100

Source L.I. 2204

in the petroleum industry value chain and which can be measured in monetary terms' (Regulation 49 of L.I. 2204) (Ministry of Energy 2013). Tables 1 and 2 show the local-content targets in Ghana's LCL. The emphasis on the percentage or quantity of locally sourced personnel, goods and services are not unique to the Ghanaian context. LCLs of most oil-producing SSA countries emphasise meeting quantifiable percentages (Hilson and Ovidia 2020; Acheampong et al. 2016; Ramdoo 2016).

A central goal of Ghana's LCL is to promote local ownership of the oil and gas sector. Therefore, Regulation 4 (L.I. 2204) requires foreign companies to enter joint ventures with local firms and open equity to local partners before obtaining a license. To operationalise this requirement, the GNPC is a party to all upstream petroleum agreements in Ghana by law. GNPC represents Ghanaian stake in all upstream petroleum transactions. In addition to the GNPC, Ghanaian companies can form joint ventures (JVs) with foreign companies.

However, the over-emphasis on quantity can cloud out issues of quality and value. By 2015 for instance, Ovidia (2016) found that an estimated 60–75% of contracts were awarded to Ghanaian businesses. However, the value of the contracts awarded to Ghanaian companies is low when considered as a percentage of the total value of contracts awarded in the oil and gas industry. Thus, when quantity is over-emphasised, value is sometimes compromised as the percentage of contracts awarded to local companies does not necessarily reflect the total value of contracts awarded.

Table 2 Examples of sub-targets under L.I. 2204

<i>Description</i>	<i>Start (%)</i>	<i>5 years (%)</i>	<i>10 years (%)</i>	<i>Measured unit (%)</i>
<i>1. FEED, detailed engineering and other engineering services</i>				
1.1. FEED and detailed engineering on onshore facilities	20	50	80	Man-Hour
1.2. FEED and detailed engineering on offshore facilities (shallow water)	10	30	70	Man-Hour
1.3. FEED and detailed engineering on LNG facility	10	30	60	Man-Hour
1.4. FEED and detailed engineering gas gather facilities	20	50	80	Man-Hour
1.5. FEED and detailed engineering on deep offshore facilities-hull and topside modules	10	30	70	Man-Hour
1.6. FEED and detailed engineering on deep offshore concrete structure	10	30	70	Man-Hour
<i>2. Fabrication and construction</i>				
2.1. Terminal or oil movement systems	20	50	80	Volume
2.2. Drilling modules or packages	20	50	90	Tonnage
2.3. Piles, anchors, buoys, jackets, bridges, flare brooms, storage tanks, pressure vessels umbilical	20	50	80	Tonnage
2.4. Topsides module (process modules and storage modules)	10	30	50	Tonnage
2.5. Accommodation module	10	40	70	Tonnage
2.6. Subsea systems	10	40	80	Tonnage
2.7. Pipeline systems	10	50	100	Tonnage
2.8. Risers (cannot be manufactured Ghana)	10	50	100	Tonnage

(continued)

Table 2 (continued)

<i>Description</i>	<i>Start (%)</i>	<i>5 years (%)</i>	<i>10 years (%)</i>	<i>Measured unit (%)</i>
2.9. Utilities module or packages	10	20	50	Tonnage
<i>3. Materials and procurement</i>				
3.1. Steel plates, flat sheets, sections	40	80	100	Tonnage
3.2. Steel pipes	40	80	100	Tonnage
3.3. Low voltage cables	60	80	90	Length
3.4. High voltage cables	60	80	90	Length
3.5. Valves and pumps	20	40	60	Number
3.6. Drilling mud-baryte, bentonite	40	70	80	Tonnage
3.7. Cement	40	70	80	Tonnage
3.8. Heat exchangers and other piping accessories	10	50	80	Number
3.9. Steel ropes and other mooring accessories	30	60	80	Tonnage
3.10. Protective paints	50	70	90	Litres
3.11. Glass reinforced epoxy (GRE) pipes	20	50	70	Tonnage

Source L.I. 2204

4 LOCAL CONTENT AND LOCAL PARTICIPATION IN THE OIL AND GAS SECTOR: HAS GHANA GOTTEN IT RIGHT?

Data from the Petroleum Commission shows that between 2011 and 2020, the total value of contracts awarded in Ghana's oil and gas industry was over US\$9.9 billion, of which over US\$6.6 billion (60%) worth of contracts were awarded to JV companies. Based on the values, JVs are thus critical to the growth and development of Ghana's oil and gas industry. The earliest record for the value of JV contracts is from 2012, with a total contract sum of US\$5 million. This rose to over US\$3.7 billion in 2014 but has since been reducing, with 2020 recording a low value of US\$50.5 million. As can be seen from Table 3, 2014 is by far the most productive year in terms of contracts value (over US\$4 billion) between 2011 and 2020.

Table 3 Value of contracts awarded in Ghana's oil and gas industry (2011–2020)

<i>Year</i>	<i>Foreign companies</i>	<i>Indigenous companies</i>	<i>Joint Ventures (JVs)</i>	<i>Grand total</i>
	<i>US\$ mm</i>	<i>US\$ mm</i>	<i>US\$ mm</i>	<i>US\$ mm</i>
2011	8.83	–	–	8.83
2012	–	29.49	5.00	34.49
2013	2,119.40	15.33	–	2,134.73
2014	10.87	355.15	3,718.50	4,084.52
2015	305.31	55.43	390.34	751.07
2016	124.63	481.42	895.50	1,501.55
2017	28.66	147.05	411.17	586.87
2018	7.75	79.76	219.84	307.34
2019	15.52	101.80	371.21	488.52
2020	7.93	17.87	50.52	76.32
Total	2,628.89	1,283.28	6,062.07	9,974.24

<i>Year</i>	<i>%</i>	<i>%</i>	<i>%</i>	<i>%</i>
2011	100.00			100.00
2012		85.50	14.50	100.00
2013	99.28	0.72	0.00	100.00
2014	0.27	8.70	91.04	100.00
2015	40.65	7.38	51.97	100.00
2016	8.30	32.06	59.64	100.00
2017	4.88	25.06	70.06	100.00
2018	2.52	25.95	71.53	100.00
2019	3.18	20.84	75.99	100.00
2020	10.38	23.42	66.20	100.00
Total	26.36	12.87	60.78	100.00

Source Petroleum Commission

JVs also provide the avenue for transferring technology from foreign companies to indigenous Ghanaian companies, as outlined in Regulation 24 and 25 (L.I. 2204). A significant setback for many resource-producing countries in SSA is the lack of domestic capacity in capital and technology. By promoting JVs, local companies can acquire the necessary expertise to grow into globally competitive firms. Additionally, the new technologies from the oil and gas industry can be deployed in other sectors of the economy. But as Graham and Ovardia (2019) argued, Ghana's LCL

has few restrictions against fronting—the situation where foreign companies are registered as indigenous. Indeed, as Ablo (2019) found, some businesses registered as indigenous are merely fronts for foreigners. Thus, while the company may be registered as Ghanaian, the management and assets of the companies are foreign owned. The implication of fronting is two-fold. Firstly, fronting creates the illusion of local value capture since contracts supposedly awarded to local firms could in reality be awarded to foreign firms hence revenue could be repatriated. Secondly, fronting robs Ghanaian business of the opportunities for technology transfer. There is a need for research into the nature of JVs and the proportion of Ghanaian equity to determine the benefit of JVs to the Ghanaian economies. Here, requirements for local asset ownership and management structures could be part of measures to upend fronting.

Another primary goal of Ghana's LCL is to promote the employment of Ghanaians in the oil and gas industry. In Regulation 9 (L.I. 2204), qualified Ghanaian jobseekers must be given first consideration in any employment opportunities. To achieve this objective, the first schedule of L.I. 2204 provides the minimum number of Ghanaians to be employed at each stage of a foreign company's operation in the country. The goal is to 'force' foreign companies to recruit Ghanaians and, in the long term, reduce the number of expatriate labour in the upstream industry.

Data from the Petroleum Commission outlined in Table 4 shows that the total number of people employed in the oil industry increased from 3,139 in 2017 to 5,990 in 2019, representing over a 90% increase. While the proportion of local employment is high, Ablo (2018) and Ovadia (2016) argue that most Ghanaians are employed in entry-level positions with significantly huge wage disparity compared to expatriates. These salary disparities have led to worker agitations and protests on various oil and gas infrastructures in Ghana, with workers calling for fairer conditions of service compared to expatriates. For instance, in 2014, forty Ghanaian workers on the offshore FPSO Kwame Nkrumah embarked on a sit-down strike at the Jubilee oilfields. Protests were also organised in 2017 by Ghanaian workers at ENI's onshore Sanzule gas-receiving plant. Similar to the quantity versus the value of contracts, these wage disparities emphasise percentages of locally employed and an under-appreciation for the tiers of employment positions occupied by Ghanaians.

Based on the assumption that one direct employment generates 3.62 indirect employment and 2.87 induced employment, the Petroleum

Table 4 Employment trend in Ghana's oil and gas industry (2017–2019)

<i>Year</i>		<i>Local</i>	<i>Expatriate</i>	<i>Total</i>
2019	Management	602	119	711
	Core technical	2059	655	2714
	Others	2463	52	2515
	Total	5124	826	5950
2018	Management	443	202	645
	Core technical	1824	719	2543
	Others	1791	100	1891
	Total	4058	1021	5079
2017	Management	386	69	455
	Core technical	1025	350	1375
	Others	1272	37	1309
	Total	2683	456	3139

Source Petroleum Commission

Commission data on local employment estimates the total number of local employment in the oil and gas industry at about 43,503 as of 2019, twice the figure of 2017 (Table 5). What the data does not show, however, is the sub-sectors in which indirect and induced employment are generated. More so, the income and labour practices within the sub-sectors employing Ghanaians due to direct local employment need further interrogation. How are these employments linked to Ghana's informal economy? For instance, Otchere-Darko and Ovadia (2020) analysed 1997–2017 land-use permit data to show how restrictions on informal commerce have been recently introduced in Sekondi-Takoradi to maintain the 'aesthetics' of the oil city. Such sectoral and even contextual challenges to indirect employment generation are not highlighted in such

Table 5 Indirect and induced employment (2017–2019)

<i>Year</i>	<i>Direct local employment</i>	<i>Indirect employment</i>	<i>Induced employment</i>	<i>Total</i>
2019	5124	18,549	14,706	43,503
2018	4058	14,690	11,647	30,397
2017	2683	9,713	7,700	20,096

Source Author's estimates

estimates by the Petroleum Commission. These are critical issues that must be broached but are not the subject of this chapter.

Ghana lacks highly skilled local technical personnel, particularly for the upstream industry. Various local and foreign companies have some form of skill development initiatives to address this human capital challenge. For instance, at the Takoradi Technical University, the Jubilee Partners established the Jubilee Technical Training Centre (JTTC), which has a model three-stage separator found on FPSOs to train local personnel. The Ghana upstream internship programme also provides opportunities for practical learning experiences (Table 6).

There are also state-led skill training initiatives to improve the skills of the youth. Various international oil companies also provide some skill training as part of their CSRs. Some oil companies attempted various capacity-building initiatives to enhance local skills within affected communities along the Western coast. These include inland fishing, aquaculture, and vocational training as part of alternative livelihood programmes (Otchere-Darko and Ovadia 2020). However, these skill trainings are not necessarily aimed at equipping local labour for employment in the oil and gas industry. Many tertiary institutions in Ghana are also running oil and gas-related programmes. But without the avenues for practical skill learning, much of the tertiary programmes are focused on management, logistics and supply chain, and law. Some of the private locally organised training have been somewhat exploitative (see Darkwah 2013).

Regulation 20 and 21 (L.I. 2204) require foreign companies to submit a research and development plan before commencing their activities in Ghana. Research and development are integral to technology transfer and local solution-based systems for the oil and gas industry. In countries like Norway, the domiciliation of research and development was crucial for expertise transfer and the emergence and growth of Norwegian oil and

Table 6 Ghana upstream sector

internship programme placement

<i>Year</i>	<i>No. of roles</i>
2020	23
2019	84
2018	43
2017	45
Total	195

Source Petroleum Commission/Fieldwork 2021

gas companies, which have become global giants in the oil and gas sector. In the context of Ghana, information on foreign companies' fulfilment of Regulations 20 and 21 of L.I. 2204 is not public as most of the contracts in the oil and gas industry have confidentiality and non-disclosure clauses. More critically, the extent to which the research and development plans presented by foreign companies have been fulfilled remains to be seen. This is an important area that the government of Ghana must pursue more vigorously to move the LCL normative target focus to a more nuanced industrial policy tool.

With over 70% of economic activities in Ghana being informal, government efforts over the years have been geared towards the formalisation of the informal economy. Overall, most businesses in Ghana are micro, medium, and small-scale enterprises (MSMEs) (Peprah et al. 2020). The development and growth of MSMEs in Ghana's oil and gas industry are a viable route to promoting inter-sectoral linkages with the broader economy. The drive to localise the oil and gas supply chain is being pursued by maximising local procurement outlined in Regulation 11 (L.I. 2204). Regulation 11 requires that preference should be given to indigenous Ghanaian firms in the bidding process. In Table 2, the total value of contracts awarded to indigenous companies stands at over US\$1.2 billion between 2011 and 2020, which is just 12% of the total contract value awarded within that period. The deficiency of Ghanaian businesses is the small scale of their operation, lack of capital and technical expertise for the oil and gas industry, which is described as the most capital-intensive industry. Apart from a few elite local companies, most Ghanaian businesses in the oil industry struggle to obtain International Organisation for Standardisation (ISO) and the American Bureau of Shipping (ABS) certifications critical for most technical operations in the oil industry. The capacity issues are compounded by the slow, ponderous, and unresponsiveness of public institutions to facilitate local businesses.

To address the challenges of businesses, the government of Ghana, in partnership with some foreign oil companies, established the Enterprise Development Centre (EDC) in Takoradi. The EDC was a five year-US\$5 million project established in 2013. It was expected that by the end of the first five-year of operation of the centre, it would develop an independent funding source to keep it operational to support local firms in the oil industry (see Ablo 2015). However, the EDC project was politically driven and thus was not fit for purpose as it failed to address the needs of

Ghanaian businesses. The funding provided by the multinational companies was primarily driven by the need to fulfil their CSR requirements and not particularly a drive to develop the capacity of Ghanaian firms (Ayanoore 2021; Ablo 2020). The EDC collapsed with minimal impacts on improving the expertise of Ghanaian businesses and promoting their participation in the oil industry.

5 CONCLUSION

LCLs are important initiatives and represent efforts to promote state-led policies to develop a locally owned oil industry. We can argue that the pursuit of local content is a shift away from neoliberalism involving the rollback of states from the economy that characterises post-independent SSA states. Ghana is arguably witnessing shifting, if not expanding, resource endowments from traditional mining to petroleum production. Much has been said about the impacts of various neoliberal policies implemented in Ghana's mining industries on employment sectors and communities. There are important lessons that must be drawn from Ghana's experience in mining for the oil and gas sector, focusing on how to maximise resource benefits on energy and the economy. LCLs are thus part of policy and institutional mechanisms aimed at fostering linkages between the nascent oil and gas industry and broader national economies beyond fiscal benefits.

The need to ensure that SSA countries' natural resource wealth can promote equitable and just societies and overcome the rent-seeking behaviour of elites underlie the development of LCLs. In this chapter, we argue that the emphasis of Ghana's LCL has been on the achievement of various targets and not necessarily how the multiple targets can be linked to the broader national economy. The enforcement of processes that will ensure that local actors are integrated into the petroleum industry value chain, and the extent to which the local content law can benefit the Ghanaian society is also limited. The chapter shows that achieving significant levels of local participation depends on local actors' abilities to meet the oil and gas industry standards, the capacity of state institutions to enforce various regulatory requirements and enforce local-content requirements. The ability of state institutions to enhance the capacity of local businesses to enable them to take advantage of the opportunities in the oil and gas sector is also critical.

Additionally, developing the refining capacity of infrastructure such as the Tema Oil Refinery can potentially complement forward linkages and local capacities, thus enhancing linkage development. Currently, the Tema Oil Refinery is heavily indebted and faces crippling management challenges. The government of Ghana must restructure the operations of the refinery devoid of political interferences and provide the financial support to secure and refine crude from Ghana's oil fields. Such complements of LCL and refinery infrastructure can enhance local capacity and job creation beyond the upstream into the midstream and downstream service sectors. Such linkage development can also enable the export of higher value oil and local energy security as part of forward linkages. So far, Ghana has made some significant progress in the pursuit of local participation. However, more needs to be done in promoting research and development, increasing the opportunities for human capital development through practical learning experiences and policies to improve the competitiveness of indigenous Ghanaian firms.

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Utilising Ghana's Natural Gas Resources: Implications for Industrial Development and Inclusive Growth

Benjamin Boakye

1 INTRODUCTION

The introduction of gas to the energy mix of Ghana was a significant boost to the country's transition from crude oil-based power generation to a cheaper, cleaner and increasingly abundant resource. Before oil and gas discovery and subsequent production, the composition of thermal in the power mix was increasing and trended to outpace hydro sources.¹ The thermal plants used liquid fuels, which introduced significant volatility

¹ Kumi, E. N. (2017). *The electricity situation in Ghana: Challenges and opportunities* (p. 30). Washington, DC: Center for Global Development; Acheampong, T., Menyeh, B. O., & Agbevivi, D. E. (2021). Ghana's changing electricity supply mix and tariff pricing regime: Implications for the energy trilemma. *Oil, Gas & Energy Law*, 19(3).

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in the cost of power generation due to their significant price fluctuations on the global market. The volatilities associated with liquid fuels for power generation required that the Government of Ghana (the Government) either allows a full pass-through of the cost or provide subsidy for electricity consumption. The latter became a preferred option due to the challenge of navigating public sentiments and political fortunes, which yielded a lack of political will to recover the full cost of electricity imposed by the procurement of expensive and volatile liquid fuels.² The alternative for the Government was to accelerate the introduction of cheaper and stable fuel sources to reduce the pressure on public finances. Consequently, the Government made efforts to accelerate gas importation and an aggressive investment attraction into exploration campaigns for domestic sources of oil and gas.

Ghana became a significant driver of the decision to implement the ECOWAS policy to build a regional gas pipeline—the West African Gas Pipeline (WAGP). Ghana, therefore, opted to be a major off-taker and a substantial investor in WAGP with 16.3% of the shares.³ At the same time, Ghana reduced the fiscal terms for Exploration and Production (E&P) operations to aggressively target investments into its oil and gas basins, which yielded over ten new exploratory licences between 2003 and 2006 and subsequent domestic gas discovery in 2007.

The discovery was a significant milestone for Ghana and justified over two decades of investments in building institutions and retooling the regulatory environment to attract investment. The discovery generated excitement and a new outlook for development and deepened the hope that Ghana could become a major frontier for natural gas business. Consequently, new policies were contemplated and engineered to support the optimisation of gas resources. The use of natural gas to develop petrochemical industries, industrial heating and refining of natural resources was anticipated and articulated in political speeches and policies.

² Eshun, M. E., & Amoako-Tuffour, J. (2016). A review of the trends in Ghana's power sector. *Energy, Sustainability and Society*, 6(1), 1–9.; Vagliasindi, M. (2012). *Implementing energy subsidy reforms: Evidence from developing countries*. World Bank Publications (pp. 39–56); Alleyne, M. T. S. C., & Hussain, M. M. (2013). *Energy subsidy reform in Sub-Saharan Africa: Experiences and lessons*. International Monetary Fund.

³ Power Africa. (n.d). *West Africa Power trade outlook*. Available at <https://www.usaid.gov/sites/default/files/documents/1860/wapt.pdf>.

After a decade of oil production, several policies have emerged to regulate the integration of gas resources in the country's economic life. The policies include the National Gas Pricing Policy, the Natural Gas Access Code and the Gas Master Plan (GMP), which looked at gas pricing issues, institutional roles, infrastructure development and gas utilisation. After a decade of gas production and utilisation, the role of these policies in shaping the overall objective of economic transformation and inclusive growth requires a thorough examination. Over the period, the evidence suggests that policy decisions have been arbitrary in response to political changes and sometimes served the political interest of individuals in a way that undermined established policies. This chapter examines how policies and actions have contributed to optimising the gas sector. It also examines the challenges that continue to undermine the growth and development of an optimised gas market; that promotes industrialisation and inclusive development.

2 GAS SUPPLY FROM NIGERIA

Ghana played a significant role in operationalising ECOWAS' proposal to build a gas transportation infrastructure in the West Africa region. In 1982, ECOWAS proposed the development of a gas pipeline along the West African coast. However, not much effort was made until the early 1990s when Ghana's hydro generation sources began to show significant signs of unreliability and inability to meet the growing electricity demand. This provided the impetus for Ghana to underwrite the investment in the gas pipeline to the tune of about 92% of its foundation volume through the Volta River Authority (VRA). In addition, the Government of Ghana secured a Partial Risk Guarantee (PRG) of \$50 million through the International Development Association (IDA) of the World Bank to support VRA.⁴ Between 2000 and 2005, four states (Ghana, Nigeria, Benin and Togo) ratified all the necessary agreements and protocols to establish the pipeline construction company, West Africa Gas Pipeline Company (WAPCo), and subsequent project implementation. The pipeline was

⁴ World Bank. (2005). *IDA provides an innovative partial risk guarantee in support of the West African Gas Pipeline project*. Project Finance and Guarantees. <https://documents1.worldbank.org/curated/es/746201468203977304/pdf/359030AFR0P0825020rev0WAGPNote01PUBLIC1.pdf>.

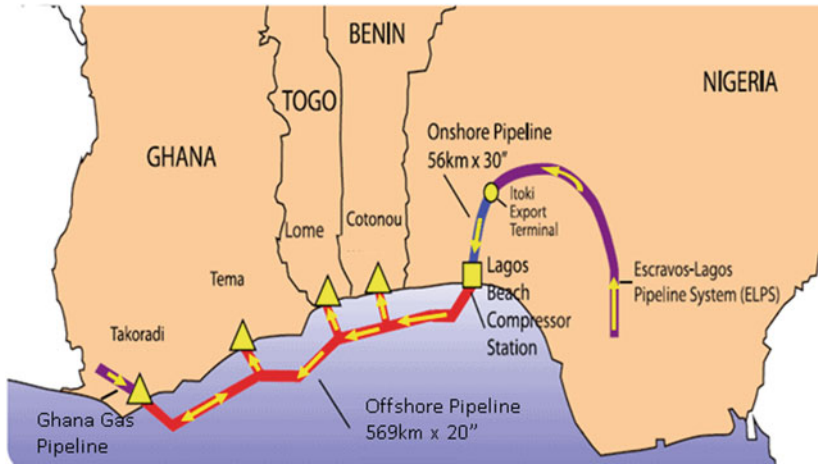


Fig. 1 West Africa gas pipeline schematic (*Source* West Africa Gas Pipeline Company [WAPCO]—<https://www.wagpco.com/wagp/>)

completed in 2008, and Ghana began to offtake gas from the pipeline in 2009 (Fig. 1).

At the early stages of operations, the WAGP project suffered significant setbacks,⁵ which fundamentally, affected confidence in the supply of the commodity, originally at 120 million standard cubic feet per day of gas (mmscfd). Between 2009 and 2012, gas supply was unreliable, attributed mainly to vandalism⁶ on some parts of the pipelines that connected the Escravos to Lagos Pipeline System (ELPS) to WAGP. In 2009, supply averaged about 30 mmscfd, increasing to about 37 mmscfd in 2010. Gas flow from WAGP reached its peak in 2011 when it supplied an average of about 95 mmscfd. In 2012, the average supply from January to August was about 65 mmscfd. However, between August 2012 and July 2013, no gas was supplied through WAGP due to damage caused by a ship's

⁵ Obanijesu, E. O., & Macaulay, S. R. A. (2009). West African Gas Pipeline (WAGP) project: Associated problems and possible remedies. In *Appropriate technologies for environmental protection in the developing world* (pp. 101–112). Springer, Dordrecht.

⁶ Izundu, U. (2007). *Nigeria misses gas supply deadlines to Ghana*. Available at: <https://www.ogj.com/general-interest/companies/article/17287851/nigeria-misses-gas-supply-deadlines-to-ghana> (Accessed: 11 July 2021).

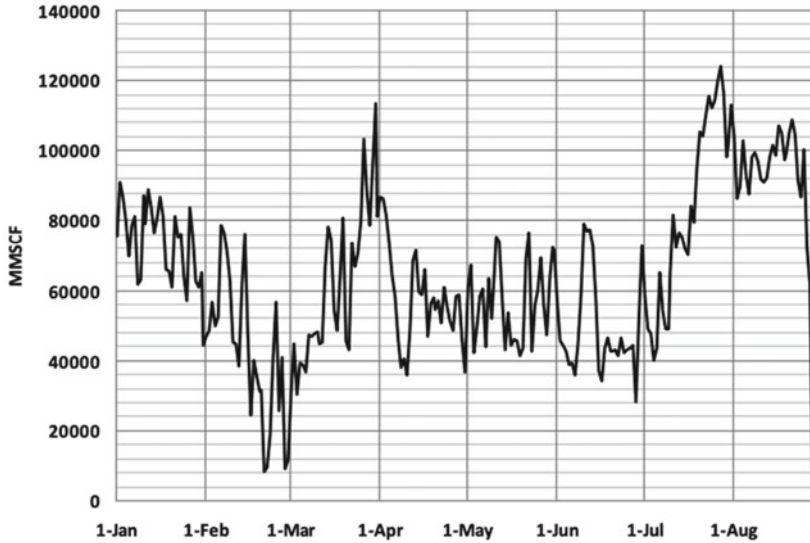


Fig. 2 Gas supply from WAGP (2012) (*Source* Energy Commission [2013])

anchor off the coast of Togo.⁷ Subsequently, Nigeria Gas (N-Gas), the gas supplier to WAGP, declared a force majeure in compliance with the Gas Sales Agreement (GSA). Before the major disruption, supply was highly volatile and unpredictable, as shown in Figs. 2 and 3.

In July 2013, gas supply was restored to an average of about 85 mmscfd in 2013, 61.8 mmscfd in 2014 and 56 mmscfd in 2015. However, in 2016 and 2017, supply dropped to an average of 13 mmscfd and 30 mmscfd, respectively, partly contributed by VRA's default in meeting its payment obligations.⁸ The defaults in payments ultimately resulted in a change of payment terms to require Letters of Credit to

⁷ The data was obtained from the annual report on the demand and supply outlook by Energy Commission.

⁸ *Gas supply disruption could deepen VRA's debt repayment woes—Kofi Buah* (2016). Available at: <https://www.ghanaweb.com/GhanaHomePage/NewsArchive/Gas-supply-disruption-could-deepen-VRA-s-debt-repayment-woes-Kofi-Buah-475961> (Accessed: 11 July 2021). *Nigeria, Ghana to settle \$185 m gas pipeline debt dispute—Latest Nigeria News*, Nigerian Newspapers, Politics (2015). Available at: <https://thenationonlineng.net/nigeria-ghana-to-settle-185m-gas-pipeline-debt-dispute> (Accessed: 11 July 2021).

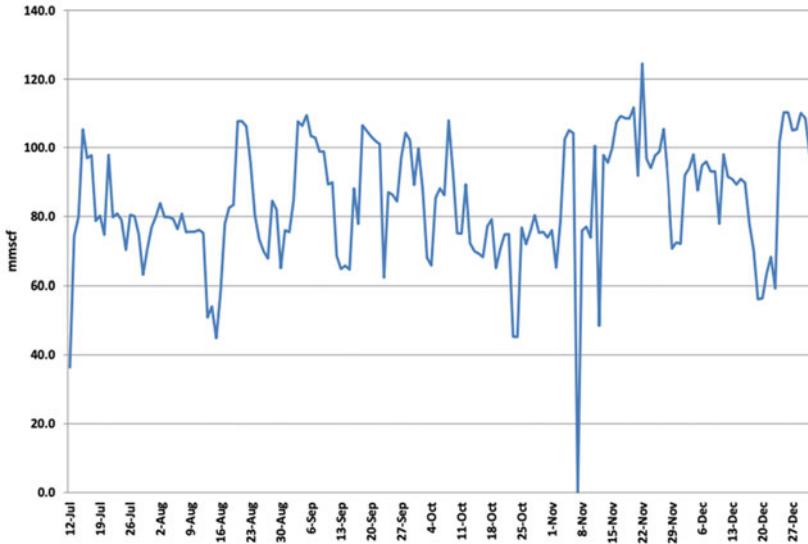


Fig. 3 Gas supply from WAGP (2013) (*Source* Energy Commission [2014])

guarantee a volume of 60 mmscfd of gas, pending the lifting of the force majeure. Subsequently, supply has stabilised around an average of 60 mmscfd (Fig. 4).

3 DOMESTIC GAS FROM JUBILEE AND TEN

After discovering oil and gas in 2007, gas development from domestic sources became increasingly important, particularly considering the unreliable supply of gas from Nigeria through WAGP. Jubilee Field, which was a unitisation of two of Ghana's first discoveries (West Cape Three Points and Deepwater Tano contract areas operated by Tullow Oil and Kosmos Energy, respectively) was estimated to have a recoverable gas volume of about 610Bcf (Table 1). Between 2009 and 2011, the Jubilee partners made three additional oil and gas discoveries in the Deepwater Tano block; Tweneboa, Enyenra and Ntomme, which became the Tweneboa-Enyenra-Ntomme (TEN) Field with a recoverable gas volume of 300bcf (Table 1).

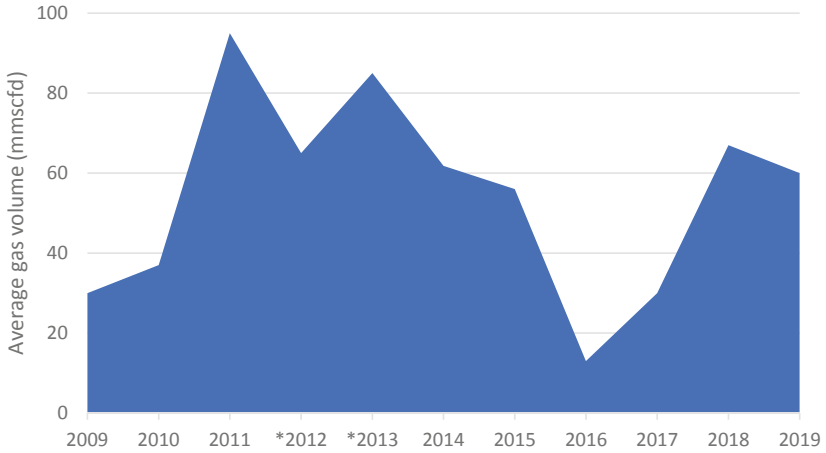


Fig. 4 Gas supply profile from Nigeria through WAGP. *Note* The most extended period of disruption that necessitated a force majeure between August 2012 and July 2013 is not accounted for (*Source* Energy Commission [2010–2020])

Table 1 Supply profiles on the basis of domestic gas reserves and resources

<i>Field</i>	<i>Low supply</i>	<i>Base supply</i>	<i>High supply</i>
Jubilee*	349	533	639
TEN	287	287	427
Sankofa	1,366	1,366	1,645
Mahogany, Teak and Akasa	24	129	173
Hess		177	177
Shallow Tano			193
Other Non-associated gas			1000
Other Associated gas			1000
Total	2026	2492	4254

Source Ghana Gas Master Plan Revised (2016: p. 3)

The Jubilee Field was planned to be developed in two phases. The initially estimated production volume was about 120 mmscfd; about 20 mmscfd would be used for utilisation on the FPSO and the remaining 100 mmscfd for exports. During the first phase of negotiations, the Jubilee partners agreed to deliver free 200bcf Foundation Gas to Ghana to support the country's economic development. However, Ghana was responsible for providing the necessary export and processing infrastructure to access the free gas. The original plan was for Ghana National Petroleum Company (GNPC)⁹ to deliver a commercialisation infrastructure to coincide with the first oil from the Jubilee Field in 2010. However, the expected timelines for developing the gas infrastructure to export gas from the FPSO were subsequently revised due to delays in addressing financing and other critical challenges such as appropriate location and attendant process of land acquisition. As a result, the Jubilee Partners had to accommodate the projected delays in their operations of the field by reinjecting the gas meant for export until the infrastructure was ready within the new timeframe of 12–24 months after the first oil.

The FPSO would maintain the ability to inject 100 per cent of the gas in the event that the receiving terminal is unavailable to receive all the gas due to unplanned events or planned maintenance.¹⁰

GNPC's financing strategy for the infrastructure focused on creating a Joint Venture (JV) with an established gas company supported by the World Bank. It identified the National Gas Company (NGC) in Trinidad and Tobago for the JV. After several delays in concluding on the JV agreement, the Government constituted a National Gas Development Taskforce to;

⁹ GNPC is the National Oil Company.

¹⁰ Tullow Ghana Ltd. (2009). *Ghana jubilee field phase 1 development: Environmental impact statement* (pp. 3–12). Available at <https://www.tulloil.com/application/files/5415/8491/9050/jubilee-field-cia-chapter-3.pdf>.

review all aspects of the gas commercialisation project, including its technical, economical, economic and financing options, and make recommendations on the most efficient and viable ways of bringing the project to fruition.¹¹

The Professor Kwesi Botchwey-led committee had three months to deliver on its mandate but could deliver its final report in April 2011, six months after it was commissioned. The task force's report was never published to inform public discussion on the outcome of work done. However, some significant shifts became apparent:

1. **GNPC was no longer required to lead the commercialisation efforts.** Consequently, the initial arrangement to form a JV with the NGC of Trinidad and Tobago to deliver the gas infrastructure was aborted even though GNPC had already invested in a 14 km deepwater segment of the offshore pipelines as part of an initial plan to develop the needed infrastructure.
2. **A new Gas company known as Ghana National Gas Company (GNGC) was established to lead the commercialisation efforts.** GNGC was subsequently incorporated in July 2011, and all the staff of GNPC who were working on gas commercialisation were seconded to it.
3. **The Government decided to solely invest in GNGC through debt to deliver on the infrastructure.** As a result, it allocated about \$1 billion of a \$3 billion Chinese Development Bank (CDB) loan to the gas infrastructure. The CDB loan facility had to satisfy a conditionality for a Chinese company, Sinopec, as the Engineering, Procurement and Construction (EPC) contractor.

3.1 Delays in the Delivery of Processing and Transportation Infrastructure

As indicated, the Jubilee partners had accommodated between one to two years of delay in developing the field. That constituted the reasonable timeframe within which gas could be reinjected into the oil reservoirs.

¹¹ Terms of reference on the formation of the National Gas Task Force. Available at https://ouroilmoney.s3.amazonaws.com/media/documents/2016/06/09/gas_development_taskforce.pdf.

Ghana, therefore, was required to race against time to avoid possible gas flaring in compliance with its “*no flaring*” policy on gas development. The National Energy Policy¹² expressly prohibits gas flaring unless it is necessary for operations.

... Maximise the utilisation of natural gas reserves by prohibiting flaring or venting of natural gas produced within Ghana unless necessary in operations.

To meet the timelines, GNGC was relying on the experience of Sinopec, which is a recognised company involved in the execution of oil and gas projects worldwide, to fast-track the construction of the infrastructure. Sinopec was required to construct and Commission a 150 mmscfd Gas Processing Plant in 13 months. The project also included the laying of a 36-kilometre shallow-water offshore pipeline from the FPSO to the plant, a 120-kilometre onshore pipeline from the gas processing plant to Aboadze and a 75-kilometre onshore pipeline from Esiam to Prestea in the Western region, a jetty for the export of natural gas liquids and an office complex for the control and operation of the infrastructure.¹³

The 2012 timeline given to the contractor proved too tight to accommodate other unforeseen events. Financing the project, which was hinged on the operationalisation of the Master Facility Agreement (MFA) between CDB and GoG, became a major setback in the project’s implementation. The MFA required the collateralisation of Ghana’s share of oil from the Jubilee fields and the lifting of same through another Chinese company, Unipec. After signing the MFA, CDB began pushing for further adjustment to the content of the MFA. CDB wanted explicit amendments to recognise the \$3 billion facility as an oil-backed loan and demanded that 49% of oil revenues be paid into a debt service account to service the loan. Several delays in agreeing with the new terms denied Sinopec access to the required financing to meet its completion timeline.

The drop in oil prices in 2014 further weakened the capacity of oil from Jubilee Fields (13,000 barrels) as security for the loan. CDB again demanded an increase in oil barrels, which was not possible for Ghana

¹² Ministry of Energy. (2010). *National energy policy*.

¹³ Quartey, L. (2012). Chinese firm begins Ghana’s gas processing project. *The Africa report*. Available at <https://www.theafricareport.com/6818/chinese-firm-begins-ghanas-gas-processing-project/>

within the context of the petroleum agreement signed with the Jubilee partners. The remedy for Ghana was to cap the CDB facility at \$1.5 billion. In the supplementary budget statement of 2014, the Minister of Finance noted;

CDB has introduced a new condition precedent to the effectiveness of the subsidiary agreement for the two additional projects, namely a side agreement to amend some of the terms of the MFA, the Five Party Agreement and the Account Agreement.

The back and forth on the MFA significantly delayed the timeline for implementation of the gas commercialisation infrastructure for an additional period of 2 years. These delays had severe impacts on the economy, including power supply challenges, avoidable investments in Jubilee fields and eventual gas flaring.

3.1.1 Power Supply Challenges and Attendant Economic Impacts

The Government was hopeful that the gas processing infrastructure would be delivered on time to provide the needed fuel for power generation. As a result, no attention was paid to the recommendations of the Energy Commission. Between 2010 and 2013, the Energy Commission consistently recommended the construction of a regasification facility to allow for short-term gas imports through LNG to smoothen unreliability in gas supply from Nigeria.

In this respect, Government should proactively create incentives to encourage investment in LNG re-gas facility built in the shortest possible time. An investment workshop for stakeholders where the government entities including Ghana Investment Promotion Centre and the Ministries of Energy and Finance can table the economic and investment incentives that the Government could offer would be very essential.¹⁴

As a consequence, there was no alternative for gas supply when the WAGP contract was breached in 2012. The absence of gas supply contributed significantly to the prolonged power crisis between 2012 and 2015, which required substitution for expensive liquid fuel to run the thermal plants. The fuel substitution introduced additional cost for power generation.

¹⁴ Energy Outlook for Ghana. (2011, 2012, 2013).

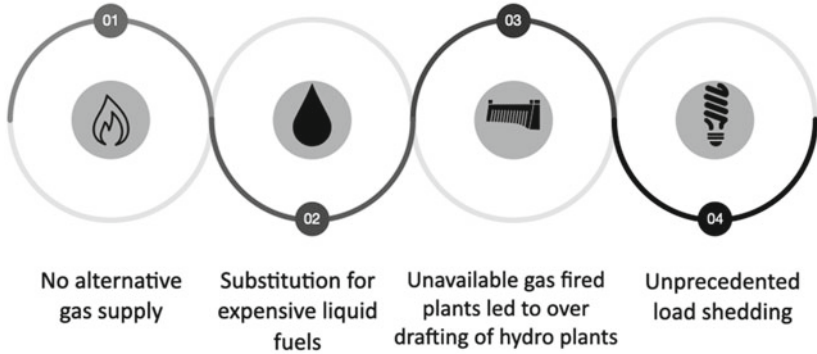


Fig. 5 Consequence of gas project delay on the power sector (*Source* Author's construct)

However, the extra cost was not passed through to the consumer to sustain the operations of the thermal plants. At the same time, only dual-fuel plants could switch to liquid fuel, reducing available generation capacity by about 200 MW as plants such as the gas-fired Asogli Power Plant became unavailable.

Consequently, more power was generated from hydro plants (Akosombo, Bui and Kpong) and the limited dual-fuel plants. While the hydro plants were over-drafted, the dual-fuel plants were politically overused and missed their critical maintenance schedules. The cascading effect of this poor management of the power sector led to unprecedented load shedding in a 1:2 on/off ratio¹⁵ between 2014 and 2015 with its adverse impacts on the economy. Figure 5 summarises the cycle of effects of the gas project delays on the power sector.

3.1.2 *Avoidable Additional Investments on Jubilee Field*

The inability of the Jubilee partners to export gas prolonged reinjection until 2014. The extended reinjection period required an additional investment of about \$100 million to drill a third reinjection well. This presented avoidable cost to the project, which also had implications for Government revenue as costs are deductible. Also, Tullow Oil had to sacrifice oil production to the tune of about 3000 barrels per day to allow reinjection

¹⁵ 24 hours off and 12 hours on.

to continue with further adverse implications on state revenue; royalty, participation interest and tax.

3.1.3 *Gas Flaring*

Ghana's policy for the upstream oil industry prohibits flaring or venting of natural gas produced unless operationally necessary. This policy was enforced to prevent Tullow from flaring or venting the associated gas when the gas infrastructure was not ready. Regrettably, delays in the infrastructure stretched the reinjection capacity to its limit. Therefore, in June 2014, the Minister of Petroleum had to approve a request for Tullow to flare gas volumes of up to 500mmscf per month. Gas flaring had both environmental and economic consequences. It contributed to Tullow's 11% increase in emissions in 2014.¹⁶ In addition, Ghana lost the opportunity to monetise the volume of gas flared over the period from June to December 2014.

3.2 *Gas Processing Infrastructure*

The Gas Processing Plant (GPP) achieved mechanical completion and started test runs in November 2014. The GPP ramped up gas processing to commercial operations and was officially commissioned in September 2015. In 2015, it processed an average of 72 mmscfd and has since supplied a stable supply within 60 mmscfd to 90 mmscfd for power generation and minimal industry consumption, as shown in Fig. 6. This indicates that the power sector would have benefited immensely if the gas processing plant had coincided with first oil in 2010.

The GPP has been in operation for about seven years (2014–2021). The EPC contractor, Sinopec, managed the company's technical operations during the first three years as consultants. In compliance with the original arrangement, Sinopec, in December 2017, fully handed over the operations of the GPP to Ghanaian staff who had been trained as part of the consultancy period.

3.2.1 *The Planned Second Phase of Gpp*

The current GPP is the first phase of the original gas infrastructure development to process gas from Jubilee Field. The second phase was

¹⁶ Tullow Oil PLC. (n.d). *Tullow Oil plc 2014 corporate responsibility report*. Available at https://www.tulloil.com/download_file/force/151/247/.

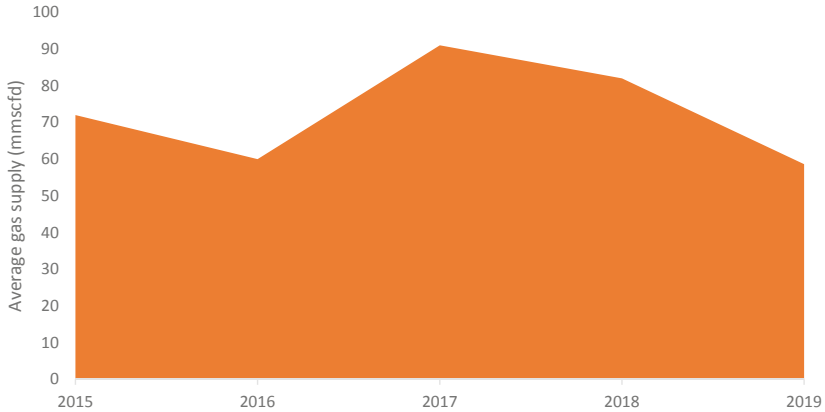


Fig. 6 Gas supply profile from Atuabo gas processing plant (2015–2019)

scheduled to come on stream in anticipation of gas from the TEN oil fields. However, the delays in delivering the first phase pushed the second phase further away from the timelines. The absence of a second train does not provide the incentive for the Jubilee partners to produce more gas from Jubilee and TEN fields. As a result, gas from TEN has become a substitute for smoothening gas production challenges from Jubilee. GNPC and the Jubilee Partners signed a gas substitution agreement that treats production from both fields as Foundation Gas.

Financing the second phase is the foremost challenge faced by GNGC. Amidst the difficulties during the first phase of the GPP, the Government funded the project wholly through loans from CDB. There has not been a similar commitment from the Government to support the construction of the second phase. Also, GNGC does not have the balance sheet to deliver the project on its own. The gas market is primarily linked to the inefficient, debt-ridden and poorly managed power sector, which has impacted the cash flow of GNGC from inception. GNGC's outstanding receivables as of the end of 2018 amounted to about \$750.9 million, increasing to about \$924 million in 2019 for lean gas supply to the power sector.¹⁷ The company highly depends on revenue from the sale of liquids (condensates and LPG) for operations and amortisation of investments.

¹⁷ PIAC reports for 2018 and 2019.

The non-payment makes it difficult to justify investment for a second train without Government security. However, Government's actions do not predict its readiness to optimise the domestic gas market. Instead, the focus has been on importing LNG while suppressing production from Jubilee and TEN. Investors are also reacting to this poor market condition. Aker Energy's Plan of Development (PoD) for the Pecan Field¹⁸ portrays its reaction to the market situation and its adverse impact on the possible export of the project's associated gas.

There is a situation with surplus of gas to the domestic market for the coming years. This market situation represents a challenge for stable and predictable offtake of the Pecan associated gas, as well as determining the gas sales price.¹⁹

Even though Ghana by law can require the export of gas produced from the fields, there is no certainty and capacity to process the gas. This is exacerbated by experience with the Jubilee and TEN fields, where the operators had to endure several delays and additional investments in anticipation for the export of gas.

4 DOMESTIC GAS FROM THE OCTP PROJECT

Exploration of the Offshore Cape Three Points (OCTP) block encountered the Sankofa discovery in 2009 with commercial non-associated gas volumes of about 40 billion cubic metres (1.4 tcf). The partners of the OCTP block (Eni, Vitol and GNPC) had two strategic options for the field's development: selling the entire production volume to the domestic market and the hybrid case of domestic supply (maximum 100 mmscfd) and LNG export.²⁰ The Government of Ghana opted to export the entire gas to the domestic market because of the increasing need for gas for power and security of supply.

The preferred option by the Government required strong guarantees to ensure that the field development and production investment, estimated at \$7 billion, would be paid. Therefore, the Government of Ghana

¹⁸ The Pecan Field is an appraised discovery which was scheduled for commercial production in 2023 by Aker Energy, but has suffered delays as a result of Covid-19.

¹⁹ Aker's first draft of its Plan of Development for the Pecan Field.

²⁰ Ministry of Energy. (2012). *National gas pricing policy*.

requested the intervention of the World Bank to design a security structure that could promote the development of the gas project in the face of slumping in global oil price in 2014. As part of the design of the security structure, the Bank provided a \$700 million guarantee (See Fig. 7), the first of its kind. The project attracted the Bank’s support because of its object to utilising a cleaner energy source (gas) to promote energy self-sufficiency and sustain economic growth. Beyond the World Bank guarantee, GNPC was required to create an escrow account with the standing balance of four and half months of gas sales (\$205 million). The escrow account was to compensate for any payment shortfalls from the sale of gas by GNPC to the Independent Power Producers (IPPs).

The power sector was determined to be the primary market for the OCTP gas. This required a robust plan to deal with the power sector’s

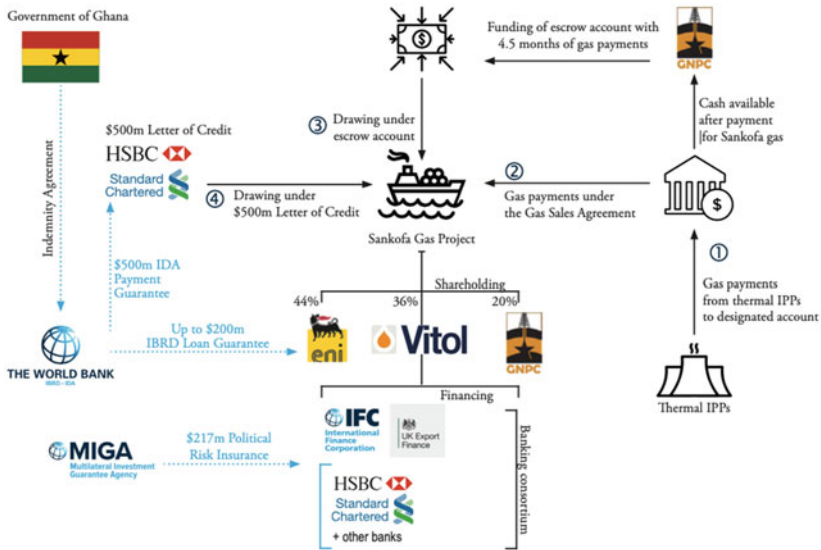


Fig. 7 World Bank security structure for Sankofa field development (Source World Bank)²¹

²¹ World Bank. (2018). Financial solutions brief. *Ghana Sankofa gas project*. Available at <https://pubdocs.worldbank.org/en/969011518200591340/Briefs-Guarantees-GhanaSankofa.pdf>.

challenges and provide a stable cash flow to pay for investments in OCTP gas, particularly when the commodity was under a take-or-pay contract for a volume of 171 mmscfd. However, GoG failed to plan adequately to ensure that the delivery of OCTP gas coincided with market availability. Regrettably, GoG did not prioritise the needed actions to address the underutilisation of the OCTP gas. The required actions included citing new power plants in the Western enclave where OCTP gas was being developed and constructing a reverse flow infrastructure (Takoradi Tema Interconnection Project (TTIP)) to reverse gas from the Western enclave to the Eastern enclave where most of the gas-fired plants were located. While the OCTP partners could raise \$7 billion to deliver the gas infrastructure project, Ghana could not raise the needed investment to construct the reverse flow infrastructure. The OCTP Partners later had to intervene to develop the infrastructure at the cost of about \$180 million.

Consequently, the power sector was unable to consume all the take-or-pay volume when OCTP gas became available. The gas market could only consume about 60 mmscfd of OCTP gas from inception, with an outstanding take-or-pay volume deficit of about 111 mmscfd, amounting to about \$27 million a month. At the same time, liquid fuel was used to generate electricity.

The Karpowership plant, one of the plants that run on liquid fuels, was later relocated to the Western Enclave to consume about 90 mmscfd of gas. Additionally, the reverse flow infrastructure was developed. In addition to the TTIP infrastructure, the relocation has virtually removed the Government's liability from unutilised gas. Sources from the Africa Centre for Energy Policy (ACEP) reveal that between the time of first gas from Sankofa in August 2018 and February 2021, Ghana has received about 107bscf of gas, an average of 114 mmscfd. The difference between the consumed volume and the contracted volume constitutes the take-or-pay volume over the period. The Gas Sales Agreement (GSA) allows unutilised volumes (make-up gas) to be produced in excess of the contracted volume within five years. As of the end of 2020, the make-up volume accrued was 36.5 bscf, about half of the annual take-or-pay volume.

Ghana will lose the make-up gas if it fails to consume the amount within five years. The urgent issues relative to OCTP gas remain the power sector's ability to pay for gas consumption and how Ghana can consume the make-up gas before the five-year period expires.

5 GAS MARKET STRUCTURE AND DEVELOPMENT

The structure of Ghana's gas market can be classified into two strands. The first strand constituted the attempt by the Energy Commission to implement the market structure defined in its Act, the Energy Commission Act, 1997 (Act 541). The second part is the actual market shaped by the evolution of the gas market and politics.

5.1 *Gas Market Structure Regulated by Energy Commission*

The Energy Commission Act, 1997 (Act 541) envisaged an unbundled gas market a decade before natural gas was ever consumed in the country. The Act unbundled the gas market along the structure of a well-developed gas market; transmission, wholesaling and distribution. The Commission subsequently sought to operationalise the Act in 2009 and granted the exclusive license for transmission to Bulk Oil Storage and Transportation (BOST) Company to develop the transmission infrastructure and ensure non-discriminatory open access for the transmission of gas to demand centres. The implementation of the unbundled market failed to take off. At the time, BOST was licensed as the transmission company, VRA was already taking delivery of gas from WAGP directly to the demand centres, which were too close to the regional pipeline to warrant another transmission company. The gas flows from the only source, WAGP, were also not enough to create demand in other centres beyond the gas-fired thermal plants at the time.

In 2014, when the GPP was completed, the Commission attempted to enforce the unbundling rule by insisting that BOST should be the sole transmission company in the country. This was rejected by GNGC, which proceeded to transmit gas to the power plants without a transmission or processing license. Power play dominated the regulatory regime at the time, and the Commission could not exact any sanctions on GNGC. In 2015, the Commission granted GNGC a processing license which is odd and outside the category of licenses and roles established in the Act and the Gas Transmission Access Code of the Commission. GNGC continued to operate without a transmission license until 2018 when it was granted twenty-five years transmission license. This automatically bundled the wholesale license and the transmission license in a manner inconsistent with the Act and the Transmission Access Code.

5.2 *Evolving Gas Market Shaped by the Context*

Even though the Energy Commission's Act prescribes an unbundled market structure, policy actions have primarily dictated the market structure, inconsistent with the Act. The first practice that emerged was an integrated model with GNGC as aggregator, transmitter and distributor. Subsequently, the Gas Master Plan (GMP) was developed, which also proposed an integrated model with GNPC as the anchor and GNGC as its subsidiary. The GMP concluded that the unbundled structure proposed by the Act was not tenable, primarily because of the size of the market and substantial investment required for infrastructure development and the necessary cash flow to guarantee gas offtake.²²

The recommendation by the GMP sought to capitalise on the financial position of GNPC to accelerate the development of the gas market and more integrated management and financing of projects in the oil and gas sector. This was necessitated particularly by the need for financial securities for the development of the OCTP project. GNPC was the only state company that showed the financial capacity to securitise the OCTP project as demanded by the partners. Subsequently, Government approved the recommendation to make GNGC a subsidiary of GNPC in 2015. The GMP, which made the recommendation, was subsequently approved by Cabinet in July 2016. However, the takeover of GNGC by GNPC after the approval of the GMP could not be concluded before the general elections in 2016, which resulted in a change of Government. The new Government in 2017 did not pursue the takeover. However, GNPC continued its role as the aggregator.

In May 2020, the Presidency endorsed and approved a proposal by GNGC seeking to reverse the role of GNPC as the aggregator. In effect, the presidency reassigned the role of the gas aggregator to GNGC, with further instructions to the Minister of Energy to expedite the implementation of the proposal. Even though the President sanctioned the

²² Ministry of Energy. (2016). *Gas master plan*.

decision for GNGC to be an aggregator, operationalising it has been difficult, highlighting some of the challenges to the decision as raised by the ACEP.²³

6 GAS DEMAND AND SUPPLY SCENARIOS AND THE REQUIREMENT FOR LNG

Natural gas is an important fuel source for thermal plants in Ghana, which contributed about 63% of Ghana's total power supply, with a consumption of about 255 mmscf of gas as of 2020. The power sector utilises about 96% of gas supply while the remainder is absorbed by industrial utilisation, mainly ceramic factories. For the foreseeable future, industrial demand is predicted to be stable because of gas price and competitive use in the sub-region (See Box 1).

Box 1: Issues with industrial use of gas

Industrial use of gas is fundamentally constrained by the current average price of gas. The table below gives the price of gas from Ghana's supply sources.

<i>Gas Source</i>	<i>Jubilee</i>	<i>TEN</i>	<i>Sankofa</i>	<i>Ngas</i>
Delivered cost of gas	3.3483	1.785	7.012	7.24

The Weighted Average Cost of Gas (WACOG) is \$6.08/mmbtu which is high for many industrial activities particularly the petrochemical industry.

Ghana is exploring the use of gas for fertiliser production, which is hardly possible at the price of \$6.08/mmbtu. In Nigeria, the

²³ Africa Centre for Energy Policy. (2020). *Analysis of the proposal to make Ghana National Gas Company the national gas aggregator*. Available at <https://acep.africa/aceps-analysis-of-the-proposal-to-make-ghana-national-gas-company-gngc-the-national-gas-aggregator/>; *ACEP's rejoinder to Ghana National Gas Company*. Available at <https://acep.africa/aceps-rejoinder-to-ghana-national-gas-company-gngc/>.

composite delivered price of gas is about \$3.3/mmbtu (regulated commodity price of \$2.5/mmbtu and transportation cost of \$0.8/mmbtu). Comparatively, the adjusted cost of gas for Ghana does not make fertiliser production competitive as compared to that of Nigeria. GoG will have to heavily subsidise the price of gas to make the petrochemical industry competitive. By 2022, Nigeria will have an export potential of about 3 million tonnes (excess of domestic consumption) of fertiliser, as a result of new manufacturing plants which are coming on stream. The excess fertiliser from Nigeria, produced at a cheaper cost has the advantage of absorbing demand from the West African sub region particularly within the context of the African Continental Free Trade Area (AfCFTA).

Other areas for gas consumption outlined by government of Ghana include mineral (mainly the bauxite refining) and industrial application. However, GoG is yet to secure the needed investment for the mining and refinery of Bauxite. The fair assumption is that if investment was found today, it will take the next three to four years or beyond for the refinery to be developed.

The Integrated Power System Master Plan (IPSMP) developed by the Energy Commission projects that at the base case, peak power demand will increase to about 3700 MW by 2025, and 4622 MW by 2030, representing an average annual growth rate of 5%. The base case projection is based on the assumptions of economic growth at 6%. The plan further projects an upper case power demand on the assumption that the economy grows at 8%. The equivalent power demand growth rate for the upper case is estimated at 7%. In the upper case, power demand will increase to about 4094 MW by 2025 and 5636 MW by 2030.

Ghana currently has three major hydroelectric sources, which cumulatively account for a dependable capacity of about 1400 MW.²⁴ It is assumed that the hydro generation plants would run within the dependable capacity range throughout the period under review (2021–2030). The analysis further assumes that the historical overdraft of the dams to generate more than technically recommended will not occur.

²⁴ Akosombo hydro generating source has a dependable capacity of 900 MW. Kpong hydro and Bui hydro have dependable capacities of 140 MW and 360 MW, respectively.

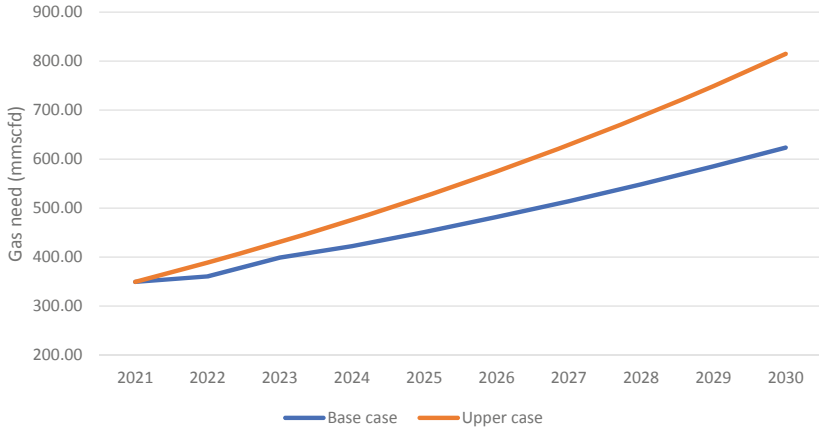


Fig. 8 Projected gas demand; base case and upper-case demand scenarios

The amount of gas required to meet the thermal energy demand is about 435 mmscfd by 2025, increasing to about 608 mmscfd by 2030 at the base demand scenario. For the upper demand scenario, the amount of gas required for power generation is estimated to be 491 mmscfd by 2025, projected to about 747 mmscfd by 2030. Non-power demand is estimated at 15 mmscfd for the entire period, even though the current demand is at 10 mmscfd. This is because the existing consumers have the immediate capacity to consume up to 15 mmscfd. Again, demand growth for industrial uses can reasonably be predicted and accounted for in periodic reviews of the demand trend, which allows for relevant adjustment in supply to coincide with demand. Therefore, total gas demand for power and non-power uses is estimated at 450 mmscfd at the base case and 523 mmscfd at the upper case by 2025. This is projected to increase to 623 mmscfd at the base case and 814 mmscfd at the upper case by 2030 (Fig. 8).

6.1 Matching Gas Demand with Supply

Ghana currently has two main gas sources; domestic supply through the Jubilee, TEN and Sankofa fields, and imports from Nigeria through WAGP. Jubilee and TEN fields are projected to supply an average of

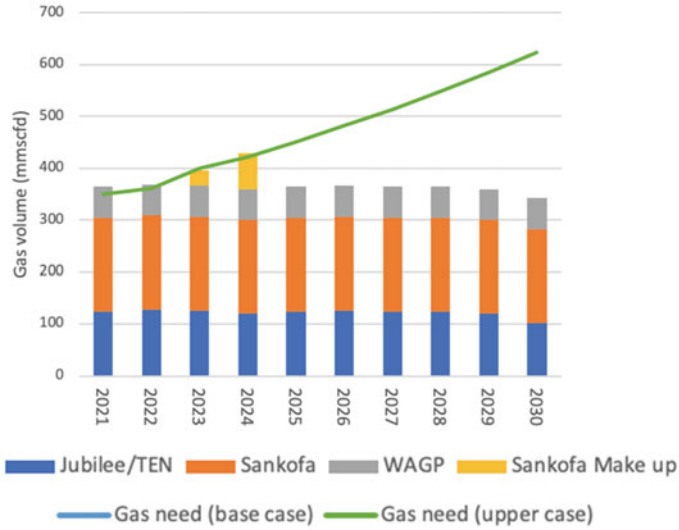


Fig. 9 Strategy to meet base-case gas demand

about 122 mmscfd²⁵ of gas between 2021 and 2030.²⁶ The total volume underpinning the OCTP gas contract is about 180 mmscfd, with an initial take-or-pay volume of 171 mmscfd. In February 2021, following a continuous offtake above 180 mmscfd for 45 consecutive days, the daily take-or-pay volume was reduced by 10% from 171 to 154 mmscfd per the GSA. Although the Sankofa contracted volume is 180 mmscfd, the FPSO can produce up to 260 mmscfd without any additional investment. This provides an additional capacity of 80 mmscfd to mitigate unforeseen supply challenges from other sources.

As earlier noted, Ghana has a make-up gas volume of about 36.5bcf from the Sankofa field, which can be produced for Ghana at no cost within five years. As analysed in Figs. 9 and 10, two options are optimal for utilising the make-up gas to meet the gas need for the country. At the base demand scenario, make-up gas can be consumed at a volume of 30 mmscfd and 70 mmscfd in 2023 and 2024, respectively. To meet the

²⁵ This is a suppressed volume without accounting for the operator’s quest to export more gas from the Jubilee/TEN fields.

²⁶ Energy Commission. (2019). Integrated Power System Master Plan (IPSMP).

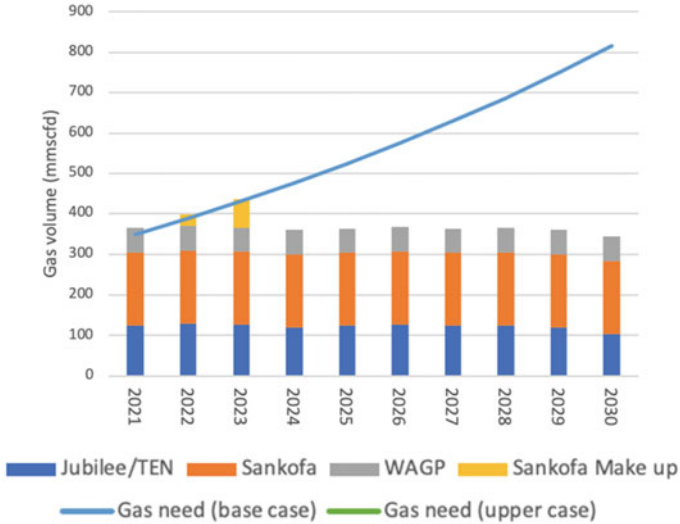


Fig. 10 Strategy to meet upper-case gas demand

high case demand for gas, the optimal period for consuming the make-up gas is 2022 at a volume of 30 mmscfd and 70 mmscfd in 2023.

Domestic supply and WAGP are enough to meet gas demand for power and non-power uses within the short term. At the base demand scenario, additional gas is required from 2025, while additional gas is needed for the high case scenario from 2024. The critical period that should preoccupy the Government’s attention must be when domestic and WAGP sources are not enough to meet gas demand. Additional gas required for the base demand scenario is about 86 mmscfd in 2025, which increases to about 280 mmscfd by 2030. An additional volume of about 115 mmscfd of gas is required in 2024 for both power and non-power uses at the upper demand scenario, projected to increase to about 471 mmscfd by 2030.

6.1.1 Meeting Gas Demand Shortfalls for the Medium Term

N-Gas currently supplies an average of about 60 mmscfd through WAGP, although the contracted take-or-pay volume is 120 mmscfd. In recent times, there has been a relatively consistent supply of gas from Nigeria after several years of unreliability due to pipeline breaches and payment

defaults. N-Gas has recently lifted the force majeure, which has been in place since 2012. The decision to lift the force majeure also indicates the commitment by N-Gas to supply the foundation volume of 120 mmscfd per the GSA. The recent stability in supply still falls short of the overall pipeline capacity of about 450 mmscfd.²⁷ This massive infrastructure creates an opportunity for optimising the regional gas market with the potential to incentivise upstream exploration activity.

Also, WAPCo has liberalised access to the gas pipeline and subsequently engaged eight additional suppliers from Nigeria and Ghana. This has the potential to improve the reliability of gas supply through diversification and create a common market that allows licensed suppliers to trade among themselves in a given time. The liberalisation of access will have a favourable implication on the transmission price as transportation cost is calibrated based on volumes transmitted; the more gas is shipped, the cheaper the transmission cost. Therefore, the demand growth in gas demand from Togo and Benin for new power plants will further reduce tariff on WAGP.

The outlook shows that the contracted volume 120 mmscfd can be supplied at a more stable rate. Additionally, OCTP can be optimised to operate at a full capacity of 260 mmscfd,²⁸ which is 80 mmscfd above contracted volume beyond the point where make-up gas would have been exhausted, as analysed above. Cumulatively, the additional volumes from WAGP and OCTP create 140 mmscfd of gas with no investment in infrastructure. This volume is enough to meet base case gas demand from 2025 to 2026. At the upper demand scenario, the additional 140 mmscfd can meet gas demand in 2024, as indicated in Fig. 11 below.

6.1.2 *Does Ghana Need LNG Imports in Short to Medium Term?*

From the preceding, existing sources for gas supply is enough to meet Ghana's gas needs from the short to medium term. This gives Government ample time to evaluate options for gas supply for the long term. From 2024, LNG may be required to rather smoothen unanticipated supply constraints from domestic sources and Nigeria. Considering that an LNG regasification infrastructure has already been delivered, GoG can

²⁷ At 450 mmscfd of supply, additional investment in compressors is required.

²⁸ Increasing the supply capacity from OCTP will reduce the production lifecycle by about 3 years. However, additional discoveries around the Sankofa Gye-Nyame Field can be developed to make up for the time lost.

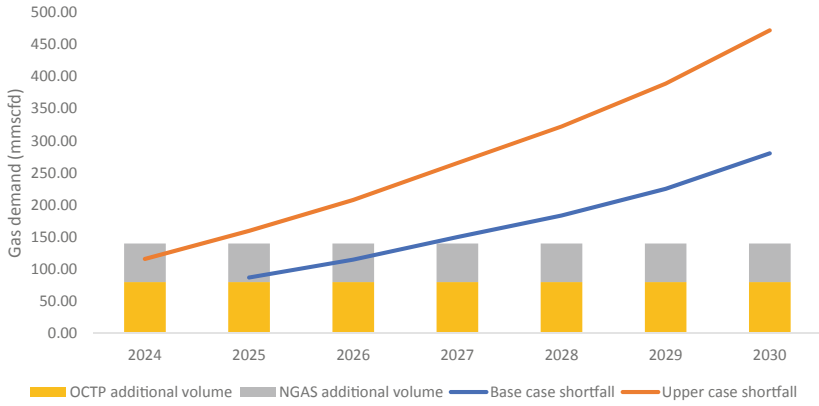


Fig. 11 Meeting gas demand shortfalls in the medium term

absorb the cost as part of the energy sector liabilities. Long-term LNG contracts under take-or-pay have a relatively higher chance of becoming an additional burden on the country. Again, additional domestic sources can be optimised to meet long-term gas demands, including Aker’s Pecan field development and Block 4 discovery by Eni.

The gas supply from OCTP and Nigeria provide a stable price outlook which will be helpful for the stability and predictability of the power sector tariff because of long-term fixed price. The GSA sighted between GNPC and Shell has a pricing regime benchmarked against Brent Crude Oil price. This structure introduces substantial volatility in the price of gas, and by extension, electricity tariffs. The LNG price oscillates with Brent Crude price movements, requiring a pass-through of electricity tariffs as the market determines.

The price of crude oil has increased from \$54 per barrel in January to about \$70 as of June 7. The corresponding LNG prices based on the GSA at these crude oil prices are \$7.8/mmbtu (at \$54 per barrel) to \$9.5/mmbtu (at \$70 per barrel), representing about 21% increase over the period. The commodity price for OCTP gas and N-Gas have remained at \$6.14/MMBtu and \$7.24/MMBtu, respectively, despite the changes in oil price. As shown in Fig. 12, the commodity price for N-Gas and Sankofa are substantially lower than the LNG price obtained based on the price of crude. The estimate for LNG is conservative since costs for transporting the commodity from regasification facilities to the power plants have not been considered.

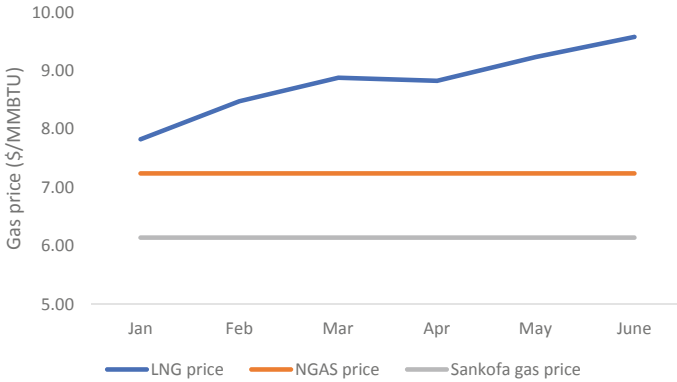


Fig. 12 Comparison of LNG price with OCTP gas and Nigeria gas

To achieve a cheaper LNG price compared to N-Gas and OCTP, Brent Crude has to fall from the current levels of about \$70 per barrel to \$47 and \$32 per barrel, respectively, as shown in Fig. 13. However, the global

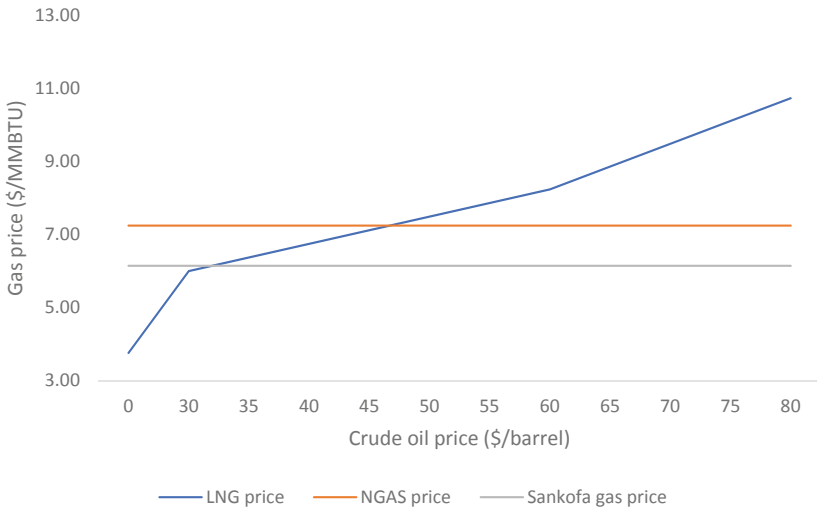


Fig. 13 LNG at varying Brent Crude prices compared with gas prices from N-Gas and OCTP

outlook for Brent Crude prices shows a steady increase in the short to medium term. The World Bank projects that average crude oil price will increase at an annual growth rate of about 2.7% between 2021 and 2030 (Fig. 13).

7 CONCLUSIONS

The importance of gas to support economic growth in Ghana cannot be debated. After a decade of commercial production of gas, it is crucial to examine the progress made and how it has impacted the country's socio-economic development. This paper has highlighted the progress made and the challenges that introduce avoidable cost to the economy and Government revenue with the gas commercialisation efforts.

Even before commercial production, the country had set in motion strategies to import gas through the West Africa Gas Pipeline and LNG. Ghana significantly supported WAGP as a significant off-taker to justify investment decision. After discovery, Ghana took steps to commercialise domestic gas by developing processing and transportation infrastructure to utilise the Jubilee gas. Subsequently, additional gas discoveries have been commercialised: TEN and OCTP. These efforts have made available natural gas to substitute liquid fuels for power generation and, in recent times, some industrial uses. The benefit of this substitution is significant for the Government. Gas has provided a cheaper and a more stable price of fuel for power generation compared to liquid fuels with reduced environmental impacts.

Despite the benefits, significant costs to the state have been occasioned along the way due to politics and institutional weaknesses. Regrettably, one mistake after the other has not provided the reflection to amend strategies to optimise the gas resources. The political and institutional weaknesses contributed to the following:

1. **Delays in the execution of investments:** The Government's decision to compete with private capital for investment delayed the execution of some critical investments in the gas sector. In the case of the Gas Processing Plant, GNPC's approach was to deliver the processing plant to coincide with first oil from Jubilee. However, political indecisions delayed the strategy. This was further worsened by GoG's decision to set up a wholly funded national gas company.

A similar situation played out with the OCTP project when Government failed to deliver the reverse flow infrastructure on time, which resulted in significant take-or-pay gas liabilities on unutilised gas from OCTP.

2. **The excessive power play undermines established policies and laws:** The market structure currently being implemented is at variance with what is stated in the law. This is because ad hoc political manipulations have become more functional than the law. The initial practice from gas commercialisation was an integrated system with GNGC as an aggregator, processor, transmitter and distributor, although the provision of the law required an unbundled market structure. Subsequently, the context dictated that GNPC became the aggregator because of its financial strength and ability to securitise gas investment. However, a recent directive from the presidency has created more confusion as to what structure is being implemented. While GNGC claims that it is the aggregator, no contract has been novated, making GNPC the default aggregator. The situation creates an unnecessary policy confusion in the gas industry which has negative implication for upstream investment decision.
3. **Supply planning and implementation defects:** Gas demand and supply planning and implementation have been suboptimal. Between 2011 and 2014, the Energy Commission consistently projected the need for a regasification infrastructure to augment domestic and WAGP sources of gas. This recommendation was not treated with urgency, while the country endured the utilisation of expensive liquid fuels for power generation. Subsequently, domestic gas supply has risen in excess of demand. Interestingly, this is the time that efforts to import LNG have been at its all-time high and no contrary advice is being considered. This neglects the threat of excess supply and fiscal liabilities eminent with the Take-or-pay LNG contract and suppressed domestic production.

The policy confusions and planning distortions are major threats to the development of the gas sector. The Government needs to take immediate action to adjust law and policy to ensure predictability and certainty of decisions. In that regard, laws must be seen to work and where not fit for purpose, the relevant amendments are made, rather than the neglect of the law. If the gas market is defined by arbitrariness instead of laws and systems, the risk premiums on the country will continue to be high.

There is a need for urgent action to retool laws and policies in the gas sector to provide a clear direction. One such action will be the passage of a Gas Act to set a comprehensive structure that is less susceptible to political manipulations and intermittent deviations.

The power sector will continue to be the primary market for gas in Ghana because of the comparatively high price. Industries, however, require gas at a cheaper price to remain competitive. Policy actions must seek to reduce the gas price without the need for direct subsidy. These policies include optimising domestic gas resources through investment attraction, production and export of existing discoveries such as the Pecan fields and Akoma gas discoveries to the domestic market.

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PART III

Oil and Gas Governance and Lessons Learnt



The Ghanaian State and Governance of the Upstream Oil and Gas Industry

*Ferdinand D. Adadzi, Nana Serwah Godson-Amamoo,
and Jemima Nunoo*

1 INTRODUCTION

The discovery and commencement of major offshore oil and gas production over a decade ago have brought with it many opportunities and challenges. December 2020 marked the tenth anniversary of Ghana's first oil from its deepwater offshore project, the Jubilee Field. Discovered in 2007, Jubilee was estimated to hold recoverable reserves in excess of 370 million barrels, with an upside potential of 1.8 billion barrels.¹ The

¹ Offshore Technology (2021). *Jubilee field—Ghana*. Available at: <https://www.offshore-technology.com/projects/jubilee-field> (Accessed: 2 October 2021).

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discovery was touted to accelerate economic growth and national transformation in Ghana. That expectation was captured by former President, John Agyekum Kufuor, in a television interview with British Broadcasting Corporation in 2007, when he stated:

Even without oil, we are doing so well... With oil as a shot in the arm, we're going to fly... We're going to really zoom... you come back in five years, and you'll see that Ghana truly is the African tiger, in economic terms for development... Oil is money, and we need money to do the schools, the roads, the hospitals... I assure you that if others failed, Ghana will succeed because this is our destiny to set the good pace for where we are. So, we're going to use it well.²

Even though Ghana has not achieved the expected economic development and transformation, it is generally acknowledged that after a decade of active hydrocarbons production, Ghana has made some significant gains from her foray into this somewhat risky venture. Between Jubilee's first oil and 2020, Ghana produced approximately 453 million barrels of oil and earned about US\$6.5 billion in oil revenues (PIAC).³ Petroleum Commission records show steady growth in Ghanaian technical capacity and the localization of roles formally occupied by expatriates. As with most socio-economic topics, there is no dearth of opinion on why Ghana may not have achieved her projected oil and gas-inspired economic growth aspirations. Like many oil producers in the developing world, much of the discourse surrounding the subject center on governance—the regulation of the industry, revenue management and value retention (financial and human resource).

After a decade of oil and gas activity, an examination of the governance structure of Ghana is essential and timely. It is against this background that this chapter reviews Ghana's petroleum governance regime—its evolution, relevance of reforms, efficiency and sustainability. The chapter identifies the measures and institutions established to ensure good governance and reviews their performance based on industry indices. It also

² BBC NEWS (2007). Ghana 'will be *an African Tiger*' (2021). Available at: <http://news.bbc.co.uk/1/hi/world/africa/6766527.stm> (Accessed: 2 October 2021).

³ Ghana Business News (2021). *Ghana earns over \$6.5b in oil revenue in 10 years—PIAC*— Available at: <https://www.ghanabusinessnews.com/2021/09/17/ghana-earns-over-6-5b-in-oil-revenue-in-10-years-piac> (Accessed: 2 October 2021).

assesses the impact of political economy and political settlement variables on governance outcomes focusing on the core areas—licensing, monitoring and evaluation, revenue mobilization and management and sustainability.

The remainder of the chapter is structured as follows: Sect. 2 presents a high-level historical overview of Ghana’s hydrocarbons journey. Section 3 articulates that good governance and management of resources are directly linked to national benefits and further looks at the existing governance arrangements in Ghana. Section 4 highlights the outcomes of Ghana’s oil and gas governance regime based on notable industry indicators. Using case studies, Sect. 5 illustrates how political economy and political settlement variables impact oil industry governance outcomes.

2 BACKGROUND OF GHANA’S HYDROCARBONS INDUSTRY

The drilling for oil and gas in the Ghana territorial area dates from 1896 when West Africa Oil and Fuel Company’s earliest drilling activities were recorded.⁴ By independence in 1957, 21 wildcats had been drilled for exploration in Ghana.⁵ The most significant project was the Saltpond Field, the first offshore discovery made by Signal-Amoco Consortium, which started production in 1978.⁶ Output from the Saltpond Field peaked at 4,500 barrels per day and was shut down in 1985.⁷ By the mid-1980s, Ghana had drilled a total of 54 onshore and offshore wells.⁸ Subsequent exploration activities resumed in the late 2000s. This follows the award of licenses to notable international oil companies (IOCs), including Kosmos, Tullow, Hess and Eni, all of them partnering with Ghana National Petroleum Corporation (GNPC), which is

⁴ Petroleum Commission Ghana (2021). *Exploration history*. Available at: <https://www.petrocom.gov.gh/exploration-history> (Accessed: 2 October 2021).

⁵ Ferdinand, D.A. and Godson-Amamoo, N.S. (2019). *In a nutshell: Oil and gas law in Ghana*. pp. 142–165. Available at: <https://www.lexology.com/library/detail.aspx?g=ce582ecc-0d8e-4157-a88c-d5c3bb134dd0> (Accessed: 2 October 2021).

⁶ National Energy Policy (February 2010), Ministry of Energy.

⁷ Ibid.

⁸ Ibid.

Ghana's national oil company (NOC) and holder of the State's interests in petroleum blocks.⁹ Kosmos made the first deepwater commercial discovery in 2007 with the drilling of the Mahogany 1 well, followed by Tweneboa in 2009 and Enyenra in 2010, all in the prolific Tano Basin all of which have matured to production. To date, Ghana has granted licenses over eighteen (18) petroleum blocks, three (3) of which are currently in production—Jubilee; Tweneboa, Enyera, Ntomme (TEN); and Sankofa Gye Nyame (SGN). There are also four (4) pipeline discoveries at different stages in maturity—Pecan in the Deepwater Tano Cape Three Points block (Aker Energy Ghana Limited)¹⁰; Nyankom in South Deepwater Tano block (AGM Petroleum Ghana Limited)¹¹; Eban in Cape Three Points Block 4 (Eni); and Afina in West Cape Three Points Block 2 (Springfield Exploration and Production Limited).¹²

The petroleum activities outlined above were all implemented under institutional, regulatory and legislative frameworks, albeit varying degrees of robustness. Prior to independence in 1957, mineral rights (including oil and gas) were regulated under colonial legislations; Mineral Oil Pre-emption Ordinance Cap 154 and the Minerals Ordinance Cap 155. In respect of oil and gas operations, these were replaced by the Minerals Act, 1962 (Act 126) under the Government of the First Republic. In the mid-1980s, the then military government introduced a composite legislative framework for upstream oil and gas activities, comprising the following: Ghana National Petroleum Corporation Law, 1983 (PNDCL 64), setting up GNPC with the dual role of being a participant and regulator; the Petroleum (Exploration and Production) Law, 1984 (PNDCL 84), regulating activities of entities engaged in the sector; and the Petroleum Income Tax Law 1987 (PNDCL 188), to regulate taxation in the upstream sector.

The Fourth Republic Constitution of 1992 maintained the tradition of vesting all natural resources existing in the territory of Ghana in the President of Ghana, for and on behalf of citizens of Ghana. Under PNDCL 84, engagement in petroleum exploration activities must be pursuant to a

⁹ Ibid.

¹⁰ A member of the Aker Group.

¹¹ A member of the Aker Group.

¹² An indigenous Ghanaian E&P company.

petroleum agreement with the Republic of Ghana and GNPC.¹³ Pursuant to this legal requirement, the Government, through the sector ministry, Ministry of Energy, developed a model petroleum agreement in 2000 (MPA 2000), which was used as the basis for negotiations with first movers such as Kosmos, Hess and Tullow. Following the first commercial discovery in 2007, there were calls from various stakeholders for the strengthening of the governance structures in the upstream industry. These calls inspired many of the revisions made by successive governments to the oil and gas policy and the regulatory and institutional framework across the industry value chain. Some changes introduced novel and innovative concepts, resulting in a complete overhaul of the governance structures compared to the pre-commercial discovery framework.

3 GOVERNANCE AND RESOURCE MANAGEMENT

3.1 *Need for Good Governance*

There is a direct correlation between having a good governance structure with efficient institutions and the benefit of nations from exploiting natural resources. In view of this, it has been postulated that western countries tend to have good governance structures with more efficient institutions; and hence, derived more benefits for economic development than African countries in general. In explaining this, it has been argued that whether or not a country will benefit from its oil and gas is dependent on the global positioning of that country (north or south).¹⁴ Darkwah (2010, p. 2) further explains that in most instances, “*local communities and oil producing nations in the global West seem to derive more blessings from the oil discovery and exploration in comparison to those in the global*

¹³ Section 2 of PNDCL 84.

¹⁴ Bloomfield, S. (2011). *The Niger Delta: The curse of the black gold*. Available at: <https://www.independent.co.uk/news/world/africa/the-niger-delta-the-curse-of-the-black-gold-882384.html> (Accessed: 2 October 2021).

Hartzok, A. (2004). *Citizen dividends and oil resource rents: A focus on Alaska, Norway and Nigeria*. Earthrights.net.

South”.¹⁵ A comparative analysis was made between the good examples of Norway and Botswana as against the supposed bad examples in Nigeria, Chad, Angola and Equatorial Guinea. In explaining Norway’s success, Darkwah (2010, p. 2) stated that, the “*key elements to Norway’s success include the existence of policymakers and politicians who refrain from dipping their hands into the government kitty, a highly efficient judicial system that prosecutes the few recalcitrant rent-seekers in an expeditious manner, a transparent reporting system that provides information to every Norwegian citizen about exactly how much revenue has been generated from the oil industry via both newspapers and the internet as well as a strong media that serves as a watchdog*”.¹⁶ At the heart of this position is that Norway’s success was based on good governance with efficient institutions to avoid misuse of revenue generated from natural resource exploitation.¹⁷

Botswana adopted similar principles and policies in respect of its diamond revenues. These include the prudent management of the resource, structured investment of its diamond revenue and a commitment to good stewardship practices to preserve value for future generations. According to Acemoglu et al. (2001, 2012) and Rodrik (2012), Botswana’s exceptionalism reflects its effective institutions, described as *institutions of private property*.¹⁸ The scholars maintain that the development and consolidation of institutions of private property are crucial to socio-economic development because it: (a) protects rights of actual and potential investors, (b) provides political stability, (c) ensures that political

¹⁵ Darkwah, A.K. (2010). *The impact of oil and gas discovery and exploration on communities with emphasis on women*. Department of Sociology, University of Ghana. Available at: https://genderandsecurity.org/sites/default/files/Darkwah_The_Impact_of_oil_gas_discovery_exploratn_on_communities.pdf.

¹⁶ Ibid.

¹⁷ Stevens, P. (2003). Resource impact: Curse or blessing? A literature survey. *Journal of Energy Literature*, 9(1), pp. 3–42; Larsen, E.R. (2006). Escaping the resource curse and the Dutch disease? When and why Norway caught up with and forged ahead of its neighbors. *American Journal of Economics and Sociology*, 65(3), pp. 605–640.

¹⁸ Acemoglu, D., Johnson, S. and Robinson, J.A. (2012). *An African success story: Botswana* (pp. 80–120). Princeton University Press.

Rodrik, D. (2012). *In search of prosperity* (Vol. 2, No. 3). Princeton University Press.

Acemoglu, D., Johnson, S. and Robinson, J.A. (2001). *An African success story: Botswana*. Available at: <https://economics.mit.edu/files/284> (Accessed: 2 October 2021).

elites are constrained by the political system and (d) ensures the participation of a broad cross-section of the society.¹⁹ The existence of these structures (which is rarely seen in other sub-Saharan African countries) has accounted for Botswana's apparent defiance of the "resource-curse phenomenon" in Africa.²⁰

Likewise, Pegg (2009) explains that countries' failure to put in place the necessary structures to protect their extractive industries has cost them a lot.²¹ Using the Chad-Cameroon Pipeline Project (one of the largest single private sector investment projects in Africa) as an example, the author argues that the project failed due to a lack of transparency and good governance structures. For instance, they explain that although the revenues from the Chad-Cameroon pipeline began to accrue to the Chadian government in 2003, "*some of the measures to ensure its proper dispersal were not in place at that point. In addition, key components of the institutional measures which were written into law while the oil wells were being developed such as the need for a Future Generations Fund similar to the Norwegian Petroleum Fund were scrapped once oil revenues became accessible*".²² Quartey and Abbey (2018) succinctly explain this when they state that "*managing the economic gains from oil production have been a major challenge for many African economies. This is because of the perceived weakness in the governance structure not only of the oil industry, but also, for some of these economies as a whole. Yet, with an effective oil governance regime in place, oil revenues could play an important role in advancing social and economic development and well-being*".²³ Again, Pegg (2009) argues that policy interventions designed

¹⁹ Ross, M.L. (2015). What have we learned about the resource curse? *Annual Review of Political Science*, 18, pp. 239–259; Auty, R.M. (1993). *Sustaining development in mineral economies: The resource curse thesis*. London: Routledge; Siakwah, P. (2017). Political economy of the resource curse in Africa revisited: The curse as a product and a function of globalised hydrocarbon assemblage. *Development and Society*, 46(1), pp. 83–112; Obi, C. (2010). Oil as the "curse" of conflict in Africa: Peering through the smoke and mirrors. *Review of African Political Economy*, 37(126), pp. 483–495.

²⁰ Ibid.

²¹ Pegg, S. (2009). Briefing: Chronicle of a death foretold: The collapse of the Chad-Cameroon pipeline project. *African Affairs*, 108(431), pp. 311–320.

²² Ibid.

²³ Quartey, P. and Abbey, E. (2018). *Ghana's oil governance regime: Challenges and policy solutions*. CRPD Working Paper No. 70. Available at: <https://soc.kuleuven.be/crpd/files/working-papers/crpd-no-70-quartey-abbey-full.pdf>, p. 1.

to address complex environmental, social and budgetary implications of large-scale oil production and strengthening good governance architecture are critical in transforming the equation from one of resource extraction and poverty exacerbation to one of poverty reduction and human development.²⁴

Perhaps, it is in recognition of this correlation between good governance and benefit derived from natural resources that Ghana's overarching legislation provides that "*the management of petroleum resources by the Republic of Ghana shall be conducted in accordance with principles of good governance including transparency and accountability...*".²⁵ Therefore, it is important to review the governance framework of the oil and gas sector in relation to the industry's output within the decade.

3.2 *Overview of the Governance Architecture and Regulatory Framework*

In enhancing governance for proper management of oil resources, various policy and regulatory reforms have been made in Ghana. The reforms aim to have a governance and management structure for oil and gas activities that reduce opacity, promote transparency and accountability in the oil and gas industry to ensure that oil resources lead to the country's economic growth. These reforms are based on lessons learnt from Ghana's own past experiences and predecessor resource-rich countries. Based on international best standards, Ghana has made efforts at developing a transparent, robust and enduring governance framework that safeguards the national interest while at the same time evoking sufficient confidence to attract the desired levels of foreign direct investment. The current governance framework for oil and gas in Ghana comprises institutions established by law with various mandates relating to the management of activities in the sector. In addition, various legislations, policies and guidelines have been enacted or issued to govern all aspects of the industry, including licensing, operations, taxation and revenue management.

The first wave of reforms began in 2010 with the adoption of the Energy Sector Strategy and Development Plan (2010) (ESSDP),

²⁴ *supra* (n 19).

²⁵ Section 4 of Act 919.

the Local Content and Local Participation Policy (2010) and the National Energy Policy (2010). The ESSDP identified the strategic goal of achieving sustainable petroleum operations, judicious management of revenue from hydrocarbons for present and future Ghanaians and increased local investment and capacity development. Two main challenges (a) sub-optimal local content and participation in the upstream sector and (b) inefficiency in petroleum revenue management were also identified to be addressed in strategy and policy intervention.

The Local Content Policy also identified finance, human resource capacity and technology as the key challenges to achieving the optimum goal of Ghanaians controlling and benefiting from the oil and gas in Ghana. The National Energy Policy, which Cabinet approved in March 2010 was to address constraints in the sector. As stated in the foreword to the 2010 National Energy Policy, “[a]part from creating a conducive environment for increased investment in the energy sector in Ghana to create jobs, ... or export revenues, the policy also seeks to put in place a framework for the efficient management of the energy resources as well as revenues accruing therefrom”. These interventions resulted in the systematic review and restructuring of the legal and regulatory framework to strengthen the governance structures, plug the gaps and introduce new and innovative solutions to secure the overall objectives of the National Energy Policy.

The implementation of the National Energy Policy resulted in the second wave of post-Jubilee reforms. This included the restructuring of institutions, the repeal of defunct laws, the enactment of more robust and time-relevant laws to improve operational oversight, ensure robust revenue mobilization, prudent utilization and investment of the Government’s take from hydrocarbons; while at the same time creating more opportunities for Ghanaians and maintaining investor interest. The first set of laws were the Petroleum Commission Act (2011) and the Petroleum Revenue Management Act (2011). These were followed by the Income Tax Act (2015) and the Petroleum (Exploration and Production) Act (2016).²⁶

In addition to these four principal legislations, Parliament has over the decade passed amendments and enabling regulations to reinforce further the principles underpinning these reforms and to support their implementation. Also, the Ministry of Energy has updated the Model Petroleum

²⁶ Repealed PNDCL 84.

Agreement from MPA (2000) to MPA (2019) based on gaps identified in MPA (2000), new industry trends and changes in legislation. The National Energy Policy (2020) has also been developed to replace the National Energy Policy of 2010. Figure 1 outlines the broad regulatory architecture and interactions between the different agencies in Ghana’s upstream oil and gas industry, followed by highlights of the core elements of the institutional and regulatory framework.

The governance and institutional framework provided under the laws relating to the oil and gas sector are explained below.

a. Ownership

All petroleum in its natural state is the property of the Republic of Ghana and is vested in the President on behalf of the people of Ghana. According to the 1992 Constitution, *“Every mineral in its natural state in, under or upon any land in Ghana, rivers, streams, water courses throughout Ghana, the exclusive economic zone and any area covered by the territorial sea or continental shelf is the property of the Republic of Ghana and shall be vested in the President on behalf of, and in trust for*

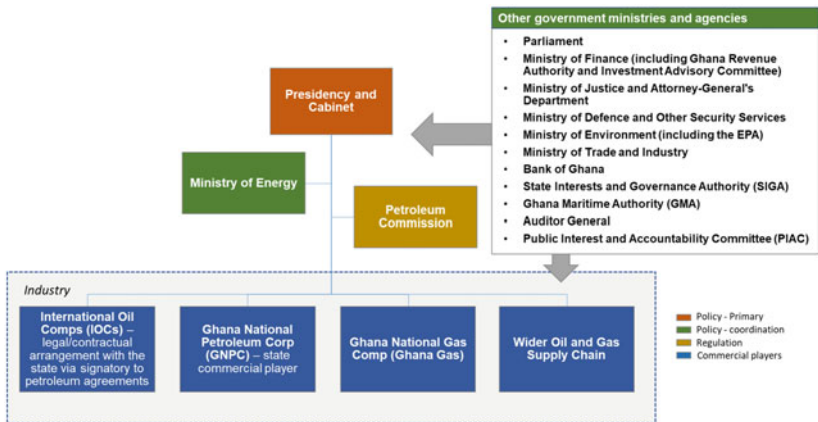


Fig. 1 Oil and gas regulatory architecture (*Source* Author’s construct)

the people of Ghana".²⁷ The Constitution further requires the establishment of natural resource commissions "*to be responsible for the regulation and management of the utilization of the natural resources concerned and the co-ordination of the policies in relation to them*".²⁸ This has led to the creation of the Petroleum Commission (PC). As a measure to check the powers of the Executive in entering into contracts for the exploitation of natural resources, the Constitution subjects the power to enter into such contracts to the approval of Parliament. The Constitution thus vests Parliament with authority to ratify all contracts and arrangements for the exploitation of mineral rights²⁹ and the grant of tax exemptions.³⁰ Accordingly, every petroleum agreement and amendments negotiated by the Executive arm of government and entered into by the Government of Ghana require Parliamentary ratification for its validity.

b. Ministerial Responsibility

The Minister responsible for petroleum (the Minister) is a member of the Executive with supervisory and oversight authority over the petroleum sub-sector and is in charge of the formulation, implementation, monitoring and evaluation of government policy for the sector. The Minister is vested with certain defined duties under specific industry laws and regulations to ensure continuous oversight over major events and phases in petroleum operations and safeguard the resource owner's interest. These include the power to open an area for petroleum activities³¹; power to close an area or redefine the boundaries³²; the initiation of processes for the award of petroleum rights either by public tender or direct negotiations³³ and entry into same on behalf of the Republic³⁴;

²⁷ 1992 Constitution, Article 257(6).

²⁸ *Ibid.*, Article 269.

²⁹ 1992. Constitution, Article 268(1).

³⁰ *Ibid.*, Article 174.

³¹ Act 919, section 7.

³² Act 919, section 8.

³³ Act 919, section 10.

³⁴ *Ibid.*

approval of the operator in a bloc³⁵; authorizing transfer of petroleum interests³⁶; approval of development plans³⁷; postponement of petroleum activities³⁸; authorization for unitization of petroleum fields³⁹; approval of the creation of security interests over petroleum assets⁴⁰; among others.

c. National Oil Company

The Ghana National Petroleum Corporation Act, 1983 (PNDCL 64) establishes GNPC, as the NOC, operating in the upstream oil and gas industry. The law mandates GNPC to explore, develop, produce and dispose of petroleum.⁴¹ The law also spells out the functions, powers and corporate governance structure of the GNPC in carrying out its mandate. Currently, GNPC is the holder of the State's interests in all petroleum agreements⁴² in Ghana, holding both commercial and carried interests. Prior to the creation of the PC, GNPC played the dual role of an industry player and regulator. This dual role created conflict of interest situations, especially in a partnership arrangement with IOCs, where on the one hand, GNPC was a participant in a venture based on contractual terms with the IOCs, while at the same time regulating the activities of the IOCs and itself as co-venturers. The regulatory role has now been hived off and ceded to the PC in building a more robust governance framework.

As the NOC, GNPC is a central figure in the governance arrangements under petroleum agreements in Ghana on account of its membership of the Joint Management Committee (JMC) established under petroleum agreements in Ghana. The JMC is responsible for approving the Work Programme and Budget for each phase of petroleum operations. It also has oversight powers over all petroleum operations to ensure that the

³⁵ Act 919, section 13.

³⁶ Act 919, section 15.

³⁷ Act 919, section 27.

³⁸ Act 919, section 29.

³⁹ Act 919, section 34.

⁴⁰ Act 919, section 57.

⁴¹ PNDCL 64, section 2.

⁴² Act 919, section 10(14).

block operator complies with the approved Work Programmes and development plans for the project. GNPC has equal representation on the JMC as the investor parties (contractors). The JMC's decisions are to be unanimous save for matters relating to appraisal, development and production operations that are fully funded by the contractor. Pursuant to the new Regulation 40A of the Petroleum (Exploration and Production) (General) Regulations, 2018 (L.I.2359), Contractor parties are now mandated to enter into a Joint Operating Agreement (JOA) with GNPC where GNPC (or its subsidiary) acquires a commercial interest in the petroleum agreement. This gives GNPC an additional voice in decision making at the Contractor group level.

A crucial issue in relation to the management of petroleum revenue that has attracted the attention of governance experts and civil society organizations is the use of revenues allocated to GNPC for its operation under the Petroleum Revenue Management Act, 2015, as amended. Under the Act, a specific percentage of the net cash flow from the carried and participating interests of the State is ceded to GNPC to fund its operations. The various reports on the expenditure items financed from the revenue ceded to GNPC suggest that there should be more robust controls of funds expended by the GNPC, including restricting the use of such funds.

d. The Regulator

As earlier indicated, the Constitution requires establishing a natural resource commission for “*the regulation and management of the utilization of the natural resources concerned and the co-ordination of the policies in relation to them*”.⁴³ In view of that requirement, the Petroleum Commission Act, 2011 (Act 821), as enacted by Parliament, established the PC as the body to regulate and manage the utilization of petroleum products and coordinate policies in relation to them.⁴⁴ The Act separated the roles of the State as an investor and regulator by transferring the regulatory and policy advisory functions of GNPC to the newly established PC. This created a separate industry regulator for the upstream sector, allowing GNPC to focus on growing a profitable commercial oil

⁴³ Ibid. Article 269.

⁴⁴ Section 2 of Act 821.

and gas operation with its portfolio of carried and participating petroleum interests across the existing blocks. The authors' view is that this creates a more robust governance framework that avoids conflict of roles and responsibilities, which hitherto was the case when both roles were vested in GNPC.

The PC is also the custodian of petroleum data and must authorize the sharing of petroleum data with third parties. It is the manager of the national petroleum repository⁴⁵ and the Petroleum Register,⁴⁶ which includes an online portal. To ensure reputable entities are engaged in oil and gas activities in Ghana, the PC is responsible for licensing entities that can engage in oil and gas activities in Ghana, including contractors and service providers.⁴⁷ The Commission has the additional mandate of enforcing applicable laws and regulations on local content and local participation in petroleum activities.⁴⁸

The challenge in practice with the regulator is its capacity to fully implement the mandate under the law in terms of technical expertise. Also, the over-emphasis of the PC on ensuring compliance with local content and local participation requirement seems to directly set it against IOCs as being more friendly and favorable to local contractors and participants in the oil and gas industry. In view of the historical governance structure, much of the policy formulation responsibility seems to be undertaken at the ministerial level than at the PC level. The structure of the governance system of the PC may account for this as the Minister plays an oversight responsibility and has the power to determine the policy directive of the PC.⁴⁹ The Act seeks to restrict the PC to make recommendations to the Minister with no obligation to act on the recommendation.⁵⁰

⁴⁵ Section 3(g) of Act 821.

⁴⁶ Section 56 of Act 919.

⁴⁷ Petroleum (Local Content and Local Participation) Regulations, 2013 (LI 2204), regulations.

⁴⁸ Section 3(f) of Act 821.

⁴⁹ Section 10 of Act 821.

⁵⁰ Section 3(b) of Act 821.

e. Revenue collection

The Ghana Revenue Authority (GRA) is established under the GRA Act, 2009 (Act 791) to replace the Internal Revenue Service (IRS), the Customs, Excise and Preventive Service (CEPS) and the Value Added Tax (VAT) Service for the administration of taxes. The main function of the GRA is to assess and collect taxes due to the State and pay the amounts collected into the Consolidated Fund. The GRA is mandated under the Petroleum Revenue Management Act, 2011 (Act 815) as amended,⁵¹ to assess, collect and account for all petroleum revenue due to the State.⁵² Petroleum revenue includes taxes, acreage fees or surface rentals, royalties and additional oil entitlements due to the State.

While GNPC and the Minister of Energy are parties to petroleum agreements with IOCs, the power to collect all revenue due to the State is granted to GRA. From a governance perspective, the separation enhances the revenue collection function as it avoids compromises based on familiarity developed through the performance of the roles assigned to GNPC and the Minister. In addition, the existing and original functions of GRA makes it better suited to perform the revenue collection function under the law.

f. Petroleum Exploration and Production

The Petroleum (Exploration and Production) Act, 2016 (Act 919), which replaced the Petroleum Exploration and Production Act, 1984 (PNDC Law 84), is the overarching legislation governing the operations and activities of entities involved in the oil and gas business. The main objective of Act 919 is “*to provide for and ensure safe, secure, sustainable and efficient petroleum activities in order to achieve optimal long-term petroleum resource exploitation and utilisation for the benefit and welfare of the people of Ghana*”.⁵³ The drafting of Act 919 drew on the experiences of other oil-producing countries like Nigeria, Canada (Alberta), Norway and Trinidad and Tobago to incorporate adequate

⁵¹ Petroleum Revenue Management (Amendment) Act, 2015 (Act 893).

⁵² Act 815, section 3.

⁵³ Act 919, section 2.

systems to help Ghana navigate the known pitfalls, and effectively regulate and manage its upstream petroleum industry. Most importantly, Act 919 heavily considered elements of the Norwegian Petroleum Act, especially in respect of the technical rules.⁵⁴ Act 919 sought to provide a regulatory framework that would ensure sustainability through sound and efficient management of oil and gas resources, avoidance of waste and safeguard the environment to ensure optimal long-term recovery, good governance and transparency.⁵⁵ This is to ensure maximum returns and benefits to the local economy through judicious utilization of petroleum revenues, transfer of knowledge and local content and an enabling environment to attract investments by introducing transparency in the licensing procedure.⁵⁶

Act 919 makes all petroleum resources existing within the country's jurisdiction, the property of the Republic of Ghana, which must be managed in accordance with the principles of good governance, including transparency and accountability.⁵⁷ Broadly, the law caters for issues regarding area management, provision of a reconnaissance license, defines a petroleum agreement and has provisions regarding the exploration, development and production, transportation and storage, cessation, decommissioning and removal of facilities at the end of the life of a field.

The law provides for open and competitive bidding for upstream license and contract awards, an open public tender process, and gives the Minister discretionary powers to set aside the outcome of an open and competitive process or even skip the tender process altogether.⁵⁸ Even

⁵⁴ Ndi, G. (2018). Act 919 of 2016 and its contribution to governance of the upstream petroleum industry in Ghana. *Journal of Energy & Natural Resources Law*, 36(1), pp.5–31.

Stephens, T.K. (2016). The long meandering journey: The development of Ghana's Petroleum (Exploration and Production) Act 2016, (Act 919). *University of Ghana Law Journal*, 29, p.103.

Stephens, T.K. (2019). Framework for petroleum revenue management in Ghana: Current problems and challenges. *Journal of Energy & Natural Resources Law*, 37(1), pp. 119–143.

⁵⁵ Ibid.

⁵⁶ Memorandum to the Petroleum (Exploration and Production), Bill 2016, 30th May 2016.

⁵⁷ Act 919, section 3, section 4.

⁵⁸ Act 919, section 10(9).

though the Commission is mandated to establish and maintain a public register of petroleum contracts,⁵⁹ the law made no provision for a beneficial ownership disclosure regime. It must be noted that this has been cured by the Companies Act, 2019 (Act 992). Act 919 is implemented with a number of regulations, including the Petroleum (Exploration and Production) Data Management Regulations, 2017 (LI 2257), the Petroleum (Exploration and Production) (Health, Safety and Environment) Regulations, 2017 (LI 2258), the Petroleum (Exploration and Production) (General) Regulations, 2018 (LI 2359) and the Petroleum (Exploration and Production) (General) (Amendment) Regulations 2019.

g. Revenue Management

One of the underpinnings of a good governance framework is the proper management of petroleum revenue to ensure revenues are used for economic development activities for the country's benefit. The world over countries that have successfully used natural resource revenues to transform their societies have adhered to best practices in resource revenue management. Oil and gas resources are generated by depleting a non-renewable asset, which means that oil and gas revenues are temporary and exhaustible. Best practices suggest establishing a robust fiscal framework that covers collection, utilization, savings and investment of oil and gas revenues to ensure prudent management. Such benefits should therefore not be limited to the present population but must have in mind future generations. In light of this, the Petroleum Revenue Management Act (PRMA), 2011 (Act 815) as amended by Petroleum Revenue Management (Amendment) Act, 2015 (Act 893) introduced a new regime for mobilization and proper use of petroleum revenue, established the Petroleum Funds and sought to provide a more robust system for accountability. The PRMA provides layers of accountability mechanisms in petroleum revenue management and utilization. This is represented by allocating specific functions to a combination of internal State agencies and independent bodies. The PRMA provides for the roles and functions of the key actors involved in petroleum financial governance. These institutions are Parliament, Minister of Finance, Minister of Energy, Ghana Revenue Authority, Bank of Ghana, the Auditor General, the Investment

⁵⁹ Act 919, section 10, section 56.

Advisory Committee (IAC) and the Public Interest and Accountability Committee (PIAC). The framework under the PRMA is to ensure separation of powers with checks and balances to avoid abuse of authority to ensure optimal management and utilization of petroleum revenue.

The PRMA sets out the framework to regulate the collection, allocation and management of revenues realized from petroleum production in Ghana. It establishes the Petroleum Holding Fund (PHF) as the designated public fund at the Bank of Ghana to receive and disburse petroleum revenue due the Republic of Ghana for further transfer into the Ghana Petroleum Funds (GHF) (the Ghana Stabilization Fund (GSF) and the Ghana Heritage Fund (GHF)).⁶⁰ The law prescribes allocations to the Annual Budget Funding Amount (ABFA), GNPC, the PHF, the GPF and the Ghana Infrastructure Investment Fund (GIIF) for infrastructure development.⁶¹ While the GSF is used to cushion or sustain public expenditure capacity during periods of unanticipated petroleum revenue shortfalls,⁶² the GHF serves as an endowment fund to support development for future generations when the petroleum reserves is depleted.⁶³ Aside from allocating revenues to these funds, the Act also stipulates what activities or projects these revenues can finance. The use of the ABFA includes support for the annual national budget, which must be guided by a medium-term expenditure framework aligned with a long-term national development plan approved by Parliament. The amendment Act, Act 893, requires the ABFA to be used for public investment expenditure and allocation to GIIF. A key governance requirement under Act 893 is the amendment that requires all revenues to be paid in the PHF prior to disbursement to GNPC for its equity financing and cash or barrels not exceeding 55% of net cash from carried and participating interest of the State. Prior to the amendment, these amounts or barrels of oil was ceded to GNPC without first being paid into the PHF.

The PRMA establishes two key institutions—PIAC and IAC. PIAC is an independent oversight body mandated to, among others, monitor and evaluate compliance with the Act and provide independent oversight of the management of Ghana's petroleum resources, ensuring that these

⁶⁰ Act 815, section 3 and 16 as amended by Act 893, section 6.

⁶¹ Act 815, section 18 to 21, as amended by Act 893, section 8.

⁶² Act 815, section 9.

⁶³ Act 815, section 10 as amended by Act 893, section 3.

resources are used in the public interest. According to Bauer (2014), although internal government agencies can play oversight roles on petroleum funds, the existence of an independent public oversight body provides an assurance of integrity that internal controls cannot provide. IAC's mandate is to advise on the management of the Ghana Petroleum Fund. The Petroleum Revenue Management Regulations 2019 (LI 2381) has recently been passed to strengthen the legal framework further.

To ensure transparency and accountability in the collection and disbursement of petroleum revenue, the PRMA provides that

8. (1) For the purpose of transparency and accountability, the records of petroleum receipts in whatever form, shall simultaneously be published by the Minister in the Gazette and in at least two state owned daily newspapers, within thirty calendar days after the end of the applicable quarter.

(2) The information required to be made public shall also be published online on the website of the Ministry and presented to Parliament on the date of the Gazette publication.

(3) The Minister shall publish the total petroleum output lifted and the reference price in the same manner as provided in subsections (1) and (2).

h. Local Content and Local Participation

Oil and gas activities are high-cost ventures dominated by IOCs, which are generally multinational corporations. While the investment by IOCs in a country is a major foreign direct investment, proactive steps are required to ensure local participation in a manner that fully benefits the host country and indigenes. It is for that purpose that the PC is mandated to ensure the promotion of local content and local participation in petroleum activities.⁶⁴ In order to provide the regulatory framework to give effect to such requirement, the Petroleum (Local Content and Local Participation) Regulations, 2013 (LI 2204), was enacted, which among other things was to maximize value-addition and job creation for Ghanaians, ensure the development of local capacity and increase the capability and international competitiveness of Ghanaian businesses in the oil and gas industry.

⁶⁴ Section 3 of Act 821.

It also seeks to create petroleum and related support industries and ensure Ghanaians have a degree of control over development initiatives.⁶⁵ The Regulations apply to contractors, subcontractors, service providers, licensees etc., in the petroleum sector⁶⁶ and provide minimum thresholds for indigenous equity participation in petroleum activities.⁶⁷ Entities operating in the industry are required to submit regular reports on their levels of compliance to the local content committee, which is set up to oversee the implementation of the regulations and ensure measurable and continuous growth in local content in the petroleum sector.⁶⁸ The Regulations also require contractors and subcontractors to retain insurance services, legal services and financial services from Ghanaian institutions or organizations and submit sub-plans to that effect.⁶⁹

While the local content and local participation requirements aim to safeguard benefits for Ghanaians, it seems very ambitious in view of the capability of the local entities. For example, there have been difficulties in getting an IGC with the capacity to take the five (5) percent participating interest in PAs. Coupled with the opaque nature of selecting the IGC, this seems to have led to instances where political solutions have been found where the Government is indirectly involved in the selection of IGCs. An example is the case of the Deepwater Cape Three Points block, where a subsidiary of GOIL Company Limited, a company with Government majority shareholding, was selected as the IGC to partner ExxonMobil. In addition, IOCs awarded PAs prior to the passage of the LI seek to invoke stabilization clauses under the PAs to avoid complying with the local content requirements. Where the IOC wishes to cede the 5% interest to an IGC, they are compelled to provide financing solutions for the acquisition and future financing obligations of the IGC. Lack of technical capacity has also led to many instances of fronting which the Petroleum Commission is taking measures to curtail.

⁶⁵ LI 2204, Regulation 1.

⁶⁶ LI 2204, Regulation 3.

⁶⁷ LI 2204, Regulation 10.

⁶⁸ LI 2204, Regulation 5.

⁶⁹ LI 2204, Regulation, 28–32.

i. Taxation

The Income Tax Act 2015 (Act 896), as amended⁷⁰ established a new taxation regime for activities in the petroleum sector and implemented by the GRA. It provides for the rate of corporate income in the industry.⁷¹ The prior approval of the PC and GRA is required to determine petroleum costs which are permitted deductions. The power is given to the PC and GRA to approve what amount to petroleum costs is intended to ensure accountability in the activities of the IOCs to avoid overcharging and deducting of unrelated costs to reduce petroleum revenue accruing to the State. Further, the use of two agencies, GRA and the PC, will make it more difficult to compromise the State's position in the determination of what amount to deduct as petroleum cost.

Prior to the passage of Act 896, taxation of upstream operations were governed by the Petroleum Income Tax Law, 1987 (PNDCL 188), Ghana's first oil and gas-specific taxation law. A major challenge with PNDCL 188 was the exclusion of taxes not expressly mentioned but which was applicable under the general tax legislation, for example, capital gains tax. The restrictive interpretation adopted by IOCs pursuant to their respective PAs was to exclude such taxes. This and other gaps in the application of PNDCL 188 led to its repeal by the Revenue Administration Act, 2016 (Act 915). However, it has been retained in force in respect of petroleum agreements that became effective under PNDCL 188. It provides for the taxation of income of contractors and subcontractors in instances where there is a fiscal stability clause in their petroleum agreements. This is reinforced in Section 135 of the Income Tax Act, Act, 896, together with the Income Tax Regulation, 2016 (L.I. 2244), have established a new regime for taxation of activities in the petroleum value chain, catering for a much broader base for taxable income and activities for optimal revenue mobilization and improving the government's take in petroleum operation.

⁷⁰ Income Tax Amendment Act, 2015 (ACT 902); Income Tax (Amendment) Act, 2016 Act 907; Income Tax (Amendment) Act 2016 (Act 924); Income Tax (Amendment) Act 2017 (Act 941); Income Tax (Amendment) (No. 2) Act 2017 (Act 956); Income Tax (Amendment) Act, 2018 (Act 973); Income Tax (Amendment) (No. 2) Act, 2018 (Act 979); Income Tax (Amendment) Act 2020 (Act 1017); Income Tax (Amendment) Act, 2019 (Act 1007); Income Tax (Amendment) Act 2021 (Act 1066).

⁷¹ Act 896, First Schedule, section 5.

3.3 *International Protocols*

Petroleum upstream projects are high-risk investments that require a carefully drafted regulatory framework that combines sustainable economic development for the host states as owners of the resource with guarantees and incentives to attract investors. International best practices have emerged which guide regulatory frameworks for states engaged in upstream petroleum activities. The key benchmarks are transparency in the licensing system, sustainability in the operation of upstream activities, meaningful participation of national organizations in resource development, local content, safeguard of the environment and accountability in the management of petroleum revenues. A country's upstream regulatory framework must contain provisions that give effect to these key benchmarks and principles. In providing for the governance framework through various policies and legislations, Ghana, to a large extent, reflects these principles of international best practices.

In addition, Ghana is a signatory to several conventions that mandate transparency and accountability in government actions. Relevant examples for the upstream industry are the Extractive Industry Transparency Initiative (EITI), Open Government Partnership (OGP), International Aid Transparency Initiative and the National Anti-Corruption Action Plan. Table 1 provides a summary of some international governance protocols applicable to Ghana.

What is quite clear from the foregoing is that, in her attempts to ensure transparency and good governance regime in the oil and gas industry, Ghana has signed on to various international agreements and conventions which provide an extra eye on the country's oil and gas industry. However, this begs the question of whether, being a signatory to these various international agreements and conventions, as well as a member of international petro-governance schemes, Ghana has included the principles in its domestic laws and translate such commitments into improved governance outcomes? To answer this, we spend the next section to analyze the outcomes of Ghana's oil governance arrangements based on metrics such as the Resource Governance Index (RGI) and the Global Petroleum Survey/Policy Perception Index.

Table 1 International governance protocols

<i>Convention</i>	<i>Commentary</i>
Extractive Industry Transparency Initiative (EITI)	<p>EITI⁷² is a global standard that seeks to ensure openness, accountability and responsible financial management in the extractive industry (oil, gas and mining). Transparency International instituted the EITI in 2003 to promote transparency and good governance in resource-rich countries. It is a voluntary initiative that countries can adopt to enhance good governance and accountability. The initiative started with seven countries but has grown to cover several other countries. The EITI framework is backed by the Natural Resources Charter, which is organized around 12 core precepts offering guidance on key decisions governments face, beginning with whether or not to extract resources and ending with how generated revenues can produce maximum good for citizens (Quarley and Abbey 2018; NRG 2017). These 12 principles are beliefs and aim endorsed by all EITI stakeholders (Fig. 2)</p> <p>Under the EITI, Ghana⁷³ is required to ensure the following:</p> <p>Transparency: Extractive companies disclose the amounts they have paid to the host government, who also, in turn, discloses the payments received from these companies. There is a reconciliation of the disclosures made by both parties by an Independent Administrator and published in annual EITI Reports alongside contextual information about the extractive sector</p> <ul style="list-style-type: none"> • Accountability: A multi-stakeholder group made up of representatives from government, companies and civil society is established to oversee the implementation of the EITI. It prepares and communicates the findings of the EITI Report, creates the platform for citizens' engagement with government and companies on the report, and facilitates responses to critical issues raised by the reports and arising out of the engagements
Open Government Partnership (OGP)	<p>Ghana signed on to the OGP⁷⁴ in September 2011. The OGP is a multilateral initiative that aims to secure concrete commitments from governments to promote transparency, empower citizens, fight corruption and harness new technologies to strengthen governance. In the spirit of multi-stakeholder collaboration, OGP is governed by a Steering Committee including representatives of governments and civil society organisations.⁷⁵ The four (4) thematic areas of OGP are citizen participation, accountability, technology and innovation. The Public Sector Reform Secretariat (PSRS) under the Office of the President serves as the secretariat for OGP-Ghana</p>

(continued)

⁷² EITI (2021). *Ghana overview*. Available at: <https://eiti.org/ghana> (Accessed: 2 October 2021).

⁷³ *ibid.*

⁷⁴ Open Government Partnership (2021). *About*. Available at: <https://www.opengovpartnership.org/about/#sthash.4S0KW9vf.dpuf> (Accessed: 2 October 2021).

⁷⁵ *Ibid.*

Table 1 (continued)

<i>Convention</i>	<i>Commentary</i>
National Anti-Corruption Action Plan	<p>This plan proposes an all-inclusive approach to addressing the problem of corruption. These include government, citizens, political parties, parliament, anti-corruption agencies, Electoral Commission, regulatory and oversight bodies and the Central Vigilance Commission, among others. The plan aims at reducing petty corruption, grand corruption (demand and supply side corruption), political corruption, administrative corruption and private sector participation in corruption. Besides the National Anti-Corruption Strategy, there is also the National Anti-Corruption Action Plan⁷⁶ (NACAP: 2012–2021) centred on four main areas:</p> <ul style="list-style-type: none"> • Building public capacity to condemn and fight corruption; • Institutionalising efficiency, accountability and transparency within the public, private and not-for-profit sectors; • Creating a platform for individuals, media and civil society organisations to advance discussions on the reportage and combat of corruption in the country; and • Proper investigation and prosecution of corrupt acts <p>The National Anti-Corruption Strategy and NACAP are interested in achieving all-inclusive participation in addressing the problematic concept of corruption</p>
UN Convention on Anti-corruption	<p>Ghana signed onto the UN Convention against Corruption on 9 December 2004. This Convention⁷⁷ came into force on 14 December 2005 to strengthen efforts to curb the rate of corruption across the world. As a signatory to this Convention, Ghana is obligated to promote and strengthen measures aimed at preventing and combating corruption; promote, facilitate, and support international cooperation and technical assistance; and promote integrity, accountability, and proper management of public property</p>
Other conventions	<p>In addition, the Government of Ghana is a signatory to the following international conventions that respectively define the rights and responsibilities of nations with respect to their use of the world's ocean, establishes measures for dealing with pollution, and a convention for cooperation in the protection, management, and development of marine and coastal environment in the Atlantic Ocean. These include:</p> <ul style="list-style-type: none"> • The United Nations Convention on the Law of the Sea, International Convention on Oil Pollution Preparedness, Response, and Co-operation (OPRC) • The Abidjan Convention (The Convention for the Co-operation in the Protection and Development of the Marine and Coastal Environment of the West and Central African Region)

⁷⁶ Republic of Ghana (2011). *National Anti-Corruption Action Plan (NACAP) (2012–2021)*. Available at: <http://www.gaccgh.org/publications/National%20Anti-Corruption%20Action%20Plan%20.pdf> (Accessed: 2 October 2021).

⁷⁷ United Nations Office on Drugs and Crime (2021). *Convention against corruption*. Available at: <https://www.unodc.org/unodc/en/treaties/CAC> (Accessed: 2 October 2021).

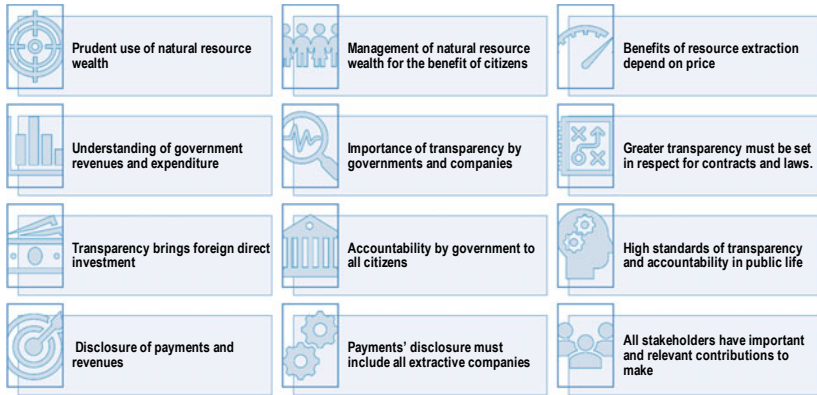


Fig. 2 EITI principles (Source: EITI International Secretariat [2003])

4 OIL AND GAS GOVERNANCE OUTCOMES

Since the beginning of our current democratic experiment under the Fourth Republic Constitution, overall governance in Ghana has been the subject of many reviews. Key among these are the Mo Ibrahim Index of Africa Governance (IIAG), the World Bank's World Governance Index (WGI) and the Transparency International's Corruption Perception Index (CPI). Although these indices are not comparable due to their differences in methodology, there are some common areas of assessment such as efficient regulatory framework or the rule of law, participation or voice and accountability and corruption control. The IIAG shows that overall, governance performance in Ghana has declined more than it has improved between 2010 and 2019. WGI found that Ghana was generally consistent in most areas of assessment from 2010 to 2019. However, by the end of 2019, control of corruption performance had declined below 2010 performance levels with an all-time low in 2017. This is further reinforced by the CPI which showed Ghana's deteriorating efforts in fighting corruption from 2012 to 2019, with 2017 being the poorest assessment year.

Ghana's performance in the resource governance front has also been the subject of industry assessments including academic research.⁷⁸ This section highlights the outcomes of the governance regime from the perspective of the Resource Governance Index, the Ghana Extractive Industries Transparency Initiative (GHEITI) Performance assessment and the Global Petroleum Survey/Policy Perception Index by the Fraser Institute.

4.1 *Oil Governance Indicators*

Resource Governance Index (RGI) Performance

The RGI is a governance performance index published by the Natural Resource Governance Institute (NRGI). The RGI provides a detailed assessment of the quality of natural resource governance in oil, gas and mineral-rich countries. The RGI is based on three main components—value realization, revenue management and enabling environment, which are assessed based on 14 subcomponents and 51 indicators and calculated by aggregating 136 questions. Rankings are based on a scores card system ranging from 75 + (Good), 60–74 (Satisfactory), 45–59 (Weak), 30–44 (Poor) and > 30 (Failing). NRGI has released four reports so far, in 2010, 2013, 2017 and 2021.

Ghana's oil and gas governance was assessed for the first time in the 2017 report and recently in the 2021 report. The 2017 assessment found that Ghana performed satisfactorily with a composite score of 67 out of 100 points and emerged as the best performing country in sub-Saharan Africa. As a new entrant in the oil and gas arena, Ghana outperformed several established oil and gas jurisdictions such as Malaysia, Argentina and Mexico. The highest scores ranging between 80 and 93 were in the areas of (a) sovereign wealth fund (93), (b) voice and accountability (90), (c) the rule of law (83) and (d) Taxation (80). Ghana's lowest scores related to National budgeting (36) and open data (27).

The 2021 RGI report ranked Ghana in the highest performance band with an overall score of 78, eleven points higher than the 2017 outcome.

⁷⁸ Ackah, I., Lartey, A., Acheampong, T., Kyem, E. and Ketemepi, G. (2020). Between altruism and self-aggrandisement: Transparency, accountability and politics in Ghana's oil and gas sector. *Energy Research & Social Science*, 68, p. 101536.

This may be accounted for by the legislative interventions made between 2016 and 2020. As explained under part 3.2 above, the reforms are due to the gaps in the existing legal framework, lessons learned from the mining sector, happenings in other African countries such as Nigeria and Angola and lessons learnt from best performing countries, particularly Norway. The key areas of significant improvement were national budgeting (from 36 to 70), licensing (from 49 to 75) and local impact (from 58 to 78). Open data remained the weakest area with a poor 31 points. A summary of Ghana's scores and trends for 2017 and 2021 have been provided in Fig. 3.

Global Petroleum Survey/Policy Perception Index by the Fraser Institute

		2017 RGI Score	2021 RGI Score	Trend
Resource Governance Index		67	78	11
1	VALUE REALIZATION	65	79	14
1.1	Licensing	49	75	26
1.2	Taxation	80	80	0
1.3	Local impact	58	78	20
1.4	State-owned enterprises	75	84	9
2	REVENUE MANAGEMENT	65	85	20
2.1	National budgeting	36	70	34
2.2	Subnational resource revenue sharing	.	.	.
2.3	Sovereign wealth funds	93	100	7
3	ENABLING ENVIRONMENT	70	71	1
3.1	Voice and accountability	90	89	-1
3.2	Government effectiveness	60	60	0
3.3	Regulatory quality	76	74	-2
3.4	Rule of law	83	82	-1
3.5	Control of corruption	79	79	0
3.6	Political stability and absence of violence	78	80	2
3.7	Open data	27	31	4

LEGEND: PERFORMANCE BANDS

Good	Scores over 75
Satisfactory	Scores 60-74
Weak	Scores 45-59
Poor	Scores 30-44
Failing	Scores under 30

Fig. 3 Summary of Ghana's 2017 and 2021 resource governance index (*Source: NRGi*)

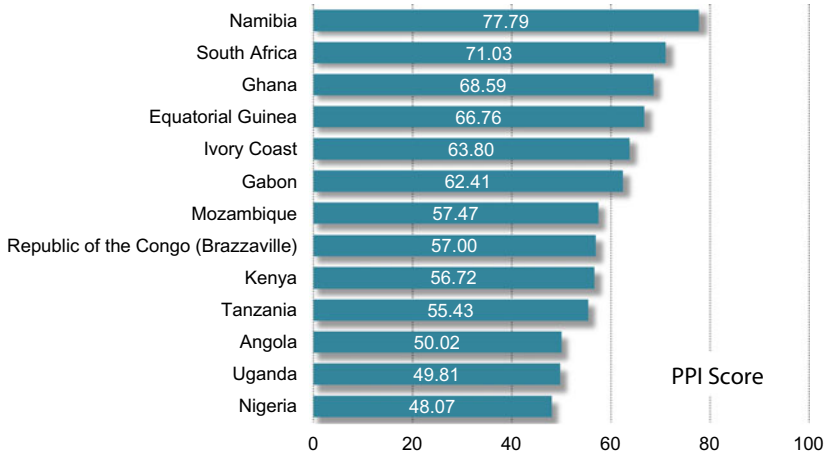


Fig. 4 Policy perception index score—Africa (Data Source: Fraser Institute Global Petroleum Survey [2017])

The Fraser Institute Global Petroleum Survey/Policy Perception Index (PPI)⁷⁹ assesses the investment attractiveness of resource-rich countries based on those jurisdictions' governance and regulatory frameworks. The PPI evaluates groups of oil-rich jurisdictions based on the size of their proved reserves and categorizes them as large, medium and small reserve holders. The survey highlights the key barriers to investment in oil and gas-producing regions worldwide, focusing on the impact of policy on investor attitudes toward exploration investment in the jurisdiction. The investment barriers assessed by the survey respondents include high tax rates, costly regulatory obligations, uncertainty over environmental regulations and the interpretation and administration of regulations governing the upstream petroleum industry and concerns with regard to the political stability and security of personnel and equipment. In the 2017 PPI, Ghana was ranked 34 out of 97 jurisdictions globally and third in Africa (out of 13 countries), surpassing Spain, Western Australia, France and Brazil (Figs. 4 and 5).

⁷⁹ Fraser Institute (2017). *Global petroleum survey*. Available at: <https://www.fraserinstitute.org/sites/default/files/global-petroleum-survey-2017.pdf> (Accessed: 2 September 2021).

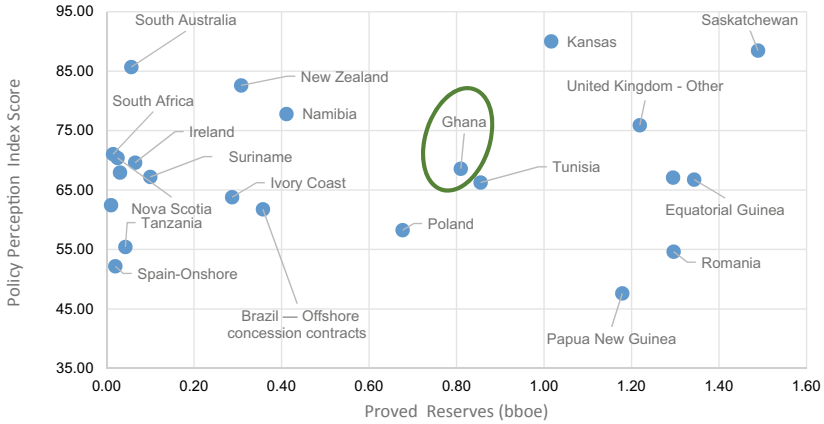


Fig. 5 Small reserve holder comparisons (*Data Source* Fraser Institute Global Petroleum Survey [2017])

The outcomes measured by the RGI and the PPI suggest that Ghana has made significant progress on the good governance front over the decade of commercial oil production. Ghana is ranked above average in terms of attractiveness to investors. Evidentially, the reforms pursued over the period have yielded good dividends. This notwithstanding, there is an indication that improvement is required in some critical areas such as budgeting, government effectiveness, regulatory quality and open data. Many of these deficiencies can be addressed through proper enforcement of the existing legislation.

An example is the effectiveness of the Petroleum Register established under Act 919. The Petroleum Commission has set up an online register which provides direct and easy access to information on petroleum blocks such as petroleum agreements, permits approvals and others. Although the website contains a lot of relevant data, there is an equal measure of inaccurate and incomplete information. The website requires regular updates to remain relevant for the industry. Ghana's scores could also benefit immensely from implementing recommendations from advisory institutions within the regulatory framework such as the PC, PIAC, IAC and other non-state stakeholders.

5 CASE STUDIES

5.1 Case Study 1: A Closer Look at Ghana's Regime for Mobilization, Management and Distribution of Petroleum Revenue; and the Role of the Public Interest and Accountability Committee (PIAC)

The collection, distribution, management and utilization of all revenue accruing to the State from upstream petroleum operations are regulated under the PRMA, which seeks to provide a robust framework to safeguard the interests of the present and future generations of Ghanaians. Petroleum revenue is defined in the PRMA to include inter alia royalty, corporate income tax, additional oil entitlement tax, surface rental payments and dividends from the National Oil Company for the government's equity interest in petroleum fields. The PRMA sets up three main funds—the Petroleum Holding Fund (PHF), the Ghana Stabilisation Fund (GSF) and the Ghana Heritage Fund (GHF). The PHF is an account at the Bank of Ghana, which is the initial depository of all petroleum revenue and out of which disbursements may be made for various purposes in a priority order prescribed in the PRMA. The Ghana Stabilisation Fund (GSF) and Ghana Heritage Fund (GHF) are together referred to as the Ghana Petroleum Funds (GPFs).⁸⁰ The GSF is a savings fund to provide public expenditure support during periods of low oil prices.⁸¹ The GHF is an endowment fund for future generations of Ghanaians.⁸² Disbursements from the PHF are made to GNPC and then to the Consolidated Fund for budgetary support, the GPF and then finally for exceptional purposes.⁸³ Portions of excess petroleum revenue as determined by Parliament (not less than 30% of the benchmark revenue or estimated petroleum revenue for any year) are to be deposited in the GPFs for saving.⁸⁴ The GRA is designated under the PRMA as the assessor, collector and accountant of all petroleum revenue.⁸⁵ Figure 6

⁸⁰ Act 815, section. 11 as amended by Act 892, section 4.

⁸¹ Act 815, section. 9.

⁸² Act 815, section 10 as amended by Act 893, section 3.

⁸³ Act 893, section 4.

⁸⁴ Ibid.

⁸⁵ Act 815, Sects. 3 and 7.

shows disbursements from the PHF in order of priority and the spending allocations.

For optimal revenue management, the PRMA allocates roles, functions and reporting obligations to specified state agents and officials as detailed in Table 2. This is followed by a summary of their key responsibilities and an examination of the role and impact of PIAC over the decade of its inauguration.

Spotlight on PIAC

The mission of PIAC is stated as a “statutory institution committed to ensuring efficient, transparent and accountable management of petroleum

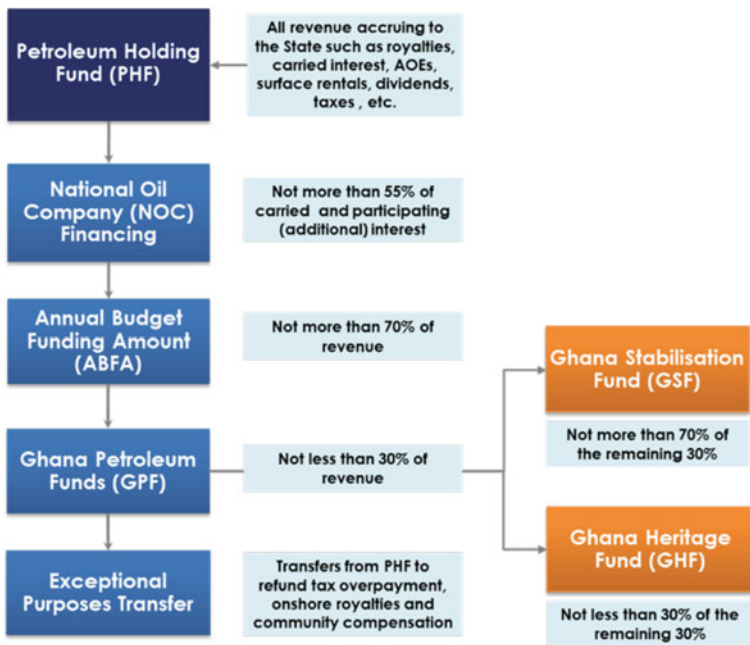


Fig. 6 PHF disbursements (Source: PIAC (2017, p. 17)]⁸⁶

⁸⁶ PIAC (2017). *Simplified guide to petroleum revenue management in Ghana*. https://www.piacghana.org/portal/files/downloads/simplified_guide_to_ghana's_petroleum.pdf. Available at: (Accessed: 2 September 2021).

Table 2 Key state agents and their responsibilities

<i>State agent</i>	<i>Responsibility</i>
The President of Ghana	<ul style="list-style-type: none"> • Appointment and removal of the members and chairperson of the PIAC • Issuing of Executive Instrument prescribing the instruments in which the resources of the GPF and subsequently the Ghana Petroleum Wealth Fund (GPWF) shall be invested in
Parliament	<ul style="list-style-type: none"> • Approval of the investment policy for the GSF and the GHF • Approval of (a) the percentage of the Benchmark Revenue allocated for the ABFA as part of the national budget (a) the accumulated resources of the GSF • Approval and review of the cash or the equivalent barrels of oil to be ceded to GNPC • Annual approval of the programme activities of GNPC
Minister responsible for Finance	<ul style="list-style-type: none"> • Approval of any variation of the Benchmark Revenue • Development of an investment policy for the investment of the GPF • Overall management of the GPF and oversight of transfers into and disbursements from the GPF • Proposal on the amount of cash or barrels of oil to be ceded to GNPC • Decisions on the investment strategy or management of the GPF after seeking advice from the IAC • Appointment of the members of the PIAC • Ensure the prompt transfer of portions of petroleum revenue due to GNPC • Submission of (a) annual reconciliation reports on the actual total petroleum receipts and the ABFA and (b) annual reports on the Petroleum Fund as part of the annual presentation of the budget statement and economic policies to Parliament • Estimation and certification of the Benchmark Revenue for each year; and making recommendations for revisions to Parliament where it is evident that unexpected petroleum price movements or production conditions have resulted in gross over-projection or under-projection of the Benchmark Revenue • Making Regulations, by legislative instruments, for the effective performance of the Act • Quarterly publication of record of petroleum receipts

(continued)

Table 2 (continued)

<i>State agent</i>	<i>Responsibility</i>
Ghana Revenue Authority	Assessment, collection and accounting for all petroleum revenue
IAC	<ul style="list-style-type: none"> • Submit proposals on the investment policy and management of the GSF and the GHF to the Minister for Finance • Advising the Minister for Finance on the general performance monitoring of the management of the GPF • Advising the Minister for Finance on the broad investment guidelines and overall management strategies relating to the GPF and the GPWF • Annual and quarterly reporting on the performance of the GSF and the GHF to the Minister for Finance • As part of the investment guidelines, develop the benchmark portfolios, the desired returns from the associated risks of the GPF and the GPWF
PIAC	<ul style="list-style-type: none"> • Monitoring and evaluation of compliance by government and relevant institutions with the PRMA in the management and use of petroleum revenue and investments • Providing space and platform for the public to debate whether spending prospects and management; and use of revenues conform to development priorities • Providing independent assessments on the management and use of petroleum revenues to assist Parliament and the Executive in the oversight and the performance of related functions • Preparing semi-annual and annual reports and providing copies to the President and Parliament
Bank of Ghana	<ul style="list-style-type: none"> • Custodian of the Petroleum Funds • Day-to-day operational management of the Petroleum Funds based on an Operations Management Agreement with the Minister for Finance • Quarterly and semi-annual reporting on the performance of the Ghana Petroleum Funds to the IAC and Minister for Finance • Maintaining proper books of accounts and records of the GPF and the GPWF • Submission of financial statements and relevant documents to the Auditor-General for audit • The Governor may advise the Minister of Finance on urgent investment decisions
Auditor-General	Annual audit of the GPF

revenues and investments to secure the greatest social and economic benefit for the people of Ghana through active engagement with government and citizens. This is accomplished by maintaining a balanced stance, exhibiting high integrity and remaining independent of sectional influences". It was inaugurated and commenced work on 15 September 2011 with its objects and functions outlined in Sections. 52 and 53 of the PRMA as:

- To monitor and evaluate compliance with the Act by government and relevant institutions in the management and use of petroleum revenues and investments;
- To provide space and platform for the public to debate on whether spending prospects and management and use of revenues conform to development priorities
- To provide independent assessment on the management and use of petroleum revenues to assist parliament and the executive in the oversight and the performance of related functions.
- To consult widely on best practices related to the management and use of petroleum revenues
- Determine the rules of procedure under which it will operate.

PIAC is made of representatives from the following organizations: Independent policy research think tanks; Institute of Chartered Accountants Ghana; Civil Society Organisations/Community-based Organisations; Association of Ghana Industries; Ghana National Chamber of Commerce and Industries; Trades Union Congress; Ghana Academy of Arts and Sciences; Ghana Journalists Association; Ghana Bar Association; Christian Groups; Muslim Groups; National House of Chiefs; Association of Queen Mothers; and Ghana Extractive Industries Transparency Initiative.

PIAC operates through an independent Secretariat made up of experts who provide technical and administrative support for its activities. It has also established the following sub-committees with defined responsibilities:

- Technical Sub-committee
- Legal Sub-Committee
- Public Affairs and Communications Sub-committee
- Finance, Administration and Procurement Sub-Committee.

Compliance with statutory mandate

PIAC is required to meet at least once every three months⁸⁷ and hold two public meetings each year to report on its mandate to the general public.⁸⁸ It is also required to publish a semi-annual and annual report on petroleum activities (by the 15th of September and the 15th of March).

According to the PIAC Annual Report on the Management and Use of Petroleum Revenues for January to December 2020, the Committee has since its inception published a total of nineteen (19) Reports, comprising of ten (10) Annual and nine (9) Semi-Annual Reports—covering the period 2011 to 2020. The reports are prepared based on information and data from the Ministry of Finance, Bank of Ghana, PC, Energy Commission, GNPC, GRA, Ghana National Gas Company and the IOCs and copies submitted to the President and Parliament. PIAC has also held at least eighteen (18) regional public fora in fulfillment of its statutory mandate. District engagements have also been held in 123 districts across the country, with over 120 ABFA funded projects inspected in all regions of the country between 2016 and 2019.⁸⁹

⁸⁷ L.I.2381, section 23.

⁸⁸ Act 815, section 56.

⁸⁹ PIAC 2021.

Impact on oil and gas governance outcomes

A review of the historical reporting of PIAC shows a consistent increase in scope and relevance, reflective of the growth of the Ghanaian oil and gas industry. The maiden report of PIAC, the Annual Report for 2011, was a modest fifty-five (55) page document compared to the two hundred and seven (207) paged 2020 Annual Report. It was published in accordance with its mandate, notwithstanding reported teething funding, data and operational constraints.⁹⁰ The report covered nine (9) main areas—Revenue Projections for 2011; Crude Oil Lifting; Petroleum Revenue in 2011; Development and Operational Costs; Allocation of Petroleum Revenues in 2011; the ABFA (Capital Spending and Collateralization); allocations into the Ghana Petroleum Funds; the role of PRMA Institutions; an analysis of the Revenue Projections for 2012; and concluded with its findings and recommendations.

It reported on the developments of the two (2) existing projects, the Saltpond and Jubilee fields. It raised concerns about the absence of records on payment of receipts from the declining production from the Saltpond Field and focused the report on the production from the Jubilee Field and exploration operations in other blocks. It also provided an analysis of the lifting schedule and the revenue accruing to the PHF, showing a significant disparity between the actual revenue at the end of December 2011 of GH¢666 million and the projected GH¢1.25 billion forecast. The shortfall was reportedly accounted for by lower levels of production than projected and nil corporate income tax paid by the Jubilee partners due to the capital cost-recovery regime in the Petroleum Income Tax Law 1987 (PNDC Law 188). The maiden report also highlighted significant findings, many of which have influenced government policy. These include:

- Carried and Participating Interest (CAPI) being the most reliable source of petroleum revenue. This has remained a trend in Ghana's historical oil revenue receipts and influenced government policy on investment to increase carried and participating interest in Act 919;
- Non-compliance with the forecasting methodology for petroleum revenue specified in the PRMA, resulting in wide disparities between

⁹⁰ Public Interest and Accountability Committee—Annual Report, 2011.

the forecast and actual oil receipts, making the system vulnerable to exploitation to over-estimation of the Benchmark Revenue to justify higher allocations to the ABFA, and reducing transfers to the GPFs, leading to a premature dependency on the Stabilisation fund when the projected amounts are not realised;

- Non-payment of receipts from some petroleum revenue sources into the PHF, such as surface rentals and receipts from the Saltpond field;
- The non-existence of a long-term national development plan, as required under Act 815; and
- Amendments of the PRMA to resolve inconsistencies in the interpretation of the PRMA, leading to implementation challenges in the determination of the Benchmark Revenue.

Over the next nine (9) years, PIAC maintained its independent watchdog role within the context of a growing upstream industry, from one (1) main producing field to three (3) fields and a pipeline of five (5) discoveries. The impact of PIAC on growth in governance policy cannot be overemphasized. Some of the major achievements of PIAC are:

- Improvement in transparency and public access to petroleum information
- Improved accountability and institutional compliance with PRMA
- Enhancement of the legal framework by the amendment of the PRMA to resolve challenges with Benchmark Revenue determination (PIAC 2013), funding for PIAC's activities and passage of the PRMA Regulations (PIAC 2011); and requirement of payment of all revenue prior to disbursement to GNPC rather than repeating past instances where GNPC's disbursement was done prior to payment into the PHF
- Improved funding of technical capacity building
- Advocacy for the prior approval of priority areas by Parliament; the procurement of a Loss of Production Insurance (LOPI) by GNPC for Jubilee, TEN, and SGN Fields, Parliament's directive to GNPC to stop spending on non-core areas; improvements in the payment of Surface Rentals by IOCs (2014 PIAC)
- Approval and implementation of the Decommissioning Plan for the Saltpond Field in November 2019 (PIAC 2014)
- Discretionary capping of the GSF (PIAC 2019),

In spite of the successful outcomes, there are still many relevant recommendations which are still unresolved. These include the development of policy and guidelines to assist the fund managers to better manage and improve the performance of the GPFs as required by the PRMA (PIAC 2013), the formulation of a non-partisan long-term National Development Plan to guide the efficient and effective utilization of petroleum revenue (PIAC 2013) and the irregular application of an unutilized amount to partially meet the shortfall in ABFA receipts.

Challenges

As it is with all governance institutions, PIAC is not without its challenges, the most prominent being sluggish government response to recommendations and limited funding.

Limited follow-through on Recommendations

PIAC is set up as a statutory body within the framework of public financial management but independent of the political infrastructure, performing an advisory function with no statutory powers of enforcement. This presents a challenge to the governance outcomes of its functions. Although PRMA mandates PIAC to submit copies of the annual and semi-annual reports to the President and Parliament, there is no clear indication in the law as to which committee of Parliament is obligated to oversee the follow-through of the recommendations. Historically, the Finance Committee of Parliament has received the PIAC reports and routinely engages PIAC on its findings. However, there are no clear expected outcomes in terms of enforcement. Many of PIAC's recommendations, although relevant and necessary for "good governance", may thus become subject to political will and may only be implemented at the whim of political authority. The lack of direct enforcement processes for the recommendation of PIAC may, in the long term, render the exercise a lamentation event with little consequences.

Based on its obligation to publish reports on the performance of government institutions within the oil and gas financial management space and hold public meetings on the subject, we can conclude that it is primarily accountable to the people of Ghana. Increasing public interest and support for the work of PIAC provide some level of leverage for mitigating the inertia from the government.

Funding

The PRMA initially made no provision for the funding of PIAC save for providing that the Minister for Finance shall determine the allowances of its members.⁹¹ It has been noted by Panford (2017) that “... *the PRMA 2011 was mostly motivated by donors’ concerns about the alleged corrupt and the ‘inept’ Ghanaian/African state’s abuse of finances, it was designed to safeguard revenues after they have been paid into government coffers*”. Accordingly, minimal provision was made for the establishment and resourcing of the activities of PIAC, making it heavily dependent on the support of foreign development partners such as the German Technical Cooperation (GIZ), the Natural Resource Governance Institute (NRGI) and the Institute of Economic Affairs for financial and technical support during its first six years of operation (PIAC 2013). The amendment to the PRMA provided for the inclusion of PIAC’s annual budget in the annual national budget and is surcharged on the ABFA for each year.⁹²

5.2 Case Study 2: 2018 Petroleum Licensing Round and Contract Award in Value Chain

Ghana currently has approximately sixteen (16) petroleum licenses granted under petroleum agreements between the Government of Ghana and local, regional and international counterparties. These petroleum licenses were awarded under two governance regimes, PNDCL 84 and its successor legislation, Act 919, both of which provided a competitive process as the preferred approach to awarding licenses. Fidelity to this foundational concept was heavily undermined in the awards made under PNDCL 84, mainly because of limited political will, statutory and institutional lapses and the absence of clear guidelines and regulations anticipated by the framers of PNDCL 84. Act 919 and its enabling regulation LI 2359 have established a new regime to replace PNDCL 84. This case study examines the robustness and sustainability of the existing regime for petroleum award governance based on the experience of the

⁹¹ Act 815, section 57.

⁹² Act 815, section 57 as amended by Act 893.

First Oil and Gas Licensing Round launched by the Government of Ghana in 2018.

The PNDCL 84 Regime

The award of petroleum agreements under PNDCL 84 was generally based on direct negotiations or an open-door policy.⁹³ Although the law envisaged the establishment of competitive processes (including by regulations),⁹⁴ this was seldom applied. Entities interested in negotiating for a PA were simply required to submit an application to the sector minister with supporting information on the applicant's experience, technical and financial capabilities, among others. The award of the SDWT block was an exception in that it followed a process involving multiple interested entities, including Statoil and AGM Gibraltar. The application form and all other supporting documents were evaluated by the Block Evaluation Committee (BEC), composed of the sector ministry and the GNPC based on the applicant's technical competence and financial capacity.⁹⁵ The PC was represented on the BEC after its establishment in 2011. Following the evaluation, the Minister would set up a government negotiation team (GNT) comprising representatives from the sector ministry, Ministry of Justice and Attorney General's Department, Ministry of Finance, the Ghana Revenue Authority and GNPC to negotiate the terms of the petroleum agreement with the counterparty. The negotiated agreement would then be submitted to Cabinet for approval and submitted to Parliament for ratification as required by PNDCL 84.

The Act 919 Regime

As part of reform to have a more transparent system for the award of license in line with good governance as per international benchmarks, Act 919 and its enabling instrument seeks to establish a transparent and competitive public tendering process. Notwithstanding that, the law

⁹³ Licensing Compliance In Ghana's Upstream Petroleum Sector, Mohammed Amin Adam.

⁹⁴ PNDCL 84, Sects. 2(2) and 32(2 m).

⁹⁵ Licensing Compliance In Ghana's Upstream Petroleum Sector, Mohammed Amin Adam.

maintains the power of the Minister to deviate from the competitive approach.⁹⁶

The Minister is required to publish either an invitation to tender or direct negotiations in the Gazette and at least two (2) state-owned public newspapers,⁹⁷ and a party interested in bidding is to submit an expression of interest (EOI) to the Minister.⁹⁸ Should the Minister receive more than one EOI, a tender process is undertaken.⁹⁹ The Minister may also decide that a fair and non-discriminatory¹⁰⁰ pre-qualification process should be carried out before the tender process to qualify prospective bidders.¹⁰¹ The pre-qualification process involves an invitation, submission of a pre-qualification application, evaluation and a decision on the application.¹⁰²

The tender process comprises EOIs, invitations to tender, submission and evaluation of bids, a decision on bids and entry into the PA.¹⁰³ The bidding entities will be required to submit the bid documents prescribed by LI 2359¹⁰⁴ to the Ministry by the deadline set by the Minister.¹⁰⁵ The Minister then evaluates the submitted bids based on objective criteria in two parts; evaluation of the bidder and evaluation of the bid.¹⁰⁶ The decision to enter into a PA shall be based on the highest numerical score,¹⁰⁷ and where two (2) bids receive the same score, the prospective bidder who scores the highest numerical score on financial capability and relevant technical capabilities and experience shall be the preferred bidder.¹⁰⁸

⁹⁶ Section 10(4), Act 919.

⁹⁷ Section 10(5), Act 919.

⁹⁸ Section 10(7), Act 919.

⁹⁹ Section 10(8), Act 919.

¹⁰⁰ Regulation 9(5), LI 2359.

¹⁰¹ Regulation 9(3), LI 2359.

¹⁰² Regulation 9(4), LI 2359.

¹⁰³ Regulation 9(1), LI 2359.

¹⁰⁴ Regulation 14(3), LI 2359.

¹⁰⁵ Regulation 14(1), LI 2359.

¹⁰⁶ Regulation 16(7), LI 2359.

¹⁰⁷ Regulation 16(5), LI 2359.

¹⁰⁸ Regulation 16(6), LI 2359.

Additionally, Procurement and Bid Evaluation Guidelines are currently being developed.¹⁰⁹

The 2018 Licensing Process

Sixteen (16) oil and gas companies—Tullow Oil, Total, ENI, Cairn, Harmony Oil and Gas Corporation, ExxonMobil, CNOOC, Qatar Petroleum, BP, Vitol, Global Petroleum Group, Aker Energy, First E&P, Kosmos, Sasol and Equinor expressed interest out of which two (2) were disqualified. Fourteen (14) applicants were prequalified to proceed to the bidding stage, and only three (3) submitted bids—Tullow Ghana and Eni Ghana Exploration and Production Limited submitted bids (for Block 3) and First Exploration and Petroleum Development Company submitted bids (for Block 2). Negotiations are ongoing with the selected bidders.

Evaluation of the Policy Shift from Direct Negotiations to Open Competition for PA Award

As of 2016, when Act 919 was enacted, the Government of Ghana had negotiated and signed about fifteen (15) petroleum agreements. The key governance issues relating to the award of licenses raised over the years have been (a) limited competition in bidding, (b) limited transparency in the award process and (c) limited financial and technical capacity of a significant number of entities.

- a. **Competitive Bidding Process:** Although PNDCL 84 intended petroleum agreements to be awarded after a competitive bidding process, the overwhelming majority of awards were done through direct negotiations. The passage of Act 919 regularized the competitive bidding process required for entry into Petroleum Agreements. This process was largely complied with in the 2018 licensing process. This led to negotiations with First Exploration and Petroleum Development Limited, in partnership with Elandel Energy (Ghana) Limited for rights over GHWB02 and Eni in partnership with Vitol Upstream Ghana Limited for rights over GHWB03, which

¹⁰⁹ Public Interest and Accountability Committee Annual Report On The Management And Use Of Petroleum Revenues For January—December 2020, Table 2, pg. 19.

continued in 2020.¹¹⁰ However, the observation is that major IOCs were either not attracted or those attracted withdrew at various stages of the process. While a number of reasons may account for this, such occurrences may lead to reversion to direct negotiations by the Minister.

- b. **Transparency of award process**—The award of petroleum agreements through direct negotiations under PNDCL 84 did not allow for a transparent process to make the public aware of the process by which the awards were being made. The process was administrative with no mandatory requirements for publication until the last stage, where it would be submitted to Parliament. In some cases, the first publication was when the IOC announced Cabinet approval of the petroleum agreement.¹¹¹ This opened the process up to potential corruption.¹¹² Act 919, however, aims to attract private investors into the upstream oil and gas sector by introducing transparency in the licensing procedure. Thus, an open, competitive and transparent tender process serves as the prelude to entering into the petroleum agreement.¹¹³
- c. **Awarding of licenses to companies lacking in technical and financial capacity**—The lack of a competitive bidding process under PNDCL 84 resulted in petroleum agreements being awarded to companies lacking the financial and technical capability to carry out their obligations under their respective petroleum agreements. This has resulted in many redundant blocks, due to, among others, bankruptcy (as in the case of Erin Energy), poor cashflow (example CAMAC which in 2013 announced that a “*failure by the Company to generate sufficient cash flow from operations could eventually result*

¹¹⁰ Public Interest and Accountability Committee Annual Report On The Management And Use Of Petroleum Revenues For January—December 2020, pg. 18.

¹¹¹ Bigg, M.M. (2013). *Ghana cabinet clears oil block exploration Deal with AGR*. Available at: https://www.rigzone.com/news/oil_gas/a/128548/ghana_cabinet_clears_oil_block_exploration_deal_with_agr (Accessed: 2 October 2021).

¹¹² Adam, M. A. (2015). *Licensing compliance In Ghana's upstream petroleum sector*. Africa Centre for Energy Policy. Available at: <http://www.jstor.org/stable/resrep31200> (Accessed: 2 October 2021).

¹¹³ Ndi, G. (2018). Act 919 of 2016 and its contribution to governance of the upstream petroleum industry in Ghana. *Journal of Energy & Natural Resources Law*, 36(1), pp. 5–31.

*in the cessation of the Company's operations and require the Company to seek outside financing or discontinue operations"*¹¹⁴).

The bidding process under Act 919 requires bidders to satisfy the requirement of having both the technical and financial capability to carry out petroleum activities and requires the Minister to award petroleum agreements to persons who have a high score in both aspects after evaluation of the bids.¹¹⁵ This ensures that only oil companies that have the requisite know-how are permitted to engage in petroleum activities in Ghana.

Findings in terms of Transparency and Open Data

In its bid to make activities in the extractive industries more transparent, the Government of Ghana signed onto the Extractive Industries Transparency Initiative (EITI) in 2003 (which is aimed at promoting transparency and accountability in the Extractive sector in Ghana) and Open Government Partnership (OGP) in 2011 (which seeks to make the government more open, accountable and responsive to citizens).¹¹⁶ The principles underlying GHEITI's Open Data policy are based on the International Open Data Charter¹¹⁷ and have been modified to reflect the domestic context of the Ghana Extractive Industries Transparency Initiative (GHEITI).

GHEITI's Annual report for 2018 indicates that; "*Ghana has over the past decade witnessed improvement in the governance of its extractive sector with transparency and accountability being placed at the centre of the resource governance agenda*".¹¹⁸ However, GHEITI has indicated that a

¹¹⁴ CAMAC (2013). Annual report before the us securities and exchange commission (p. 10). <http://www.camacenergy.com/documents/annualreports/2013-annual-report.pdf>

¹¹⁵ Regulation 16(6), LI 2359.

¹¹⁶ GHEITI (2021). *GHEITI open data policy*. Available at: https://www.gheiti.gov.gh/site/index.php?option=com_content&view=article&id=232&Itemid=71 (Accessed: 2 October 2021).

¹¹⁷ ODC (2021). *The International open data charter*. Available at: <https://opendatacharter.net> (Accessed: 2 October 2021).

¹¹⁸ 2018 Ghana EITI Annual Progress Report, Page 1 of 38,

major flaw of the licensing rounds held in 2019 which affected the transparency of the process was that the open competitive bidding was done together with the direct negotiations, which discouraged some companies from submitting bids for the open competitive bidding round.¹¹⁹

GHEITI also indicated that between 2017 and 2018, there were no deviations from the established framework for the allocation of petroleum agreements.¹²⁰ This indicates that the petroleum licensing process set out in Act 919 and LI 2359 was complied with in respect of PAs awarded in those years.

In order to further achieve transparency with regard to the PA award process, although there is no government policy on contract disclosure, in compliance with EITI requirements and section 56 of Act 919, the government has publicly displayed all the 18 agreements on petroleum contract areas in the Petroleum Register.¹²¹ This follows the Natural Resources Governance Initiative's advocacy for the disclosure and publication of contracts.¹²² The only gap identified in the Petroleum Register by GHEITI is the absence of a map showing the coordinates of the operations.¹²³ Furthermore, the introduction of the requirement for companies to provide information on their beneficial owners to the Companies Registry in the Companies Act, 2019 (Act 992) further aids in ensuring the transparency of the bidding process.

Award of Contracts in Ghana's Petroleum Upstream Value Chain

Economic development centered around the oil and gas economy requires transparency in the award of licenses and the award of contracts (subcontracts and service contracts) in the upstream value chain. Therefore, it is important for regulatory oversight of the award of such contracts by IOCs and the NOC, who are parties to the petroleum agreements. The Model Petroleum Agreement (2019) requires parties, as co-venturers, to undertake petroleum activities through an operator, usually one or more

¹¹⁹ Ghana extractive industries transparency initiative report on the oil and gas sector 2017 & 2018.

¹²⁰ Ibid.

¹²¹ Ibid.

¹²² Improving Contract Transparency in Ghana's Petroleum Sector, NREGI 2018.

¹²³ Ghana extractive industries transparency initiative report on the oil and gas sector 2017 & 2018, p. 27.

of their number, with the requisite technical capability under the general oversight of all the parties under a Joint Operating Agreement (JOA). Upstream field operators undertake petroleum operations either through their internal resources or with the assistance of oilfield services companies under petroleum sub-contracts. Key upstream services include seismic acquisition, geological and geophysical (G&G) surveys, the drilling of wells, Subsea Production Systems (SPS), Subsea Umbilicals, Risers Flow-lines (SURF), and the construction, operation and management of a floating production, storage and offloading facility (FPSO). As with the award of petroleum agreements, Ghana has had two (2) governance regimes for awarding subcontracts—pre and post Act 919.

PNDCL 84 Era

PNDCL 84 provided a very flexible regulatory framework for the selection and award of petroleum subcontracts. The operator was generally required to conduct petroleum operations (including the selection of service providers) with due diligence, efficiency and according to international best techniques and practices¹²⁴ and use goods and services produced or provided in Ghana for his operations in preference to foreign goods and services.¹²⁵ On the other hand, subcontractors were required to set up a permanent establishment in Ghana, perform their contracts with due diligence and required the consent of the Minister to assign their rights and obligations in a subcontract to a third party.¹²⁶ Both the operators and subcontractors were to submit plans and programs for the training of Ghanaians, transfer of know-how and skills to Ghanaians,¹²⁷ with periodic reporting to GNPC on the conduct of petroleum operations.¹²⁸

These general provisions were reflected in pre-Jubilee petroleum agreements.¹²⁹ Additionally, the petroleum agreements provided for establishing a Joint Management Committee (JMC) as a central governance

¹²⁴ Section 23(1), PNDCL 84.

¹²⁵ Section 23(12), PNDCL 84.

¹²⁶ Section 22, PNDCL 84.

¹²⁷ Section 23(13 & 14), PNDCL 84.

¹²⁸ Section 23(7), PNDCL 84.

¹²⁹ DeepWater Tano Cape Three Points PA, Articles 7(3) and 20(1).

body comprising representatives of the contractor group and GNPC.¹³⁰ The JMC had general oversight of petroleum operations and was specifically required to approve the operator's Work Program and Budget (WP&B), which provides the scope for the award of service contracts. The MPA 2000 did not include provisions on the approval of subcontracts by the JMC, although on a case-by-case basis, the JMC may approve such contracts as part of its general oversight on petroleum operations.

In sum, the PNDCL 84 regime was less than optimal. The procurement of services by upstream operators is largely at the operators' discretion, subject to scope within the approved WP&B. The upstream service market was controlled by foreign service providers with limited accountability and minimal opportunity to develop indigenous Ghanaian capacity.

Act 919 Era

The award of petroleum subcontracts is currently regulated under Act 919 and LI 2204. Petroleum subcontracts are generally required to be awarded on a competitive basis and may only be awarded to service providers registered with the Petroleum Commission¹³¹ as joint venture companies or indigenous Ghanaian companies (IGCs). Foreign service companies may only operate through joint venture companies with a minimum of ten percent (10%) of Ghanaian shareholding. Contractors, subcontractors and persons undertaking petroleum activities are required to put in place and implement long term and annual local content plans,¹³² which must be submitted to PC for approval.¹³³ The local content plan must require first consideration to be given to services and goods manufactured in the country where the goods meet the specifications of the petroleum industry and must show how the subcontractor intends to implement the use of Ghanaian manufactured goods¹³⁴ and to meet minimum local content values set out in the First Schedule to LI

¹³⁰ MPA 2010, Article 6(1).

¹³¹ Section 17(3), Act 919.

¹³² Section 63(1), Act 919, Regulation 7(2), LI 2204.

¹³³ Section 63(2), Act 919, Regulation 7, LI 2204.

¹³⁴ *Ibid.*

2204.¹³⁵ Additionally, contractors or subcontractors in acquiring goods and services must implement a bidding process and give preference to Ghanaian companies.¹³⁶ Services such as insurance and reinsurance,¹³⁷ legal services¹³⁸ and financial services¹³⁹ are obtained from indigenous Ghanaian companies.

The WP&B for each year must be approved first by JMC and then by the PC prior to implementation. Contracts are required to be awarded mainly on a competitive basis and in accordance with an approved procurement plan. All subcontracts are subject to the written approval of PC¹⁴⁰ who may review such contracts on a case-by-case basis.¹⁴¹

The current regime provides for more accountability, transparency and fairness in the award of petroleum subcontracts; however, it is not without its challenges. For example, the obligation for foreign service providers to operate through Ghanaian joint venture companies works well for services requiring physical performance in Ghana, such as drilling, sub-sea installations and FPSO operation and management. However, for desktop knowledge-based services, and highly technical manufacturing and construction services such as FPSO engineering, procurement and construction, the implementation of the policy is challenging and operators are compelled to seek waivers or dispensation from the authorities. While it can be argued that the threshold of local content requirements to be met may be overly ambitious, increased economic activities within State provide additional benefits to the communities and the State beyond revenue received by the State. The joint venture requirements overcome the difficulty in getting competent local firms. In addition, as noted earlier, building the capacity (financial and technical) of such a firm must be tackled through deliberate government intervention.

¹³⁵ Regulation 10, LI 2204.

¹³⁶ Regulation 11, LI 2204.

¹³⁷ Regulation 27, LI 2204.

¹³⁸ Regulation 28, LI 2204.

¹³⁹ Regulation 31, LI 2204.

¹⁴⁰ Section 17(1), Act 919.

¹⁴¹ LI2204, Regulation 16.

6 CONCLUSION AND RECOMMENDATIONS

It has been a little over ten years since Ghana started production of petroleum in commercial quantities. Ghana's effort in ensuring transparency and good governance has improved generally since oil petroleum discovery. The complement of laws that Ghana has developed and implemented since oil discovery, including the Petroleum Exploration and Production Act, the Petroleum Revenue Management Act, the Petroleum Commission Act and the Local Content and Local Participation Regulation and other legal instruments, have set the country on a positive footing with regards to the governance of the petroleum sector.

However, there are a number of challenges to the governance of the petroleum sector in Ghana which, if left unaddressed, can undermine the progress made so far. Issues such as political consensus, the need for greater inclusion, community relations, skills training, robust implementation of laws, resourcing and proper management of relevant entities through the appointment of competent boards and CEOs, eradication of corruption and proper long-term planning of economic development, local content among others should be confronted in order to enhance the governance of the petroleum sector. Also, Ghana needs to develop a proper diversification strategy to properly link the petroleum value chain to other sectors of the economy.

Key recommendations include the following proposals:

Petroleum revenue management

- Despite the steps taken toward increased transparency and accountability in oil governance in Ghana, there remain major challenges that do not augur well for the equitable usage of petroleum funds. For example, petroleum revenues are still spread thinly over many projects with no clear framework for project selection. There needs to be clear framework for priority areas and selection of projects that can be funded. The use of allocated revenue to the NOC must also be restricted.
- The transparency and accountability mechanisms of PIAC should be further enhanced to ensure they carry their mandate efficiently, including dedicated funding arrangement and mechanism for enforcement of PIAC's recommendations.

Local capacity

- While the requirement of local content and local participation is reasonable, its objectives will not be achieved unless the capacity of local companies and entrepreneurs are enhanced. There must be deliberate policy targeted at small and medium enterprises to build the financial and technical capabilities of such entities to meaningfully participate in the sector.

Capacity of institutions and coordination

- The various institutions responsible for governance of the sector must be capable of discharging their mandates. One of the chronic issues affecting all aspects of the economy is the lackluster of enforcement of laws and policies. The success of the oil and gas sector also depends on the enforcement of the laws and regulations. Institutions can do that only if qualified persons are appointed to the various positions and given the needed independence and backing to perform their functions. This will also require the political will of the government of the day.
- While the laws delineate the role of each entity, efficient coordination but short of interference and turf wars is crucial for the realization of gains. Beyond the law, it is important for the institutions to cooperate on the various levels to ensure effective and efficient discharge of their mandates.
- Oversight responsibility of Parliament in approving revenue allocation under the PRMA, entry into PAs, award of licences, etc. must not be compromised by any consideration but must be in the utmost interest of the public. Parliament must therefore be more engaging by inviting comments from the public, devote adequate time for such discussions and seek to build consensus on what is in the State's best interest.

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Public Interest Organisations, Transparency Initiatives, and Petroleum Sector Oversight and Accountability

Steve Manteaw and Emmanuel Graham

1 INTRODUCTION

In June 2007, Ghana discovered oil and gas in commercial quantities some 60 km off the country's western shores. Hopes were high across the country (Darkwah 2013; Obeng-Odoom 2015a, 2015b; Oteng-Ababio 2016). The government and the citizens were all optimistic that Ghana would become like the 'Asian tigers' and will be able to avoid the resource curse (McCaskie 2008). June 2020 marked thirteen years of commercial

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403

T. Acheampong and T. Kojo Stephens (eds.), *Petroleum Resource Management in Africa*,
https://doi.org/10.1007/978-3-030-83051-9_13

oil discovery, while December 2020 marked ten years of oil production in Ghana. Natural resources, particularly oil, have not translated into expected developmental outcomes, especially in the global south or developing countries. This is a paradox the 2002 World Summit for Sustainable Development attempted to resolve, and which gave birth to the Extractive Industry Transparency Initiative (EITI). In the view of some economists and development practitioners, there is almost a natural tendency for natural resource-rich countries to experience low economic growth (Sachs and Warner 1997, 1999; Yates 2012). The situation is what is popularly referred to as ‘resource curse’ (Auty 1993, 2000, 2001a, 2001b, 2017; Ross 2001) and is grounded on negative ‘oil exceptionalism’ (Ovadia 2016: 80). In other words, the resource curse refers to ‘the tendency of resource-rich economies to underperform in economic growth, and other development outcomes’ (Papyrakis 2017).

Over the last few decades, a great deal of academic focus has been directed towards the ‘resource curse’ phenomenon (Auty 1993) or the ‘paradox of plenty’ (Karl 1997). A lot of resource-rich countries have experienced a range of adverse economic, political and social effects of resource extraction (Frynas et al. 2017). Other researchers have looked at the various solutions to the resource curse syndrome. The most popular solutions to the syndrome, emphasise macro-economic policies, economic diversification, natural resource funds, domestic or national ownership of resources, as well as transparency and accountability mechanisms (Weinthal and Luong 2006). Indeed, social accountability has been identified as essential for effective and efficient public service delivery (Fox 2015, 2016). Most social accountability frameworks are premised on the principal–agent relationship theory, which provides that those who act on the basis of delegated authority have a responsibility to report back to those from whom the authority is derived; and those who delegate authority have an inalienable right to question how the delegated authority has been exercised and in whose interest (Braun and Guston 2003).

Social accountability in Ghana’s upstream petroleum sector takes a great deal of inspiration from the EITI, to which Ghana acceded in 2003, following its launch in 2002 at the World Summit for Sustainable Development, in Johannesburg. The EITI pre-supposes that when citizens have access to information on the management of a country’s natural resources, they will be empowered to ask critical questions about the decisions that have been made by duty bearers, and will demand changes

to policy and practice, in ways that enhances the development effect of resource extraction (The EITI Source Book, March 2005).

It is from this background that this paper examines a decade of Public Interest Organizations (PIOs) in Ghana's oil and gas sector and the quest of avoiding the oil curse. The central thesis of this paper is that PIOs in Ghana's oil and gas sector, to a large extent have been successful in ensuring transparency but have not quite managed to achieve accountability. In spite of the elaborate disclosure provisions in the country's petroleum laws, and the establishment of the Public Interest and Accountability Committee (PIAC), an additional public oversight body, charged with monitoring compliance with the Petroleum Revenue Management Act, concerns about infractions of the law, and abuses in the management and use of petroleum revenues continue to be raised in the reports of PIAC and the Ghana Extractive Industry Transparency Initiative (GHEITI).

The very few studies that have been undertaken into the role of PIOs in shaping Ghana's governance of its oil and gas industry, have often focused more on contestations and conflicts, than assessing the contribution of PIOs to the promotion of a transparent and accountable governance of the country's resources. Johnson et al. (2020), reviewing the interaction between the state and non-state actors towards a durable settlement around resource governance frameworks, questioned the utility of resource curse as a lens through which to view resource-conflict linkages, by demonstrating how it fails to capture important aspects of the relationship between resource extraction, governance and violent conflict. Opong and Andrews (2020), adopting a political settlement analysis approach, argued that contrary to the postulations of strategic elite bargains by political settlement researchers, Africa's oil landscape is marked by pluralistic politics and contestations at multiple scales.

The fact that Ghana has made commendable strides in establishing a durable, transparent and accountable petroleum governance framework is undisputable. The 2017 Resource Governance Index (RGI)¹ ranked

¹ The Resource Governance Index (RGI) is an initiative of the Natural Resource Governance Institute (NRGI). It measures the quality of governance in the oil, gas and mining sectors in 81 countries. The Resource Governance Index covers many issues from the allocation of extraction rights through to the management of the revenue generated by oil, gas and mining sectors. It is a freely available public data product that serves as a global benchmark, country and sector diagnostic tool, and a roadmap for policy and practice reforms at the global, regional and country levels.

Ghana's oil and gas governance the best in Africa, and the 13th best in the world. This section seeks to explore the contribution of PIOs to improving oil and gas governance in Ghana, and by this probe, add to the existing knowledge on the subject. This inquiry is essential for the following reasons: firstly, it shows how constructive the contributions of PIOs in Ghana's oil and gas sector have been. Secondly, it points out the various successes of PIOs in the exercise of their public oversight functions. Thirdly, it outlines the challenges faced by PIOs, and finally, it compels a re-evaluation of the resource curse theory, and how broad national consensus on resource governance helps to escape resource-centred conflict.

This paper is organised as follows: Sect. 1 deals with the introduction; Sect. 2 covers the conceptual framework; Sect. 3, the methodology; Sect. 4, discussion on a decade of PIOs in Ghana's oil and gas sector; Sect. 5 draws conclusions and provides recommendations.

2 SOCIAL ACCOUNTABILITY AND PUBLIC INTEREST ORGANISATIONS

Social accountability is seen as 'a non-electoral, yet vertical mechanism of control that rests on the actions of a multiple array of citizens' associations and movements and on the media; actions that aim at exposing governmental wrongdoing, bringing new issues onto the public agenda, or activating the operation of horizontal agencies' (Smulovitz and Peruzzotti 2000: 150). As argued by Grimes (2013), societal accountability involves political competition, press freedom and government transparency. All these are centred on accountability. It is thus important to create mechanisms of accountability to citizens on the part of the state (Goetz and Gaventa 2001; Mehrotra 2006), although, in practice, citizens face a widening gulf between themselves and the powerful institutions that are meant to serve them (Mulgan 2003).

As already noted, accountability is generally seen as a relationship between an agent and a principal. The agent is answerable to the principal and can face sanctions. Therefore, answerability and sanctions are key dimensions of accountability (Schedler 1999). Schedler's (1999: 14) explanation of answerability, implies that 'agents can be asked to report on their decisions or explain their decisions'. Sanction denotes whether agents suffer from some penalty or punishment as an outcome

for violating their duties. In essence, the core elements of social accountability, in the view of Schedler (1999) are: (i) an agreed set of standards against which conduct is assessed; (ii) information about the public actions undertaken; (iii) justification for those actions; (iv) the imposition of sanctions or reward as appropriate. Nevertheless, Joshi and Houtzager (2012: 151) argue that ‘it is not clear how these elements interact in practice in the different social accountability initiatives and which of these is essential to achieving particular outcomes’.

The right to participate or to be consulted in the decision-making processes is reserved for the principals under the principal–agent relationship principle, and this right is upheld by most democratic constitutions. However, information asymmetry between those who act on the basis of delegated authority and the principals (citizens) inhibits effective engagement and the granting of informed consent in major decisions taken by duty bearers.

Various authors have put forward definitions of accountability as including enforceability and answerability, holding actors responsible for their actions, keeping the public informed and the powerful in check (Cornwall et al. 2000; Mulgan 2003; Newell and Wheeler 2006; Schedler et al. 1999). Aslam et al. (2015, 3) see social accountability as the interplay of both citizen and state action, supported by three ‘levers’; namely information, interface and civic mobilisation. The goal of social accountability is initiating demand-driven and bottom-up citizens’ voice and oversight in public service delivery. Thus, social accountability strategies try to ‘improve institutional performance by bolstering both citizens engagement and the responsiveness of states and corporations’ (Fox 2015: 346).

Two main actor categories are crucial in social accountability, namely state and non-state actors (Fig. 1). State actors include the executive, oversight institutions (legislature and audit institutions) and the judiciary, while non-state actors include citizens, civil society organisations, media, development partners, and the private sector (Fox 2015). The state actors fall within the supply side of social accountability, while non-state actors fall within the demand-side. Where the demand-side is weak, as witnessed in Ghana’s mining sector decades before commercial oil discovery in 2007, development outcomes tend to be poor. It is therefore not surprising that Ghana mined gold for over a century, only to end up a Highly Indebted Poor Country. Decisions on the management and use of mineral revenues in Ghana were left almost exclusively to the ruling class,

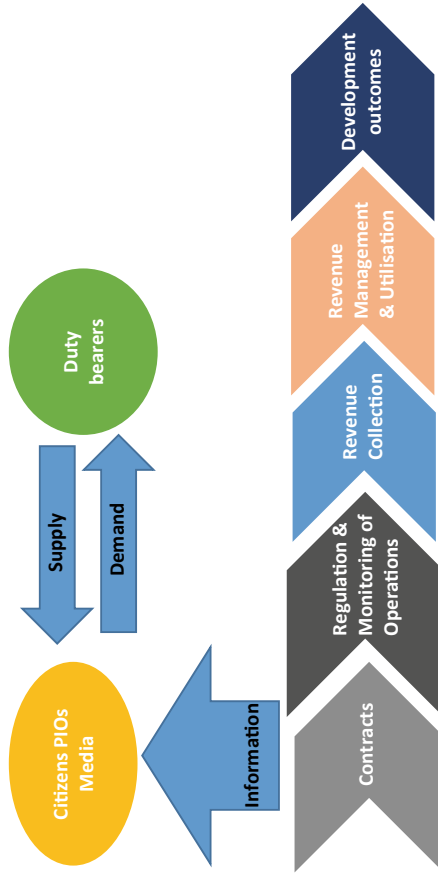


Fig. 1 Social Accountability in Ghana's Oil and Gas Sector (Source Author's construct)

with citizens exercising no oversight. This is a major lesson that informed the elaborate disclosure requirements in Ghana's petroleum laws and the creation of the citizens-led Public Interest and Accountability Committee.

The essence of the social accountability framework for this study is to suggest that Ghana's PIOs in the oil and gas sector serve as watchdog or accountability agents in the sector. Since the oil discovery in 2007, the aspiration of many stakeholders in Ghana has been how to escape the 'oil curse'. As a result of this objective, numerous stakeholders instigated necessary measures to escape the socio-economic and political enigma that various oil-rich countries find themselves in.

We're going to really zoom, accelerate, and if everything works, which I pray will happen positively, you'll come back in five years, and you'll see that Ghana truly is the African tiger, in economic terms for development. (BBC News 2007)

This was the then President John Agyekum Kufuor, obviously ecstatic and optimistic that Ghana will not fail to unleash the development potential of oil and gas. Of course, ten years have passed, and it appears the proverbial African tiger is yet to arrive. But, bold prudent steps have been taken. In 2008, the Kufuor government with the support of the Norwegian government, and several other development partners, including the World Bank, the German Development Cooperation, and DFID, organised a two-day consultative forum on Ghana's emerging oil and gas industry to gain insights from the years of experience of countries in the oil and gas sector such as Norway, Britain and others. At the core of the discussions during this forum was the recognition of the fact that, the oil curse could be mostly avoided in countries with high-quality institutions.

Mehlum et al. (2006), Boschini et al. (2012), Canuto and Cavallari (2012), and more recently, Zallé (2019), suggest that many countries that have strong institutions, including well-developed financial systems, suffer less from the resource curse. They point us to the sway effect institutions can have in making natural resources useful to more people than a select few. Botswana is an example where good policies, robust political leadership, long-term development plans and effectual anti-corruption laws helped the country to escape the resource curse (Imi 2007).

Incidentally, the initial steps taken by the Kufuor government was inconsistent with the tenets of institutional building. Having taken a personal interest in the setting up of a governance framework for the

country's newly discovered oil and gas resources, the President proceeded to establish a committee at the seat of government, chaired by Mrs. Mary Chinery Hesse and coordinated by Prof. Kwaku Appiah-Adu, both advisors at the Presidency. Though well-intended, the arrangement reduced the Energy Ministry to playing a subservient role rather than the lead role in the development of the governance framework. This was later addressed, following the political transition of 2009, when the Ministry assumed full responsibility for the development of the oil and gas governance framework. The country did not have an independent regulator for petroleum activities. Regulation was fused with policy making, with technical guidance provided by GNPC, the national oil company. In 2011, after several consultations and in line with the recommendations of the Oil for Development Conference, the Petroleum Commission was established by an Act of Parliament to provide an independent institutional framework for regulating petroleum activities. Subsequently, Ghana Gas was established, as a limited liability company, with a mandate to operate the infrastructure for gathering, processing, transporting and marketing of natural gas resources in Ghana. Ahead of the Oil for Development Conference, a group of civil society organisations, led by ISODEC and supported by Oxfam America constituted the Civil Society Oil and Gas Working Group, which later transformed into the Civil Society Platform on Oil and Gas (CSPOG), as a longer term advocacy solution. This PIO's core mandate was to serve as watchdog in the oil and gas sector to enhance transparency, accountability and good governance in the sector (Gyimah-Boadi and Prempeh 2012).

3 POLITICAL ECONOMY OF PIOs IN GHANA'S PETROLEUM RESOURCE GOVERNANCE AND MANAGEMENT

From key informant interviews, it emerged that, prior to the commercial discovery of oil and gas in Ghana, most PIOs in the natural resource sector were organised under the banner of Publish What You Pay-Ghana (PWYP-Ghana), a local chapter of the global campaign for transparency and accountability in the management and use of resource rents in resource endowed countries. PWYP-Ghana is a coalition of 24 civil society organisations and over a hundred individuals, including faith-based groups, organised labour, media and gender-based organisations, with interest in natural resource governance. The coalition served as an

interface with the GHEITI and is represented on its Multi-Stakeholder Group (MSG), the governing board for EITI implementation in Ghana.

Following Ghana's landmark oil discovery, the group took keen interest in discussions around its management. Members were determined to ensure full citizens' participation and input into the development of the governance framework for the emerging industry. Its convener, Dr. Steve Manteaw, was incidentally, invited to chair the governance section of the government's Oil for Development Conference in 2008. Two other CSOs, the Third World Network and the Trades Union Congress, had received invitations to the conference. Generally, PWYP-Ghana felt CSOs were hugely under-represented at the planned conference and so requested additional slots for the fraternity. This was declined on account of space constraint.

PWYP-Ghana activists say they found it necessary to hold a preparatory meeting for all CSOs ahead of the government-led conference, to harmonise their voices and table their concerns to the conference through their convener, who was to chair the governance section.

With the support of Oxfam America, Revenue Watch Institute (now Natural Resource Governance Institute), the German Development Cooperation (GIZ) and Catholic Relief Services, ISODEC and PWYP-Ghana managed to pull off a huge preparatory meeting that brought together 130 participants, at the Manna Heights hotel in Mankessim, in the Central Region of Ghana. Though originally planned as a CSOs consultative forum, the meeting turned into a multi-stakeholder learning and sharing event, with additional participation from some CSOs of some oil and gas producing countries such as Nigeria and Mozambique, brought in purposely for the benefit of experience sharing. The Ministry of Finance, Parliament, GHEITI and the World Bank were also represented at their own request (Interview with CSPOG, January 2021).

On the final day of the meeting, participants broke out into their respective caucuses to formulate their respective positions they were taking to the government-led Oil for Development Conference. The CSOs in their caucus meeting, decided to issue a communique, making specific demands of the government, most of which centred on the need for more inclusiveness and greater citizens' participation in developing the oil and gas governance frameworks. The communique also urged both government and civil society to work to strengthen their collaboration, keeping to their respective mandates, so that they will complement each other in their efforts at ensuring the best outcome for the country. This,

the statement said, will require that the government and state agencies demonstrate good will and willingness to provide information on their actions and plans, and to open the space for the democratic participation of citizens' groups in the decisions and choices it will be making on behalf of the citizens. It said, this was necessary to achieve a collective ownership of the choices the country makes and to forge ahead in its development aspirations with a unity of purpose. The communique was well received by government, with a pledge to broaden the consultations, going forward.

Another important outcome of the meeting was the consensus among parliamentarians, the GHEITI Multi-Stakeholder Group and Civil Society to sustain their engagement, possibly institutionalise the consultative platform for the purpose of information sharing and dialoguing on issues of mutual concern (Interview with PWYP-Ghana, January 2021). Though, the consensus was to maintain the Mankessim Platform for stakeholder engagement, it eventually became a platform for harmonising the voices and actions of Ghanaian civil society in the oil and gas governance space, coordinated by PWYP-Ghana (Fig. 2). It adopted the name Civil Society Platform on Oil and Gas (CSPOG) and has since been instrumental in shaping government's policies and laws for the petroleum sector, as well

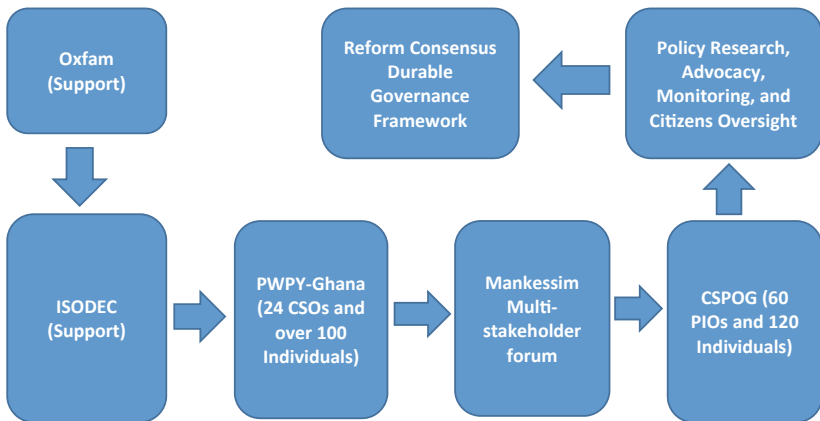


Fig. 2 PIOs and the creation of consensus on oil and gas governance (Source Author' Construct)

as monitoring and providing feedback on their implementation. Other actors such as Imani-Ghana, Africa Centre for Energy Policy (ACEP), Third World Network and Institute of Economic Affairs (IEA) also contributed to the search for a durable governance framework for Ghana's oil and gas resources.

The Oil for Development Conference was organised to set the tone for a national consultative process towards the development of the country's oil and gas governance framework (Fig. 3). Pursuant to Ghana's desire to benefit from the lessons learned by other oil producing countries in Africa and beyond, and to follow international best practices, the conference was designed to involve local and international experts. The government's stated objective was to demonstrate that oil could be a blessing and not a curse.

The conference was organised around five themes:

- Turning Oil Wealth into Sustainable Development: High-level consideration of the contribution of oil to economic growth and development in terms of Ghana's development strategies and experiences both positive and negative from around the world.

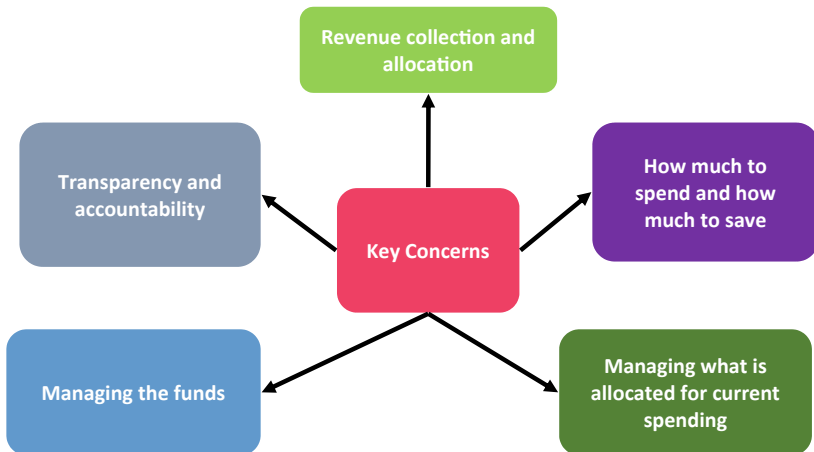


Fig. 3 Issues for negotiation during the development of Ghana's oil and gas governance framework (*Source* Author's construct)

- Entrenching Transparency and Stakeholder Engagement: Examination of the role of transparency, accountability and stakeholder engagement in making and implementing good extractive industry policy, using examples from Ghana (e.g. EITI for mining) and elsewhere.
- Effective Management of the Oil Sector: Discussion of the roles that an effective regulator must play and how to structure this institutionally, including consideration of the role of national oil companies, using examples from Ghana's own recent experiences with regulatory reform and examples from around the world.
- Wise Management of Petroleum Revenues: A review of approaches necessary to achieve this both in terms of principles of sound management of public finances (revenue and expenditure) and particular instruments that have been developed to support this, including petroleum revenue funds.
- Safeguarding the Environment: Examination of current progress in developing appropriate safeguard measures suited to marine environments of the kind found in Ghana and best means for their implementation (Concept Note for the Oil for Development Conference, 2008).

Subsequent to the conference, broad consultations were organised with stakeholders across the country. The media provided further opportunities for public discussions of the options on the table, which included what to spend and what to save, what to spend on, where to save and the role of citizens (Interview with CSPOG, January 2021).

Actuated by what can aptly be described as unmanaged expectations, leading to demands from some opinion leaders from the six frontline oil districts of Ghana for a 10percent share of oil revenues to be spent on the Western Region, ISODEC, with the support of Oxfam America undertook a study that highlighted some of the key challenges that confronted Ghana, as it prepared to join the league of oil producing countries. Ghana's Big Test—Oil's Challenge to Democratic Development (2009) discussed and provided suggestions on the key policy, legislative and institutional reforms necessary for a transparent, accountable and efficient management of the country's oil and gas resources.

Government's preparation towards first oil production suffered a setback, following the 2009 political transition that saw the National Democratic Congress (NDC) taking over the reins of government, having

won the 2008 general elections. Some observers claim the delay was due to mistrust of the handing over notes the new government had received from the outgoing government. Others attribute the delay to lack of involvement of the opposition in the consultations that heralded the development of the governance frameworks. Be that as it may, the NDC government set out to review all that had been done by the previous government. Some PIOs, including ISODEC had to share notes with the new government to hasten the review process. In the end, Ghana lost time, such that, at the time of pumping first oil in November 2010, not a single new legislation had been put in place. The only law in operation was the Petroleum (Exploration and Production) Law 1984 (PNDCL 84), which the Oil for Development Conference had described as not fit for purpose, and therefore requiring either an overhaul or a replacement. (Interview with PWYP-Ghana, January 2021).

Concerned about the situation, CSPOG sought and obtained support from the World Bank, under the Bank's Oil and Gas Capacity Building programme, to organise a citizens' summit on oil and gas. The summit issued a communique containing specific transparency and accountability demands of government.

This was followed by a landmark report, the Readiness Report Card, an assessment of the country's readiness to efficiently manage its emerging oil industry. The report was launched in Accra, presented at Chatham House U.K., at an EITI conference in Doha, and in Washington, and quickly became a reference document of the World Bank and other international agencies with interest in Ghana's oil and gas sector. (Interview with CSPOG, January 2021).

Table 1 below, provides a chronological sequence of major interventions by Ghana's PIOs in the country oil and gas sector since oil discovery.

4 A DECADE OF PIOs IN GHANA'S OIL AND GAS SECTOR: WHAT HAS BEEN THEIR IMPACT?

This section focuses on PIOs' contribution and advocacy successes in the oil and gas sector since June 2007. Their contribution in the oil sector has been mainly in four areas: first, policy, legal, and institutional frameworks and their implementation; second, research, stakeholder forums, capacity building and training; third, environmental and social impact assessment;

Table 1 A summary of a decade of PIOs activities in the oil and gas sector

<i>Year</i>	<i>Activities</i>
2007	<ul style="list-style-type: none"> • A substantial amount of oil discovery at the West Cape Three Point
2008	<ul style="list-style-type: none"> • There was a civil society consultative meeting organised by several PIOs in Mankessim in the Central Region • This was followed by the first ever Ghana Oil for Development Conference organised by the Government of Ghana and its development partners
2009	<ul style="list-style-type: none"> • In January, the report titled Ghana's Big Test—Oil's Challenge to Democratic Development was published by the Integrated Social Development Centre (ISODEC) and Oxfam America • In March was the official formation of the Civil Society Platform on Oil and Gas (CSPOG). It was constituted by 120 individuals and 60 PIOs, which included Gender, Organized Labor Groups, Faith-Based, Media Representatives and Community Based Groups • Their overarching goal was to see an active and engaged civil society capable of articulating citizens' demands, and an active state responsive and accountable to its citizens in the governance of oil resources • They engaged with the government to create the necessary institutional framework and policies in the sector and monitored the implementation of such frameworks to ensure that the country adhered to best practices in the governance of the oil resource. They also monitored oil production, government spending, as well as, environmental impact on the citizens • GHEIT's National Steering Committee began meeting with officials from the Ministry of Energy to discuss extending the initiative to oil and gas which was completed in August 2010
2010	<ul style="list-style-type: none"> • In June, CSPOG consolidated views and positions after a citizens' summit on oil and gas organised by Oxfam America and the World Bank and issued a communiqué to the government • CSPOG and other PIOs published influential reports that have gained international media attention and raised the profile of the debate of good governance in Ghana's oil and gas sector

<i>Year</i>	<i>Activities</i>
2011	<ul style="list-style-type: none"> • In April, CSPOG published the Readiness Report Card in April 2011 in conjunction with Oxfam America. This measured the performance not only of Ghana's government in managing the challenges of the emerging oil sector but also of development partners such as the World Bank, the IMF, industry and civil society itself (Van Alstine 2014) • The petroleum revenue management bill was passed in 2011, and CSPOG successfully lobbied for the inclusion and broader participation of the Public Interest and Accountability Committee (PIAC) tasked with monitoring compliance with it (Debrah and Graham 2015) • Civil society leaders achieved another regulatory success in 2011 when the Petroleum Commission Act was enacted. This law moves the power to regulate the industry and issue new contracts and licences from the Ghana National Petroleum Corporation (GNPC) to the Petroleum Commission, a newly established independent regulator (Van Alstine 2014) • CSOs began to lobby for transparency and competitive bidding process in the exploration and production bill • The Institute of Economic Affairs (IEA) initiated the Petroleum Transparency and Accountability (P-TRAC) Index project in 2011 to track progress in the governance of the oil and gas sector. The Index is based on four aspects of the oil and gas value chain, namely; Revenue Transparency, Expenditure Transparency, Contract Transparency and management of the Ghana Petroleum Funds (P-Track 2014) • In 2011, Ghana established the Petroleum Commission to regulate the petroleum sector and to advise the government on the award of contracts and licences. ACEP and other CSOs supported the Petroleum Commission to develop a number of regulations for the sector
2012	<ul style="list-style-type: none"> • In July 2012, the IEA organised a press briefing on 'Making Ghana's Oil and Gas Resource Count' to create awareness of developments in the oil and gas industry. The media, as a component of the broader civil society, has also played a critical role in disseminating information related to the oil and gas sector. CSOs play an active role in oil governance by organising press briefings and consultative meetings bringing together government institutions, the media, academics and other public interest groups to discuss and develop proactive strategies on the management of oil for the sustainable and long-term advantage of all Ghanaians • In August, the CSPOG and others published a communiqué calling on the government to set up a time frame for the development of a long-term National Development Plan for the use of oil revenues; expedite the passage of the Petroleum Exploration and Production and Local Content and Local Participation bills; suspend the issuing of licences to both international and national oil companies until supportive legislation has been passed; and share the details of the Gas Development Plan with the public and other stakeholders

(continued)

Table 1 (continued)

<i>Year</i>	<i>Activities</i>
2013	<ul style="list-style-type: none"> CSOs such as the Institute of Economic Affairs (IEA), the Civil Society Platform on Oil and Gas and the Ghana Centre for Democratic Development have conducted capacity building workshops for government institutions and other relevant organisations in the oil and gas sector on petroleum revenue governance
2014	<ul style="list-style-type: none"> The government through the Ministry of Environment, Science and Innovation asked the Environmental Protection Agency (EPA) to set up a Committee to investigate the death of over 20 whales since Ghana began oil production in the Western Region. The Committee was made up of representatives from Ghana Maritime Authority, Fisheries Commission, EPA, CSOs and research institutions. The chairman of the committee was Professor Ofori-Danson from the University of Ghana, the leading expert on marine mammals in Ghana (FoN 2014). The NGOs from the Western Region were the Friends of the Nation (FoN) and the Western Region Development Network of NGOs (WERENGO). Their first meeting was on 12 February 2014
2015	<ul style="list-style-type: none"> On 2 June 2015, Friends of the Nation (FoN) launched its social accountability project in Shama. The project was supported by the French Embassy and the Ghana Center for Democratic Development (CDD-Ghana). The goal of the project was to increase transparency and accountability in public financial management (FoN 2015) The maiden Africa Oil Governance Summit was convened in Accra, Ghana by the Africa Centre for Energy Policy (ACEP) and endorsed by the Ministry of Petroleum at the Labadi Beach Hotel on the 23rd and 24th of November 2015. It brought together key stakeholders, development partners and civil society organisations to carefully consider the importance of ensuring proper and effective governance of all-natural resources, particularly oil and gas, which abound in Africa. The main sponsor of the summit was the Ghana Oil and Gas for Inclusive Growth (GOGIG) Programme with support from Oxfam, IBIS and the German Development Cooperation (GIZ) (ACEP 2017)
2016	<ul style="list-style-type: none"> Several CSOs made input in the Exploration and Production Bill before it was passed into law in 2016. The respondent from ACEP explained that: several CSOs were consulted in the development of the new E&P Act. ACEP, for instance, supported parliament to debate the Petroleum Exploration and Production Bill, which was passed into law in 2016. Some key recommendations ACEP proposed, and which were incorporated in the new Petroleum Exploration and Production Law, include open and competitive bidding processes and the publication of petroleum contracts (ACEP 2017)

<i>Year</i>	<i>Activities</i>
2017	<ul style="list-style-type: none"> • CSO's in the Oil and Gas sector partnered with PIAC and GHEITI to engage government and public in providing information on petroleum receipts and distribution (PIAC 2019)
2018	<ul style="list-style-type: none"> • ACEP's Oil and Gas Summit • Oil and Gas Awards by the media
2019	<ul style="list-style-type: none"> • In 2019, the policy think-tank IMANI raised concerns that Ghana risked suffering revenue losses of about US\$4.8 billion if the agreement with Aker Energy was not renegotiated as a matter of urgency. IMANI also raised issues of conflict of interest. IMANI claimed it was alleged that one of the original partners of Aker's predecessor companies, Fueltrade Ghana Limited, was owned by the Chief Executive Officer (CEO) of Ghana National Petroleum Corporation (GNPC), Dr. K. Sarpong (GhanaWeb 2019). Dr. Sarpong refuted this allegation, and the government also reacted to these claims. The Energy Minister Mr. Amewu said: 'It is curious how IMANI came by the conclusion that Ghana risks losing \$30 billion if the government does not negotiate a new petroleum agreement with Aker Energy... There is no basis for a new petroleum agreement. This is because the work that was done by Aker Energy formed part of an appraisal programme based on the existing petroleum agreement' (Graphic online 2019)
2020	<ul style="list-style-type: none"> • ACEP's Oil and Gas Summit • Oil and Gas Awards by the media

Source Authors' compilation

and fourth, media and oil and gas reporting. These are discussed in some detail in the following paragraphs.

4.1 Policy, Legal and Institutional Frameworks and Their Implementation

PIOs have since the commercial discovery of oil and gas in Ghana occupied a centre stage of the processes leading to the development of the policy, legal and institutional frameworks to manage the resources. PWYP-Ghana, prior to the discovery had pointed out the misnomer in enacting laws ahead of policies. Furthermore, the country had failed to fashion out a shared national vision for its natural resources, leading to little value addition and non-integration of natural resource extraction into the rest of the national economy. For instance, in the mining sector, the Minerals and Mining Act (Act 703) was passed in 2006, and a Minerals and Mining Policy put in place in 2014, eight clear years after the law had been passed. The concern has been that, to the extent that the laws are what operationalise policies, it amounts to illogical sequencing to pass laws before contemplating policies. Going into oil production, one observes an attempt to address this anomaly by envisioning the role of oil and gas in Ghana's economy at the government-led Oil for Development Conference in 2008. However, the fact that the Petroleum Revenue Management Act was passed ahead of the replacement of PNDCL 84 suggests that the country still has not gotten its act completely together. PIOs' contribution has mainly been through the submission of memoranda and inputs into the following legislations: Petroleum Revenue Management Act, 2011, Act 815 as amended in 2015 by Act 893; Petroleum Commission Act 2011 Act 821, Petroleum (Exploration and Production) Act, 2016, Act 919, Petroleum (Local Content & Local participation) Regulations, 2013, LI 2204, Petroleum (Exploration and Production) (Measurement) Regulations and Guidelines, 2016, LI 2246 (Coordinator, PWYP-Ghana, January 2020).

In particular PIOs, including CSPOG, NRGI and other partners fought hard to ensure that the provision in respect of the creation of the PIAC, which they had advocated for, was maintained in the final draft of the bill that was passed into law. They also contributed immensely to the elaborate disclosure provisions in the Petroleum Revenue Management Act, which has enhanced the demand-side of social accountability in Ghana's oil and gas sector tremendously. CSPOG also worked with

Oxfam America to develop draft regulations to the Petroleum Revenue Management Act, (Act 815), as part of its efforts at helping to smoothen the implementation of that law (Interview with CSPOG, January 2021).

On local content, ISODEC and CSPOG organised national consultations among PIOs on the draft local content regulations and proceeded to conduct an analysis of the draft document, on the basis of which they made recommendations as to how to enhance its provisions to pursue the objectives set out in the local content policy document.

The Petroleum Commission Act 821 requires a representative from civil society to be part of the governing body of the Commission. In 2013, the representative was Bishop Akolgo who was the Executive Director of ISODEC and also a member of the CSPOG. He represented the Platform on the Petroleum Commission Board, which is significant. This representative serves as a link between the Petroleum Commission and civil society (Debrah and Graham 2015).

PIOs have also been active in monitoring production of crude oil and its accounting. In a news report on the 8th of December 2011, CSPOG raised concern that no independent institution in the country could verify the calibrations of the newly installed flow metre on the FPSO Kwame Nkrumah, deployed for crude oil production in the Jubilee Field. In their view, after the Jubilee partners replaced the flow metre in 2011, it was found to be defective. The CSPOG pointed out that replacing the flow metre alone was not enough and that the Standards Board should be able to verify whether the metering systems on the FPSO were properly calibrated or not. The coordinator of the CSPOG entreated government to resource the Ghana Standards Board as a matter of urgency, so the production and export volumes could be tracked and monitored in order to ensure transparency in the entire oil production process.

4.2 Research, Stakeholder Forums, Capacity Building and Training

PIOs have also undertaken several research and analyses, which output have contributed to shaping national policies and laws on oil and gas. For instance, CSPOG's landmark report which assessed Ghana's readiness to effectively and efficiently manage its petroleum resources, published in 2011, served to highlight areas where progress has been made, as well as, where there was need for greater attention. The report was hailed by all stakeholders—government (MDAs), parliament, companies and CSOs as

fair and useful in providing guidance as to what needed to be done to make further progress.

CSPOG made further contribution to ensuring that the laws that had been passed were implementable, by undertaking a study that identified the potential implementation challenges of the laws passed and making recommendations for surmounting the identified challenges.

Again, some civil society organisations have been conducting expenditure analysis and making suggestions for investment strategy for the country since 2010. From field interviews, it was discovered that ACEP with the support of Oxfam, FES and others, conducted expenditure analysis of oil revenues, to confirm whether or not the money is being spent efficiently and in accordance with the Petroleum Revenue Management Act. A top official of ACEP disclosed in an interview that, the organisation and another worked on a strategy for spending the revenues and helped influence the four priority areas that the minister selected in 2014 in accordance with the PRMA² (Interview, 26th April 2013). Again, ACEP worked on an investment strategy for the petroleum funds that was sent to the Minister for consideration.

In 2015, as part of its advocacy to stem illicit financial flows from Ghana, most of which occur in the country's extractive industry, ISODEC organised a capacity building workshop to train staff of the Ministry of Finance, GRA, Petroleum Commission and Minerals Commission, on cost engineering, and how to monitor costs to prevent tax leakages in the mining, oil and gas sectors.

The impact of PIOs' activities in Ghana's petroleum sector has also been felt in the area of tools development for tracking government's performance in the transparent management of the sector. The Institute of Economic Affairs' (IEA) Petroleum Transparency and Accountability Index (P-TRAC-Index)³ has, for instance, served as a useful transparency tracking tool, that has challenged government to live up to its transparency commitments (Asafu-Adjaye 2011: 2).

² Section 21(2)(d) of the Petroleum Revenue Management Act requires the expenditures of the Annual Budget Funding Amount(ABFA) to be aligned with a long-term development plan, in the absence of which Sect. 21(3) provides a list of 12 expenditure categories from which the Minister responsible for Finance shall select four in every medium term.

³ The index, which was published in 2011, 2012 and 2014, has regrettably, ceased publication.

4.3 *Environmental and Social Impact Assessment (ESIA)*

PIOs have also been actively engaged in the promotion of good environmental stewardship. Their interventions have led to major improvements in the quality of ESIA's in the upstream oil and gas sector. A study commissioned by Oxfam at the request of CSPOG in 2009, concluded that the documentation and approach to the assessment of the environmental and social impacts of the Jubilee project were far below best or even good practice. The specific concerns raised in the report were:

- Pre-conceived conclusions;
- The use of second-hand, single-hulled tanker as FPSO, in contravention of IMO recommendations;
- Lack of assessment of potential oil spill impacts;
- Inadequate assessment of impacts on endangered species and critical habitats;
- Inadequate assessment of noise impacts on marine mammals;
- Over-reliance on historical data rather than trend data for impact assessment;
- Dumping of drilling waste in the sea; and
- Lack of demonstration of compliance with international standards (Pacific Environment 2009).

Acting on the findings of the study, CSPOG took the matter to the Board of the International Finance Corporation (IFC) and sought to delay approval for a US\$315 million loan to Tullow and Kosmos until its concerns about environmental compliance, transparency, accountability and citizens' participation had been met.

In a letter to Ghana's representative on the IFC Board, Mr. Sid Ahmed Dib, dated 16 February 2009, CSPOG and its partners protested the pending approval of the loan agreement by the IFC Board because at the time several of its standard requirements for projects such as Ghana's Jubilee Field had not been met, and the environmental safeguarding processes remained incomplete.

CSPOG dispatched its Convener at the time, Dr. Steve Manteaw, to Washington to lobby to stop the loan approval, and even though he was unsuccessful, he managed to secure the abstention of some members of the Board from the voting. Again, in the drafting of the final loan agreement, Tullow Oil and Kosmos Energy were charged to address the

concerns raised by the PIOs ahead of production. It is indeed fair to acknowledge that the two companies complied, albeit leaving behind few lingering concerns.

Ghana's EPA, which opposed CSPOG and its partners initially, subsequently came around to begin to deal with the vexed issues through reforms. It proceeded to develop guidelines tailored specifically for the oil and gas sector, and which addresses most of the concerns raised by the CSOs in their campaign against the Tullow / Kosmos loan. The EPA also addressed another major concern of PIOs, by undertaking a Strategic Environmental and Social Impact Assessment in 2012.

A great deal has changed for the better since the Jubilee ESIA. Going into the TEN project, a double-hulled tanker was deployed. It is instructive to note that, the use of a single-hulled tanker for the Jubilee project, flies in the face of IMO recommendations, and contravenes Regulation 13G of the International Convention for the Prevention of Pollution from Ships (MARPOL). MARPOL required the phasing out of all single-hull tankers above 20,000 tonnes deadweight by 2010. When it was new, the FPSO Kwame Nkrumah weighed in at 258,096 tonnes deadweight, thus its continued operation as a tanker after 2010 violated the MARPOL Convention, and its conversion into an FPSO exploited a loophole in the law.

Other improvements and strengths identified with the TEN Project's ESIA are as follows:

- Better project description including detailed timelines;
- Project alternatives well considered;
- Well researched and varied studies;
- More baseline data including primary and secondary data;
- Fisheries impact assessment very thorough;
- Adequate Social Consultation;
- More quantitative modelling of impacts.

Some civil society groups based in the Western region such as Friends of the Nation (FON), Western Region Development Network of NGOs (WERENGO) and the media have been educating and creating awareness among the community members about the oil and gas industry, and its possible impact on their livelihood in the communities. Six communities targeted are Shama, Jomoro, Ellembelle, Nzema East, Ahanta West and

Sekondi-Takoradi. The education included Environmental Impact Assessment (EIA) and monitoring of the oil industry. These PIOs have also been collaborating with the EPA and the district assemblies to ensure the enforcement of the Environmental Management Plans of the oil and gas projects.

4.4 *Media and Oil and Gas Reporting*

From the key informant interviews, it was apparent that most CSOs have adopted a strategy of co-opting the media into their campaigns. Almost all the groups interviewed either have a core media personnel they work with or have individual media personnel being members of their coalitions. The approach has led to the building of the media's understanding and specialisation on upstream oil and gas reporting.

Penplusbyte, a media focused not-for-profit tech organisation, established in July 2001, has been instrumental in building the media's capacity to competently report on the oil and gas sector. Its programme delivery is in three key areas: using new digital technologies to enable good governance and accountability, capacity building in new media and innovations, and driving oversight for effective utilisation of mining, oil and gas revenue and resources.

It has trained hundreds of journalists and other media personnel in understanding the extractive industry, using resource persons from industry, academia and the CSOs fraternity. It also maintains an online news portal—reportingoilandgas.org—through which it informs, and educates journalists and oil and gas enthusiasts on current happenings in the industry. Its acknowledgement of outstanding personalities in the industry, including reporters, has served to promote excellence.

Similarly, a collaboration between PIAC and the Institute for Finance and Economic Journalists (IFEJ), supported by GIZ has generated substantial interest in oil and gas reporting and improved the quality of reportage. Under the partnership, members of the Institute are selected for training in the monitoring mandate of PIAC and to accompany PIAC on its oil project inspection exercises.

The cumulative effect of PIOs' interventions has been the evolution of mechanisms of social accountability to citizens by the state (Goetz and Gaventa 2001; Mehrotra 2006).

5 CASE STUDIES

This section examines two state-endorsed, but different frameworks for enhancing the demand-side of social accountability in Ghana's extractive sector, in terms of how they have advanced the frontiers of transparency, accountability and enhanced the governance of the country's oil and gas sector in the last decade. These are the Public Interest and Accountability Committee (PIAC), and the Ghana Extractive Industry Transparency Initiative (GHEITI). The key questions that are addressed in these case studies are: (1) What led to the formation of these bodies? (2) What problems were they meant to solve? (3) What have been their successes? (4) What factors enabled these successes? (5) What are the challenges and learning points for the future?

5.1 Impact Analysis of the Public Interest and Accountability Committee (PIAC)

PIAC was established by the Petroleum Revenue Management Act (2011) (Act 815), following intense citizens' advocacy for a transparent and accountable petroleum revenue management framework.

5.1.1 What Led to the Clamour for PIAC?

According to CSPOG, the demand for an additional, citizens-led public oversight body to oversee the management of petroleum revenues, marked a departure from the past, when mineral revenues, were left exclusively to the Executive to manage, while Parliament exercised oversight. CSPOG argues that, the creation of PIAC signifies lost trust in the political establishment's ability to manage the revenues prudently, and in the best interest of the people, without reinforced public oversight. The idea, of an additional public oversight body, according to CSPOG, was met with an initial resistance from Parliament, which interpreted the move as amounting to a usurpation of its constitutionally mandated oversight powers. Following intense negotiations between Parliament and CSOs, a compromise was reached to establish PIAC as an advisory body to support Parliament in its oversight functions, particularly, in respect of petroleum revenues, and to withhold from the Committee, powers to enforce its decisions.

This background is useful, because in recent times, certain individuals and groups have called for the assignment of prosecutorial powers

to PIAC, clearly oblivious of the fact that, the current arrangement was based on a compromise, in view of the constitutional implications of having a PIAC that acts on its own and enforces its recommendations.

5.1.2 *What Problem Was PIAC Meant to Solve?*

From the reading of Sects. 51–53 of the PRMA, covering the establishment, objects and functions of PIAC, it is clear that the Committee was established to strengthen the demand-side of social accountability, by facilitating citizens' access to information on the management and use of petroleum revenues, and to ensure that citizens have opportunities to debate the spending prospects of these revenues.

The committee's mandate, as specifically spelt out in its statute of establishment is to:

- *Monitor and evaluate compliance with the Act, by government and other relevant institutions in the management and use of the petroleum revenues and investments, as provided in the Act;*
- *Provide space and platform for the public to debate whether spending prospects and management and use of petroleum revenues conform to development priorities as provided in Sect. 21 (3); and*
- *Provide independent assessments on the management and use of petroleum revenues to assist Parliament, and the Executive in their oversight and performance of related functions, respectively.*

5.1.3 *What Have Been PIAC's Successes so Far?*

PIAC was inaugurated on 15th September 2011, and began its operations in October 2011. Its first annual report, covering 2011, was published in 2012. As of 2020, the Committee had produced nine annual reports, ten semi-annual reports, and held eight public forums in Ho, Tamale, Takoradi, Kumasi, Koforidua, Accra, Cape Coast, and Sunyani, in fulfilment of its mandate. From 2016, with the support of the Ghana Oil and Gas for Inclusive Growth (GOGIG), PIAC expanded its public engagements, covering 61 districts in 2016, 20 districts in 2017, 12 in 2018, 22 in 2019, 8 in 2020,⁴ and still counting. Again from 2016, the Committee added physical verification of ABFA-funded projects to its activities. It

⁴ In 2020, the Committee says its public engagement plans were thwarted by the COVID 19 pandemic and its accompanying restrictions on public gatherings.

inspected 6 projects in 2016, 40 projects in 2017, 25 projects in 2018, 19 projects in 2019, and 18 projects in 2020 (Interview with PIAC's Communications Officer, 5th April 2021).

With the support of GIZ, the Committee has embarked on follow-up meetings with reporting entities on the implementation of its recommendations. This has helped to track and report on progress of implementation of these recommendations (interview with PIAC's Coordinator, 20th May 2021). A report by ACEP (2019) that evaluated the mandate, performance, and impact of PIAC, made interesting findings. The report was based on a perception survey and analysis of empirical data to validate some of the widely held views on the usefulness of PIAC. It held among others, that, PIAC's publications bring evidence closer to citizens, which are then seized upon to improve debate in the governance space. It confirmed that, PIAC's reports have increased transparency and through that, helped to manage citizens' expectations of the oil and gas industry.

The report affirmed that, PIAC has helped the Executive arm of government to effectively monitor the implementation of the PRMA, to deliver the desired results. It cites as an example, the fact that, the monitoring team of the Real Sector Division at the Ministry of Finance has, through PIAC's reports, followed up on, and confirmed PIAC's findings on the status of ABFA-funded projects for governmental action. A further example is the fact that, through PIAC's reporting and analysis, the Ghana Revenue Authority was supported with information to retrieve surface rentals from defaulting companies.

Some vox populi⁵ statements used to convey citizens' assessment of the successes of PIAC over the past ten years are presented here:

Parliament has been able to interrogate issues, thanks to PIAC. Parliament calls the Ministry of Finance twice every year to engage on PIAC's reports.
(Parliament)

PIAC's publicity of non-payment of surface rentals provided valuable grounds for further checks and recovery by the Auditor General. PIAC's work contributed to additional oil and gas revenue capture or averted revenue losses in payments of surface rentals by IOCs. (Audit Service)

⁵ A Latin phrase, meaning voices of the people. Vox Populi or vox pop for short, is used to convey the general sentiments of a section of the population on an issue.

PIAC is a blessing for Ghana – it has prevented and forestalled calamities in the sector. Some projects don't get done, and the MoF doesn't [always] go to the ground, but PIAC does. Government meets to oversee what PIAC does, looks at PIAC's recommendations ... and acts accordingly. For instance, PIAC recommended that the Ghana National Petroleum Corporation [GNPC] stop sponsoring football and concentrate on its responsibilities. The government acted on those recommendations accordingly. (Government)

The creation of PIAC has greatly improved petroleum revenue management. PIAC has coordinated and validated activities and data from all the petroleum reporting institutions, generated debate on the management of revenues, served as a platform for advocacy by CSOs and reached out to the citizenry with information on the management of revenues. (PIAC)

There have been some marginal improvements in the transparency and accountability of oil and gas revenues which is largely contributing to improvements in the effective management of petroleum revenues and investment in Ghana. Relative disclosure has been brought to bear on the projects to which resources have been applied. To this end, PIAC has contributed significantly. However, there is more to do. (Oil and Gas Company)

In summary, there's no disputing the fact that, PIAC has substantially lived up to its calling, and examining what the success factors have been, helps in drawing lessons and building on the momentum.

5.1.4 What Factors Have Enabled PIAC's Successes?

According to PIAC, it owes its success story to donor support, particularly the German Development Cooperation (GIZ), the Natural Resource Governance Institute (NRGI), Ghana Oil and Gas for Inclusive Growth (GOGIG). The Committee notes that, between 2011 and 2015, it virtually had to fend for itself. It became 'homeless' in 2014 because of the refusal of its landlord to renew its tenancy upon expiry. With no money to rent another place immediately, PIAC had to temporarily relocate to NRGI, until such time when it was allocated funds to rent a new office accommodation. In those difficult years, GIZ, World Bank, and international NGOs (NRGI and Oxfam America) provided capacity building support. DfID/GOGIG provided a 5-year support amounting to GHS 1.57 million. The support package enabled PIAC to augment its staff numbers from one to four in 2015, and to begin the process of providing

a proper institutional back up for the Committee. But for the intervention of these development partners, PIAC would have been ‘pronounced dead on arrival’.

Furthermore, the Committee believes advocacy by Ghanaian CSOs, working in concert with the local media, was instrumental in getting government to amend the PRMA in 2015, to among other changes, charge PIAC’s budget directly to the ABFA.

In 2016, the government provided the Committee with a Land Cruiser Prado, which was deployed for project inspection and outreach activities of the Committee. In 2019, the government assisted the Committee to acquire a permanent office, helping to consolidate its institutionalisation.

Other success factors gleaned from interviews with some past members of PIAC are: Committed members, bold leadership, and highly qualified and dedicated staff.

PIAC members are mostly full time workers in their respective professions, and yet, they make time to attend to the demands imposed on them by virtue of their membership of the Committee. Though regular meetings are scheduled quarterly, and interspersed by sub-committee meetings, they can be as frequent as monthly, depending on the exigencies of the time, and could last all day. Project inspections could take members away for up to two weeks at a stretch. For very busy professionals, this cannot be a trivial sacrifice. The Committee’s report used to be produced by consultants, but since 2018, having built enough capacity among the secretariat staff and members, the Committee took complete charge of its reports preparation, adding to the workload of the Committee. It is common knowledge that, the quality of PIAC’s reports has improved substantially since it started putting them together by itself.

PIAC’s leadership has so far been bold, impartial and uncompromising. Its ability to speak truth to power anytime the PRMA had been infringed, has endeared it to a broad section of the Ghanaian population, with many demanding that the Committee is granted powers to enforce its recommendations.

Finally, the Committee has spent a great deal of resources in building the technical capacity of its staff, including sponsoring some to training programmes at the NREGI advanced training in oil and gas governance, at the University of Central Europe.

5.1.5 *What Are the Challenges that Have Confronted the Exercise of PIAC's Mandate?*

The successes notwithstanding, PIAC has over the years been saddled with some challenges that have limited its ability to exact accountability in Ghana's oil and gas sector. Graham et al. (2019) identify some of these limitations, including: sustainable funding, lack of clarity in some provisions of the PRMA 815, the inaction of the government on some of its recommendations, and the delayed passage of Regulations to operationalise the PRMA and facilitate the interpretation of the Act and its 2015 amendments. Added to these, is a weak sense of ownership, on the part of the citizenry.

Sustainable Funding

As discussed earlier, a major challenge to PIAC's operations has been erratic, and sometimes, lack of adequate funding. Even though this appears to have eased substantially, with the passage of the Petroleum Revenue Management (Amendment) Act, 2015 (Act 893), which charges PIAC's budget directly to the ABFA, and also takes away Ministerial discretion over PIAC's budget, there have been instances where the Committee has been impressed upon by the Ministry of Finance to cut back on its budget, or to subject its budget for Ministerial review (Interview with a former Chair of PIAC, December, 2020).

Act 893 amended Sect. 57 of Act 815 to read: 57(1). The Accountability Committee shall submit a budget on the annual programme of the Committee to the Minister for Inclusion in the annual national budget.

(2) Members of the Accountability Committee shall be paid allowances determined by the Minister.

(3) Subject to subsection (1), the budget on the annual programme of the Accountability Committee shall be a charge on the Annual Budget Funding Amount for each financial year.

Act 893 sets a clear limit to the Finance Minister's discretionary powers over PIAC's finances i.e. only to the extent of determining members' allowances. With respect to operational budget, the law requires PIAC to only submit for inclusion by the Minister thus, precluding the Minister from determining or reviewing its budget. PIAC contends that this is important because the Minister is likely to be a subject of PIAC's investigations, and so should obviously not be the one approving the Committee's budget. If this is the general understanding of the Ministry of

Finance and Parliament, then of course the concern about unsustainable funding of the Committee will be without basis.

Lack of Clarity in Some Provisions of the PRMA (Act 815)

There have been moments when the government has disagreed with PIAC on the interpretation of certain provisions of the PRMA. For instance, on 28th June 2018 the Daily Graphic⁶ reported that, PIAC had indicted government of breaching Sect. 21(4) of Act 815, which provides that: ‘For any financial year, a minimum of 70percent of the Annual Budget Funding Amount shall be used for public investment expenditures consistent with the long-term national development plan or with subsection (3)’.

According to the Graphic, PIAC disclosed in its 2017 Annual Report that in 2017, government spent a mere 37percent of the allocated ABFA on public infrastructure/capital projects, and so, indicted the government for violating the statutory requirement to spend a minimum of 70percent (Daily Graphic, 28 June 2018).

In a rebuttal, titled, ‘PIAC Got It Wrong — Government’, which was published in the Daily Graphic, the then Minister for Information, Dr. Abdul-Hamid, said the total amount utilised was GH¢332.29 million, well within the budget ceiling of GH¢796.32 million, representing about 41.7% utilisation.

That, he said, was well within the allocation for the year. He further explained that ‘what remains is a balance of GH¢464.02 million for 2017, which is the available balance’. He argued that ‘it is clear that PIAC’s interpretation of Sect. 21(4) of the PRMA relates to the amount spent, rather than the amount received. The law does not refer to expenditure but the ABFA in totality’.

In what appeared to have been a raging battle, PIAC came back strongly to insist on its findings, arguing in an interview granted Kasapa Fm, on 28th June 2018, that, ‘Government has no defense in its breach of the Petroleum Revenue Management Act’. On another occasion, PIAC and government were caught in dispute over what to do with unexpended ABFA allocations. While the Ministry argued that, it was mandated by the Public Financial Management Act 2016 (Act 921) to return it to the

⁶ Ghana’s largest circulating and arguably most authoritative newspaper owned by the state.

treasury's main account, PIAC maintained that it ought to be returned to the Petroleum Holding Fund for re-budgeting, in order to enable the Committee to track its future use (interview with a former Chair of PIAC, December 2020).

These and other seemingly ambiguous provisions in the PRMA have been brought to the attention of the Ministry of Finance and are currently under consideration for future amendments.

Government's Inaction on the Recommendations of PIAC

From the several interviews held, it is apparent that, PIAC has been very successful in ensuring transparency in the management and use of Ghana's oil and gas revenues, but has not managed to make that critical transition from transparency to accountability. While PIAC may make essential recommendations to the government to rectify adverse findings on compliance with the PRMA, it appears that PIAC's recommendations are not binding on the government (Anaman et al. 2019). The Business and Financial Times (1 September 2020) reported that, PIAC had expressed dismay about the lack of prosecutorial action on its findings, and was therefore urging Parliament to bring its oversight mandate to bear on the Ministry of Finance's impunity and failure in accounting for unutilized ABFA. It also called on the office of the Attorney General to pursue individuals and organisations that breached or misappropriated petroleum funds.

The expectation of many citizens had been that, the state accountability institutions would take interest in the findings of PIAC, and take the needed remedial action to ensure compliance. However, they have failed to initiate action towards sanctioning offenders, according to PIAC.

Delayed Passage of Regulations to Operationalise the PRMA

Although the PRMA under Sect. 60 provides for the Minister for Finance to make regulations for the effective implementation of the law, it was only in 2019, eight years after the passage of the parent Act, that the Regulations (LI. 2381) were enacted. PIAC believes that, a timely enactment of the Regulations would have better operationalised the PRMA to prevent most of the compliance challenges encountered (PIAC 2020).

Weak Sense of Ownership on the Part of the Citizenry

The expectation that when information on the management and use of petroleum revenues becomes available to the citizenry, they will be armed to demand accountability from duty bearers has so far proved somewhat illusive. The Committee has often been left to defend itself whenever it has come under attack from government. None of its constituent organisations has ever risen to its defence. Very few even use the information in their public advocacy. It is apparent from interviews with some PIOs that, PIAC is often seen as a governmental nomenclature rather than a PIO. The Committee appears to be aware of this, and has therefore instituted an annual general meeting of its constituent member organisations to reinforce a sense of ownership in them.

5.2 Impact Analysis of GHEITI

The Extractive Industries Transparency Initiative (EITI) was launched at the World Summit on Sustainable Development in Johannesburg in 2002. It is seen largely as part of the global efforts at reducing extreme poverty in developing countries through improved governance of natural resource revenues. Ghana signed on to it in 2003 and has since produced 21 EITI reconciliation reports, 14 for mining and 7 for oil and gas.

5.2.1 What Led to the Clamour for GHEITI?

Former UN Secretary General, Kofi Annan, once noted that, the wrong decisions, and the manner in which they are made, in terms of investment, employment, community relations, environmental concerns and resettlement obligations, on the part of government and corporate bodies, have pushed many extractive sector businesses into conflict with the communities in which they operate. These conflicts, he observed, have often been aggravated by the massive corruption and the lack of transparency associated with the distribution of the wealth generated from the extractive sector.⁷ Ghana indeed, signed on to the EITI in response to citizens' demand for transparency and accountability in the management and use of extractive industry revenues. It was believed that by ensuring public

⁷ Former UN Secretary General, Kofi Annan, in a foreword to a manual on Conflict-sensitive Business Practice, compiled by International Alert in 2005.

disclosures of company payments and government receipts of extractive revenues, the citizens would be empowered to demand accountability in terms of how these revenues are used by the government, and this would in turn lead to a more prudent use of these resources and prevent large-scale embezzlement of the revenues.

5.2.2 *What Problem Was GHEITI Meant to Solve?*

A major challenge confronting many natural resource dependent countries, especially in Africa, parts of Asia, and in Latin America, is how to use their natural resource wealth to fundamentally transform their national economies, generate growth and help reduce extreme poverty among their citizens. Humphreys et al. (2007) argue that the problem arises partly as a result of governments embarking on the indiscriminate consumption of revenues accruing from their natural resource exploitation. Such consumption, they contend, amounts to consumption of capital rather than income and therefore leaves the resource owners poorer over time. Of course, linked to this problem, is the issue of poor quality of spending and abuse, arising out of opaque and unaccountable decisions around spending. The stated objective of GHEITI, therefore, is to enhance the development outcomes of the mining sector and to ensure that the sector contributes positively to the poverty reduction efforts of the state. GHEITI is therefore essentially a Public Interest Organisation but of a hybrid nature, comprising government, extractive industry companies and Civil Society Organisations. This tripartite arrangement has the common objective of promoting citizens, access to information on mining, oil and gas, and ensuring the optimum use of extractive industry revenues by government. Unlike PIAC, GHEITI is a voluntary initiative, and therefore not backed by any legislation.

5.2.3 *What Have Been GHEITI's Successes so Far?*

GHEITI's achievements have been recognised globally. In 2016, the EITI global conference in Peru acknowledged GHEITI as a Star Performer in using EITI to influence policy reforms, and in 2017, it was again, acknowledged by the Global Beneficial Ownership Conference in Jakarta, Indonesia, as having made the greatest strides in the shortest time, towards establishing a Beneficial Ownership regime.

Some of the reforms initiated at the instance of GHEITI are:

- Variation of the mineral royalty rate from a range of 3–6%, to a fixed rate of 5%;
- Revision of the corporate income tax rate for mining, from 25 to 35%;
- Revision of the mining sector capital allowance recovery rate, from a straight line depreciation at a rate of 80%, with carried forward losses, to 20%, recoverable over 5 years;
- Renegotiation of stability agreements of Newmont and AngloGold Ashanti;
- Development of guidelines for CSR in mining.

GHEITI has also helped to expose institutional weaknesses in the collection of mining-related taxes, particularly, Capital Gains tax.

For most of the GHEITI stakeholders interviewed (5 out of 7), the most important achievement of the initiative is that, it has enhanced stakeholder dialogue. Mining communities have little incentive to take to the streets to have their issues resolved. GHEITI, they claim, has provided the communities, and CSOs a platform where their issues are deliberated upon and appropriate recommendations made to government for the necessary action.

All of the GHEITI stakeholders that were interviewed, agreed that, GHEITI has been very useful in providing lessons for Ghana's oil and gas sector.

Some of the lessons provided by GHEITI in formulating Ghana's oil and gas policies and laws are:

- Disclosure provisions in PRMA;
- Management of price volatility;
- Savings;
- Open contracting;
- Licence register/cadastral system;
- Access to contracts.

5.2.4 What Factors Have Enabled GHEITI's Successes?

A number of factors have combined to make GHEITI's mission a success. First, is the fact that, the initiative has consistently received donor funding, initially from the World Bank-managed Multi-Donor Trust Fund (MDTF), subsequently from GIZ/Seko, GOGIG, NRGI, and lately from

the World University Service of Canada. The government of Ghana has also been very supportive and has provided some modest budgetary support to the initiative. This has enabled GHEITI to carry out most of its planned activities, year-on-year.

Again, the Multi-Stakeholder Group (MSG), which serves as the governing board of GHEITI, has been exemplary in its commitment and dedication to the course of the EITI. The MSG has not only facilitated access to data for the compilation of the GHEITI reports, but has also availed itself for outreach activities, and has actively participated in policy roundtable conferences in search of solutions to emerging issues from its public engagements.

Another major factor that has enabled GHEITI's achievements is government's responsiveness. Government has stayed the course of using GHEITI as a tool to initiate reforms in Ghana's extractive industry, a commitment that, as already noted, has gained international recognition. Some stakeholders have argued that, government's responsiveness to GHEITI's recommendations is largely because government itself is represented on the GHEITI MSG, which makes it easy to own and implement the recommendations arising out of GHEITI's reports (Interview with GHEITI Coordinator, December 2020).

The GHEITI Secretariat however believes its successes are as a result of its purposeful follow-up on its recommendations with the implementing agencies of state. GHEITI has always had it, as part of its annual activities, to convene follow-up meetings with MDAs responsible for carrying out specific recommendations from GHEITI's reports, and this is believed to be responsible for the several policy and legislative reforms in the sector.

5.2.5 *What Are the Challenges that Have Confronted the Exercise of GHEITI's Mandate?*

The scope of the EITI remains narrow in spite of recent decisions taken in 2013, 2016 and 2019 to broaden it. Social, human rights and environmental concerns are outside the remit of the EITI. In particular, issues of crop compensation, unaccountable traditional authority, environmental cost and compensation, livelihood insecurity, and human right abuses perpetrated by mining companies, often in tandem with state security agencies, remain the primary concerns of many a host community. The 2019 EITI Standard has made environmental disclosures a requirement of EITI implementation. Human right issues are still not covered, but GHEITI has taken a decision, to use the Voluntary Principle on Human

Rights and Security, to address human right concerns of mining host communities.

GHEITI believes it cannot continue to count on the benevolence of donors, looking into the future, especially as the GHEITI budget continues to increase with the addition of more reporting requirements. This raises some concerns about its sustainability, from the point of view of funding. Besides, GHEITI has complained about the fact that its request for data from reporting entities is not attended to expeditiously because the initiative is not backed by any statute. Companies, for instance, will attend to statutory obligations before responding to GHEITI's requests (Interview with GHEITI Administrator, January 2021). To deal with the sustainability challenge, GHEITI attempted to have the initiative legislated. However, in recent times, it has devoted much more attention to mainstreaming, also referred to as systematic disclosures.

Some stakeholders tend to see GHEITI and PIAC as duplication. However, GHEITI disagrees. The GHEITI Secretariat explains that it is under obligation to ensure that it only works with data that has been audited to international auditing standard, while PIAC is at liberty to work with real time data. Besides, it says the GHEITI mandate covers both oil and gas, and mining, while that of PIAC covers only oil and gas revenues.

GHEITI may not be the solution to all the problems in the extractive sector, but, at least, it presents opportunities for addressing several of the transparency, revenue management and utilisation concerns in the sector.

5.3 Challenges Faced by PIOs Monitoring the Oil and Gas Industry

The major challenges confronting PIOs and civil society in the performance of their monitoring role in Ghana's oil and gas sector in the last decade have been identified through key informant interviews, conducted in 2013, and confirmed in December 2020, through follow-up engagements with some of the key respondents. The challenges are presented and discussed as follows.

5.3.1 Access to Information

All the respondents (16 out of 16) from civil society, made up of eleven (11) from Accra and five (5) from Western Region, mentioned access to information as the main challenge at the early stage of the oil discovery, a

factor that persists even today. They lamented that during the early stages of the discovery, there were some consultations that went on without the involvement of civil society and PIOs. Consequently, some PIOs such as ISODEC and others had to insist and make some demands on government and other stakeholders for them to be a part of the process. This yielded results, with the government eventually opening up to PIOs engagement. On the other hand, all the five (5) respondents from the Western Region, said access to information was a challenge and not just that, but also, the little information that came through tended to be too technical and difficult to understand (Debrah and Graham 2015). A couple of the respondents both in Accra and Western Region indicated that the only way they got information, if not through the front door, was through the backdoor or through ‘whom you know’ (Debrah and Graham 2015). In addressing these challenges, some mentioned that they have been, and are still advocating for the Right to Information Bill to be passed in Parliament for them to get access to the necessary documents in order to make their work easy and effective (Debrah and Graham 2015). The Right to Information law has since been passed, but yet to be fully operationalised.

5.3.2 *Capacity Building*

Weak technical knowledge and analytical skills have posed a substantial challenge to CSOs interested in monitoring the oil and gas industry. Fourteen (14) out of sixteen (16), representing 88percent of respondents, expressed the view that, lack of capacity building in this highly specialised and technical industry remains a challenge. The fourteen (14) comprised nine (9) civil society groups from Accra and five (5) from Western Region. (Debrah and Graham 2015). A member on the Platform expressed the view that, skill sets needed for research and advocacy are very expensive on the market and their ability to hire and retain high calibre researchers, policy analysts and experts is a major challenge, and with the declining nature of donor funding, the Platform and civil society at large, has lost some of their highly skilled staff from the mining and oil industry (Debrah and Graham 2015). Some members from civil society both in Accra and Western Region stated that, they have tried to address this challenge in a very minimal way through workshops and some training for their staff.

5.3.3 *Extent of Outreach*

Some of the respondents said they faced the challenge of reaching out to a broader constituency, particularly those in the hinterlands. They explained that they could have done more with public awareness before the PRMA bill became law. Most of the respondents from the Western Region lamented that, mobilisation of members also has been a challenge. They mentioned that, several of the conferences and meetings organised by civil society groups are often held in Accra and so participation for some of them has been difficult. In addressing the general challenge for making more impact, some cited the use of the media, newspapers and the use of video documentaries. On addressing the issue of mobilisation, some respondents said they used contemporary modes of communication such as phone, internet, and others, instead of going directly to the communities and meeting with them (Debrah and Graham 2015).

5.3.4 *Political Tagging*

Political tagging is a situation where civil society members are characterised or branded as anti-government or working for the opposition party, when they appear overly critical of the ruling party. African governments tend to see civil society as another kind of opposition, simply because they might not be singing the praises of the government. In Ghana, the story is not too different. A large number of respondents representing 94percent, which is fifteen (15) out of sixteen (16) from civil society groups involved in the oil and gas industry, mentioned that, at the early stages of the oil discovery, government's engagement with them was minimal, simply because their intentions were misunderstood. Eventually, upon pressure put on the government by civil society, government opened up to civil society in the oil and gas industry (Debrah and Graham 2015). However, the stigmatisation is still a challenge. A few respondents from civil society mentioned that their critique of the Ghana National Gas Company, as a limited liability company with total funding from public coffers, which makes it difficult for public oversight and supervision, has not been well received by the Chairman of the company and some members of government (Debrah and Graham 2015). Some members from civil society expressed the view that, these issues sometimes make them want to stop playing their roles. According to a member of the platform on oil and gas, addressing stigmatisation, has been through quality research, consistency in articulating advocacy positions and open-mindedness (Debrah and Graham 2015).

5.3.5 *Diminishing Funding*

Some of the respondents from Accra admitted that at the early stage of the oil discovery, funding was not a challenge because they received some funds from the World Bank, Oxfam, FES, Revenue Watch Institute, GIZ and many more. Others mentioned that they received technical support from experts from both Ghana and abroad, through some of the country's development partners. However, a few respondents, two (2) out of five (5) from the Western Region, mentioned that they received no funds at all at the early stage (Debrah and Graham 2015). After the Petroleum Revenue Management bill was passed into law, members from both civil society groups based in Accra and Western Region, mentioned that sources of funds have been decreasing. Faced with these challenges, some groups have abandoned some projects that they started. Generally, the issue of funds has affected the motivation that civil society groups had at the early stage of the oil discovery.

6 CONCLUDING REMARKS: HOW TO SUSTAIN PETROLEUM SECTOR TRANSPARENCY AND ACCOUNTABILITY AND IMPROVE IMPACT

Based on best practices, identified challenges, and lessons from Ghana's decade long experiment of working with Public Interest Organisations, including CSOs, media, PIAC and GHEITI, the following suggestions are offered to sustain and continually improve petroleum sector transparency and accountability.

First of all, government should consider removing all remaining obstacles to information access in the country's oil and gas sector. Urgent steps ought to be taken to establish the required nomenclature, and to adequately resource it, to fully operationalise the Right to Information Act, which was passed in 2019. Government should, as a matter of policy, refrain from entertaining non-disclosure or confidentiality clauses in petroleum agreements, as that limits citizens' ability to fully scrutinise such agreements. Again, passing the Witness Protection Bill will embolden citizens to volunteer information that will help prosecute public office holders who mismanage or misappropriate petroleum revenues.

Secondly, government should support skills acquisition by civil society, by setting aside a portion of the petroleum revenues (Annual Budget Funding Amount) to finance their training both home and abroad. Such

support can be provided in collaboration with some of the country's development partners, such as Oil for Development of Norway and NRGI, who are noted for providing the required training and capacity development programmes. Such collaboration will help to substantially reduce the cost of training for the CSOs.

Thirdly, there is an urgent need to review the Petroleum Revenue Management law to rid it of all identified ambiguities, which have over the period of its implementation, generated controversy between PIOs and the government. It is important that the proposed review considers sanctions for the Minister of Finance for violations of the law, especially, as he bears ultimate responsibility for all actions and omissions of the Ministry. This is the surest way of curbing impunity in the management and use of petroleum revenues.

Fourthly, Government should desist from being overly suspicious of civil society as it performs its surveillance role. Political tagging serves no useful purpose, save to mute dissent over policy choices, with its attendant risk of miscalculation and imprudent decisions. State institutions are encouraged to collaborate with civil society, in the national interest, as it monitors the progress and implementation of petroleum laws. This will enable the country achieve the objects set out in the laws.

Again, it appears that with the advent of the COVID 19 pandemic, and its announced containment measures, the social mobilisation activities of CSOs around issues of national importance have been restrained. Fortunately, though, new media provide great new opportunities for engaging and mobilising for policy engagements. CSOs are encouraged to acquire these technologies and to deploy them in their work. Facebook, Twitter, WhatsApp, Telegram, are some of the new tools that readily lend themselves for public discourses and policy engagements.

The challenge of diminishing funding sources for citizens' activism and policy engagement could be dealt with, if civil society appeals for donations from citizens and philanthropists who value the work they do. The voluntary contributions could be put into an account to be created by a coalition of civil society organisations working in the oil and gas sector and used to support their monitoring and advocacy activities. This must be done in a transparent way for all to see, and monitored by publishing quarterly reports on the money received and the expenditures made.

Finally, PIOs in Ghana are encouraged to mobilise Ghanaians around the need to have a long-term development strategy to which petroleum revenue expenditures would be aligned. This is a requirement of the

PRMA. Section 21(4) of the PRMA instructs that: ‘for any financial year, a minimum of 70% of the Annual Budget Funding Amount shall be used for public investment expenditures consistent with the **long-term national development plan** or with subsection (3)’. Subsection (3) provides a list of 12 expenditure areas, where in the absence of the long-term development plan, four priority areas would be selected in every medium term for ABFA-related expenditures. The fact that, it’s been ten years already since the PRMA was enacted, without a nationally adopted long-term development strategy/plan, suggests that without pressure from the citizens, politicians will continue to opt for the fall-back position in expending petroleum revenues, as that gives them more discretion to serve their partisan political interest. Indeed, in 2016, the NDC government started a process of developing a 40-year long-term development strategy, but this was jettisoned by the new government after the 2017 political transition.

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The Social Injustices of Ghana's Oil Industry

Jasper Abembia Ayelazuno and Ishmael Ayanoore

1 INTRODUCTION

A true revolution of values will soon look uneasily on the glaring contrast of poverty and wealth. With righteous indignation, it will look across the seas and see individual capitalists of the West investing huge sums of money in Asia, Africa and South America, only to take the profits out with no concern for the social betterment of the countries, and say: "This is not just." (Martin Luther King Jr., cited in Jobin 2003: 424–425)

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Ghana discovered and started producing oil and gas in 2007 and 2010 respectively, off the shores of its Atlantic Ocean in the western part of the country. The oil and gas industry has spawned a groundswell of hope, if not euphoria, about its development prospects for the country. For these prospects to crystallize, development actors—encompassing the Ghanaian state, scholars, civil society, Western multilateral and bilateral development institutions—have been concerned about the design of the requisite institutions to govern the industry efficiently (Gyimah-Boadi and Prempeh 2012, Van Alstine 2014, Adams Ullah et al. 2019). The expectation is that good institutions can help to avert the looming danger of Ghana getting drowned in the ‘devil’s excrement’ of oil, to borrow the evocative formulation of Juan Pablo Pérez Alfonzo, the Venezuelan founder of OPEC (Starr 2007). For example, the World Bank and Norway offered Ghana a loan of US\$38 million and US\$15 million, respectively, to help build capacity, particularly around the management of oil windfalls (World-Bank 2010). A similar support flowed from the UK Department for International Development (DFID), with £13.6million to fund the ‘Ghana Oil and Gas for Inclusive Growth’ project.

The concerns over the good governance of Ghana’s oil and gas natural resources are legitimate and well-founded, considering the dismal records of mismanagement and misuse of oil revenues in oil-rich African countries such as Nigeria, Angola and Equatorial Guinea, to name a few, that have led to disastrous consequences for their respective economies and citizens. Yet, this chapter argues that an ideally well-governed oil and gas industry in Ghana is not a panacea to the social injustice and unequal access to benefits associated with the industry. While a well-governed oil and gas industry can curtail the resource curse ever looming in Africa, this focus on getting the institutions right does not guarantee a just and equitable distribution of benefits, neither does it safeguard against the ills associated with the industry. Probing below its surface, a well-governed oil industry in a competitive clientelist democratic setting as Ghana may actually drive and mask the prevailing social inequities and injustices of the industry, which we document below. Even within oil-rich Western democratic countries, as the cases of USA and Canada reveal, a well-governed oil and gas industry can serve to shape and (re)produce the power relations which wreak, for example, environmental and social injustices upon the marginalised and powerless segments of the society (LeQuesne 2019).

The factors that account for why a well-governed oil and gas industry may not necessarily lead to the equitable distribution of its benefits nor

safeguard against its ills are closely linked to the unique nature and dynamics of what Watts (2012) conceptualised as the ‘oil assemblage’. The dynamics shaping the oil assemblage are thoroughly capitalist in form and thrust, characterised by the relentless chase for super-profits by transnational oil companies and other cognate profit-seeking elements of the assemblage. Both this imperative and the actors and processes constituting the oil assemblage are intrinsically exploitative and dispossessive, environmentally and socially deleterious, and prone to political corruption and malfeasance (Watts 2012: see also Mitchell 2009, 2011; Gillies 2019, 2020).

This chapter formulates a radical perspective of social (in)justice and (in)equity, with which it maps out and elaborates the injustices and inequities within Ghana’s oil and gas industry at two interrelated levels—global (international) and national (local). It does so by critically exploring the political-economic literature on the injustices and inequities that characterise the capitalists’ incentives underlying oil and gas extraction, zeroing into an analysis of both secondary quantitative and qualitative data on these conditions as they pertain within Ghana’s context. The conclusion proposes some political interventions by advocating specific radical strategies to promote equity and social justice at both the global and national levels. In so doing, we hope to make fresh contributions to the discourse around the development opportunities and challenges of the Ghanaian oil and gas industry, particularly through transcending the dominant resource curse debate to provoke a rethinking around issues of social justice and equity, which are so often given fleeting mention, if at all, in the extant literature.

2 CONCEPTUALISING SOCIAL (IN)JUSTICE AND (IN)EQUITY

Social justice and equity are normative or value-laden phenomena, characterised by one’s norms or/values of what constitutes morally just, fair and equitable behaviour or social order. The definition is also based on one’s view of what constitutes just, fair and equitable sharing of benefits and cost between actors in a social relationship or in a society (Jost and Kay 2010, Hatfield et al. 2011). What constitutes injustice and inequity, however, varies from person to person, society to society, ideology to ideology and so on. In simple terms, social (in)justice and (in)equity are not only ‘inherently socially constructed’ (Schroeder and McDermott

2014: 31), but are a highly contested and hotly debated phenomena, both conceptually and politically (Boucher and Kelly 1998: 3). However, only a few people will disagree that questions and debates on social equity and justice often revolve around morality and moral standards of behaviour. In that sense, social justice and equity are universal social phenomena, the notions and practices of which are found in all societies and cultures, with all individuals having some sense of what is fair, just and equitable, and vice versa (Hatfield et al. 2011). For example, social psychologists have documented that all human beings possess the ‘justice motive’, notwithstanding their self-preservation and selfish instincts (Jost and kay 2010: 1125).

In this chapter, we adopt a radical or Marxist perspective of social (in)justice and (in)equity, distilled from the writings of Karl Marx. His writings offer us the idioms and concepts for advocating substantive justice and equity in the rather inherently unjust and inequitable oil and gas assemblage. Marx’s voluminous work, theorising capitalism and criticising bourgeois political economy is enriched with the nuggets of social justice and equity which are based on rigorous scrutiny of the capitalist system, but simultaneously, offers a radical perspective that cast light on what Sen (2009) conceptualised as ‘remediable injustices’ and how these might be eliminated through struggles within a capitalist space as the oil and gas industry. There is no space here to outline Marx’ deep insights on the injustices and inequities of the capitalist system, let alone engage critically with debates on his ideas and politics of justice. It suffices, here, to provide a collage of his thoughts on these matters.

Unlike those who argue that Marx did not pronounce capitalism as unjust, nor analyse it from a moralist perspective (see e.g. Wood 1972, 1991; Igwe 2018), we take sides with those who contend that he did. Despite Marx’ scientific approach to analysing capitalism, he was politically concerned about the immoral and unjust nature of capitalism, expending a great deal of effort delineating the key characteristics of the injustices herein, and why and how it might be changed to a more just and equitable order of production and distribution of social surplus (Geras 1985, 1995; Daly 2000; Cowling 2018).

Drawing on Norman Geras’s Marxian political philosophy, it is clear that Marx was concerned about human nature and progress—human beings are by nature, social beings who depend on social relations and enter into various relationships to (re)produce themselves materially and socially (Geras 1995; Cowling 2018; see also Daly 2000). For example,

human beings enter into all forms of social relations to produce the goods and services they need for survival. However, these relations of production are never free of asymmetric power relations, exploitation and alienation; posing a fundamental question of what is morally acceptable by the universal qualities of human nature and progress. For Marx, there are universal human needs which, ideally, the organisation of (re)production of material life should serve. Summarised by Norman Geras, these universal human needs include:

Food, clothing, shelter, fuel, rest and sleep, hygiene; 'healthy maintenance of the body', fresh air and sunlight, intellectual requirements, social intercourse, sexual needs insofar as they are presupposed by 'relations between the sexes', the needs of support specific to infancy, old-age and incapacity, and the need for a safe and healthy working environment (Cowling 2018: 68)

Based on his normative standards of human nature and progress, Marx's theory and politics of justice revolved around the violent, exploitative and rapacious profit-making nature of capitalism as a system of (re)production of material and social life. For Marx, these capitalist conditions and the dynamics shaping its mode of production are inherently in conflict with social justice and equity. For example, Marx was at pains to amplify the violent and immoral processes that gave birth to capitalism—primitive accumulation. One of the characteristics of primitive accumulation is the violent means used to create the conditions for the birth of the poor working class, having nothing but their labour power to sell for survival. He writes: '*If money, according to Augier "comes into the world with a congenital blood-stain on one cheek", capital comes dripping from head to toe, from every pore, with blood and dirt*' (Marx 1867: 925–926). Politically, Marx was concerned about the emancipation of the exploited, particularly, capitalist exploitation; a condition he described in various idioms—'*robbery*', '*theft*' and '*embezzlement*' (Geras 1985; Daly 2000; Cowling 2018).

Seeing workers as the producers of surplus value, which is appropriated by the capitalist class, Marx viewed this as wrong and unjust. Thus, Marx speaks of the annual surplus product '*embezzled from the English workers without any equivalent being given in return*'. He contends that '*all progress in capitalist agriculture is a progress in the art, not only of robbing the worker, but of robbing the soil*'. He deployed rhetorical devices such as

‘the booty pumped out of the workers’, the ‘*total surplus-value extorted*’, the ‘*common booty*’ and the ‘*loot of other people’s labour*’ (Geras 1985: 57; see also Daly 2000: 363–364) to amplify the exploitation of workers by capitalists. Marx proposed a more humane, just and equitable alternative system of production; that is ‘*a classless productive system, one which would be a fully human approach to meeting the fullness of human needs, the physical, the moral, and above all the ontological – that is, the radical human need to become fully human, to fulfill human potential in a human way, in community*’ (Daly 2000:366). As noted by Geras (1995: 153–154), Marx reasoned that this alternative system of (re)production should be driven by the fundamental goal of ‘*meeting the basic needs of human beings for survival and healthy activity, and of eliminating the world from ... terrible cruelties and oppressions*’. Essentially, Marx proposed and advocated for a need-based and redistributive justice.

Exploitation and its immoral and unjust nature are not limited to the relations of production between the capitalist and working classes, but may also exist on spatial scales; between localities, countries, regions and continents. Within Marx’s schema of the capitalist system of production, capitalism is a worldwide phenomenon, because capital moves across the world, and ‘*brings areas in the backwaters into a web of exploitative relations governed by institutions of the capitalist global economy*’ (Ayelazuno 2011: 541). Drawing on Marx’s theory of primitive accumulation and worldwide movement of capital, scholars of Marxian international political economy have shed light on the dynamics and mechanics of the exploitation of the peripheral regions by various transnational companies (TNCs), such as the foreign oil companies (FOCs) from the core capitalist countries.

Marxian scholars deploy idioms such as new imperialism, neo-colonialism, accumulation by dispossession, looting, ravaging, grabbing, extractive imperialism, the new scramble, new enclosures, and so on, to capture the exploitation of the natural resources from the peripheral regions by TNCs of the core capitalist countries (see e.g. Amin and Pearce 1974; Harvey 2005; Bond 2006; Ayelazuno 2011; Petras and Veltmeyer 2014; Wengraf 2018; Taylor 2020). Primitive accumulation created the unique social property relations of the capitalist mode of production, but it did not end with the advancement and maturity of capitalism. It has continued after the birth of capitalism, the signal example of which is the continuous and ongoing looting of natural resources in Africa and Latin

America, a process so often accompanied by the violence of 'dispossession' and 'enclosures' (De Angelis 2004; Ayelazuno 2011).

A radical perspective of (in)justice and (in)equity as formulated by Marx and his followers demands radical interventions to redress injustices and inequities, interventions which go beyond mere procedures and institutions, to engender drastic transformation of the existing power structures that underpin any system of (re)production, particularly the capitalist system. Ghana's oil and gas industry, being a thoroughly capitalist enterprise, embodies most of the violence, exploitation and injustices that Marx and his followers capture above; calling forth radical measures to redress these injustices. We turn to these issues below.

2.1 *Ghana's Oil Rush, Its Injustices and Inequities*

Petroleum exploration and production efforts in the present-day Western Region of Ghana started far back in the 1890s (Ayanoore 2018: 11), but it was not until the 2000s these efforts paid off with oil discovery in commercial quantities. Kosmos Energy, a US-based exploration and production (E&P) company discovered oil in the Tano Basin in Ghana's exclusive economic zone (EEZ) of the Gulf of Guinea in 2007. Named the Jubilee Field, it has produced oil since 2010, joining Ghana to the club of African oil-producing countries such as Nigeria and Angola, among others. The Ghanaian oil discovery is part of what is geologically called the West Africa Transform Margin (WATM), an area that, besides Ghana, stretches across Ivory Coast, Liberia and Sierra Leone. The WATM is potentially a 'new oil province' (Quinlan 2009) and a 'site for the new oil accumulation on the African continent' (Obeng-Odoom 2014, 101). Since the Jubilee discovery, Ghana's oil industry has grown significantly despite facing challenges such as the slump in the world oil prices between 2014 and 2016 and the maritime boundary dispute with Côte d'Ivoire. There has been a groundswell of exploration activities in the Western Basin, with over 24 additional offshore discoveries (Adadzi and Godson-Amamoo 2019) as shown in Fig. 1.

The Ghanaian state, seeing oil as a veritable revenue source, ostensibly to support development, has started exploring for oil onshore, on the Voltaian basin (Ministry of Finance 2018; Petroleum Commission, 2019). This basin encompasses 40% of Ghana's landmass spanning 104,000 sq. km (see Fig. 2). It is estimated that 52% of the potential oil resources of this basin is in the northern part of the country (Graphic online, 2018;

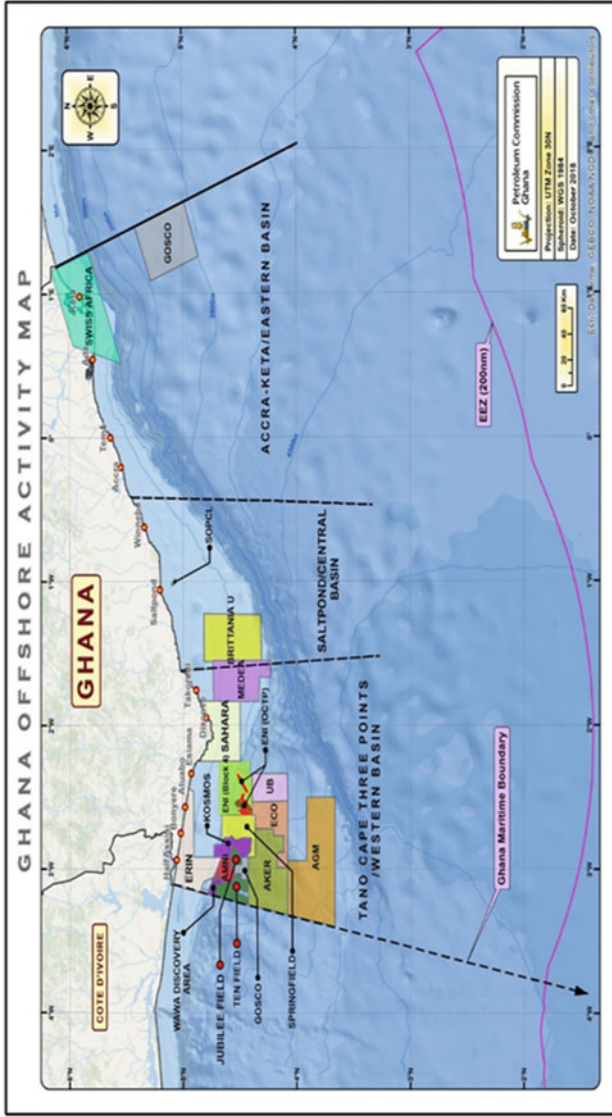


Fig. 1 Map showing the major oil fields of Ghana and exploratory activities (*Source* Ghana Petroleum Commission: <https://www.petrocom.gov.gh/maps/>)

AGM Petroleum and ExxonMobil, among others (Adadzi and Godson-Amamoo, 2019). Such interests depict a typical African oil rush (Klare and Volman 2006; Ayelazuno 2016), exemplified by the over a dozen competitive bids within Ghana's initial exploration licensing round. Typical of the oil assemblage, Ghana's oil rush is part of a multibillion-dollar industry, involving a huge global petro-infrastructure, the state-of-the-art oil exploration and production technologies, and a variety of capitalist actors, including major FOCs, national oil companies (NOCs) and service companies (e.g. Watts 2012: 441–443).

Intrinsic in this capitalist oil conglomeration are significant asymmetries in power relations breeding exploitation, corruption and dispossession of the country's powerless and poor. Asymmetry power relations exist between the FOCs and the Ghanaian state, with the former endowed with investible capital, hi-tech oil exploration and production capacities, and powerful political home support for their investment endeavours; while the latter has nothing but the endowment of oil and gas in the belly of its EEZ and incapable of extracting this wealth without the former's support. Another asymmetry power relationship in the industry is between the inhabitants of the oil communities, who are poor and powerless, and the FOCs and the Ghanaian state, who are rich and powerful. The major corollaries to these asymmetry power relations are various injustices and inequities of the oil and gas industry, at both the global and local levels. We turn to these issues below.

3 GLOBAL LEVEL INJUSTICES AND INEQUITIES AND THE UNFAIR SHARING OF GHANA'S OIL WEALTH

The dynamics shaping Ghana's share of its oil wealth relative to the FOCs' pivot on the power of global capital—flowing from the latter's superior financial, technological and human capacities to explore and produce oil and gas in the highly difficult and risky offshore environment. In contrast, Ghana, as a developing country, merely owns the oil and gas wealth located within its territorial boundaries, without the requisite technological and financial capacities to explore and produce this wealth. This means that, without the FOCs, Ghana's oil and gas will remain buried underneath the earth, with no contribution to economic and human development in the country. This asymmetric power relationship between Ghana and the FOCs leaves former with a narrow window of opportunity for retaining a reasonable share of its oil wealth; namely, capacity

to capture greater rent through the upstream oil governance processes.¹ A ‘*major benefit from oil*’, one authoritative source correctly observes, ‘*is the rents it provides through taxes, royalties and revenues from the sale of the commodity which is held by the ruling class for and on behalf of the citizens*’ (Dartey-Baah, et al. 2014: 381).

The fiscal and regulatory regime that the government of Ghana designs, the efficiency of implementation, backed by an incorrupt, patriotic and selfless political class will determine the size of rents Ghana retains from its oil wealth (ibid). Critical here are the terms and conditions for the exploration and production within petroleum agreements (PAs) Ghana signs with the FOCs, which to a large extent, influence the latitude for greater rents capture. As illustrated by the PAs with Kosmos in respect of the West Cape Three Points block and with Tullow Oil in respect to the Deepwater Tano block, Ghana benefits disproportionately in terms of the size of its share of oil and rents captured. Pundits estimated that the Kosmos contract would come at a loss to Ghana to the tune of US\$3.8 billion in tax revenues over the lifespan of the West Cape Three Points block, relative to Tullow Oil’s terms for the adjacent Deepwater Tano block (Wood Mackenzie, cited in Phillips et al. 2016: 30). A recent Global Witness report on the Guyanese oil contract with the USA oil giant, Exxon, for example, reveals how oil contracts can be super-exploitative if the state’s negotiation team lacks capacity, is corrupt, or both. The report claims that the contract was exploitative, because it deprived Guyana of US\$55 billion (Gant 2020).

Against this backdrop, our global level analysis of the injustices and inequities within Ghana’s oil and gas industry focuses on the upstream oil governance regime and the share of rents it captures through the PAs. Since the terms of the PAs determine the amount of rent or oil share, they serve as solid evidence of the iniquities of the global oil assemblage against Ghana. Additionally, the PAs serve as evidence to track the state’s commitment to redress these inequities and injustices or the complicity of its political class in oil negotiations. Importantly, a state committed to fighting exploitation by the global oil assemblage, as well as securing a good oil take, is expected to strongly negotiate, or even fight for PAs

¹ For the purpose of providing evidence to support the argument we make in this chapter, the upstream governance regime will suffice. While the downstream governance regime is also important to our argument, the constraints of space will not allow us to extend our analysis to this aspect of oil governance in Ghana.

that are aggressive at capturing greater rents and oil share. Tanzania's commitment, since 2008, to toughen its PA terms is a good example here, where politicians, among other strong measures, required the FOCs therein to pay an Additional Profits Tax and raised the royalty rate from 5% to 12.5% (Bofin and Pedersen 2017: 17).

Ghana's upstream oil governance regime, which shapes its PAs, revolves around the following laws (see Petroleum Commission, Ghana 2020)²

1. Ghana National Petroleum Corporation Act, 1983 (PNDCL 64)
2. Petroleum (Exploration and Production) Act, 2016, which repealed the Petroleum Exploration and Production Law, 1984 (PNDC Law 84)
3. Income Tax Act, 2015 (Act 896); it was previously governed by the Petroleum Income Tax Act, 1987 (PNDCL 188)
4. The Petroleum Revenue Management Act, 2011 (Act 815) as amended by the Petroleum Revenue Management (Amendment) Act, 2015 (Act 893)
5. The Petroleum Commission Act, 2011 (Act 821);
6. Petroleum (Local Content and Local Participation) Regulations, 2013 (LI2204)
7. Ghana Maritime Authority (Fees and Charges) Regulations, 2012 (L.I 2009)
8. Ghana Shipping (Protection of Offshore Operations and Assets) Regulations, 2012 (L.I 2010)
9. The Petroleum Commission (Fees and Charges) Regulations, 2015 (LI 2221)
10. Petroleum (Exploration and Production)(Measurement) Regulations, 2016 (L.I. 2246), Petroleum (Exploration and Data) (Data Management) Regulations, 2017 (L.I. 2257), Petroleum (Exploration and Production)(Health, Safety and Environment) Regulations, 2017 (L.I. 2258)
11. Petroleum (Exploration and Production) (General) Regulations, 2018 (L.I. 2359) as amended by the Petroleum (Exploration

² Petroleum Commission, Ghana (2020). Laws & regulations. <https://www.petrocom.gov.gh/laws-regulations/>

and Production) (General)(Amendment) Regulations, 2019 (L.I 2390).

The PAs Ghana has signed or will sign with oil companies will be guided by these laws, even though, as noted above, the terms of PAs may vary depending on various factors. With regards to the capture of more rents, the terms may vary from extremely liberal and exploitative to tough and aggressive, depending on the expertise, experience and integrity of the negotiation team of the Ghanaian state.

It is beyond the scope of this chapter to engage in the enduring debate over the specific PA model capable of extracting more oil rents—whether the production-sharing agreement (PSA) or a hybrid regime helps to secure greater oil benefits for Ghana. It is our contention that the PAs Ghana has signed with the FOCs in respect of the three oil fields presently producing oil—Jubilee, Tweneboa, Enyennra and Ntomme (TEN) and Sankofa Gye Nyame (SGN)—are characterised by global injustices and inequities. This is illustrated by Ghana's low oil share relative to that of the FOCs. Between 2011 and 2019, the above-mentioned fields collectively produced a total volume of 386,460,893 barrels of oil. Ghana has, however, only secured a disproportionate 67,290,451 barrels, constituting a miniscule 17.53% of the total oil produced within the period (see Ayelazuno 2016, Malden and Gyeyir 2020).

Evidence of the disproportional sharing of oil benefits is also captured in the Ministry of Finance's Annual Report on the Petroleum Funds. In the 2019 report, for example, the total amount of oil produced from the Jubilee Field, as of 31 December 2018, was 28,779,988 barrels; out of which Ghana's share was 4,807,432 barrels (16.7%). Ghana's oil share from the TEN Field was not different: as of 31 December 2018, the total oil produced was 23,557,361 barrels, out of which Ghana's benefited 3,980,456 barrels, the equivalent of 17.0% of the total production. Earlier annual reports published on the Ministry's website³ reveal a similar pattern of sharing. As illustrated by Table 1, the cumulative share of the FOCs since the start of oil production in Ghana is approximately 78% relative to Ghana's 22% or less.

Liberal economics and business analysts have sought to rationalise this highly disproportional sharing of oil benefits between Ghana and the

³ see <https://mofep.gov.gh/publications/petroleum-reports/2020-annual-report>.

Table 1 Summary of oil production and revenues accrued from Ghana's oil sector from 2011 to 2018

<i>Year</i>	<i>Total quantity lifted (mmbbls)</i>	<i>Quantity (mmbbls) and Percentage to GoG/GNPC (%)</i>	<i>Quantity (mmbbls) and percentage to partners/FOCs (%)</i>	<i>Amount of revenue to Ghana (US\$ mm)</i>	<i>Amount of revenue to FOCs (US\$ mm)</i>
2011	24.451	3.930 (16.1)	20.521 (83.9)	444.125	2,319.494
2012	26.351	4.931 (18.7)	21.420 (81.3)	541.624	2,346.071
2013	35.588	6.793 (19.1)	28.784 (80.9)	846.767	3,586.569
2014	37.202	7.681 (20.6)	29.520 (79.4)	978.018	3,769.641
2015	37.412	5.730 (15.3)	31.681 (84.7)	396.173	2,193.193
2016	32.298	5.856 (18.1)	26.440 (81.9)	247.175	1,118.435
2017	58.660	9.781 (16.7)	48.878 (83.3)	540.411	2,246.663
2018	57.079	9.692 (16.9)	47.386 (83.1)	723.549	3,557.807
Total	309.040			4,717.842 (22.3%)	21,137.872 (77.7%)

(Source Ayelazuno and Graham 2022: 353–354)

FOCs. They argue that a key condition shaping the sharing mechanism involves the FOCs' incentives to recoup their cost of exploring and developing oil fields to the commercial production phase. Another rationale dwells on the various complex dynamics underpinning the fiscal regime—conditions we discuss further below—which seek to balance Ghana's incentive to both capture greater rents and attract FOCs to invest in exploration and production activities offshore and onshore (see Amoako-Tuffour and Owusu-Ayim 2010). We argue, however, that these rational economic factors accounting for the disproportional share of oil benefits are underpinned by the asymmetric power relationship between Ghana and global capital controlled by the FOCs (e.g. Ayelazuno 2014; Phillips et al. 2016). It is unlikely that this challenge of asymmetric power relations can occur within oil-rich and developed countries such as Canada, USA and Norway who have the technology and financial capacities to explore, produce and refine their oil.

As with Tanzania above, and despite the challenge of low technological and financial capacity, Ghana's political class could have fought for better terms, or (and radically) resisted the profit driven negotiations and power of the FOCs by insisting on better terms. Some evidence of the latter occurred under the Late President Mills' reign when 'Kosmos

attempted to make a direct sale of its stake in the Jubilee field to Exxon-Mobil for a deal worth US\$4.3 billion, without consulting with the government or GNPC' (Phillips et al. 2016: 31). As documented by Phillips et al. (2016), both FOCs had to abandon the deal when the government resisted the former's negotiations, including pressures from their respective home counties. This level of nationalism and commitment is clearly against the grain of neoliberal principles, but it has not been sustained, as other Ghanaian leaders have been concerned with the imperative to attract foreign direct investment (FDI) to the upstream oil industry. Similar to gold mining, both the New Patriotic Party (NPP) and the National Democratic Congress (NDC) governments have been interested in wooing FOCs with generous incentives rather than pursuing aggressive rent capture. These incentives have mainly flowed from the fiscal arrangements in the upstream sector and embodied within the terms of the existing PAs (see Amoako-Tuffour and Owusu-Ayim 2010). Below, we detail the liberal and generous nature of Ghana's fiscal arrangements, which both generate losses and inform the disproportionately small share of the oil benefits the country retains.

3.1 *The Liberal and Generous Incentives of Ghana's Upstream Fiscal Regime*

There seem to be general consensus that the laws and regulations governing Ghana's upstream sector above reflect well-crafted initiatives capable of governing oil and gas resources in a developmental way (Kopiński, Polus et al. 2013, Appiah-Adu 2016). However, and as we argue above, the fiscal terms of these regulations are not strong enough to capture a fair share of oil benefits, in a large part, due to the overly liberal agreements allowing the FOCs to accumulate greater rents relative to Ghana. We take particular notice of mainstream economic and technical explanations that seek to dismiss our argument as uninformed, particularly with analysis of the underlying complex dynamics—progressivity, stability, flexibility, neutrality and the risk-sharing considerations—shaping the fiscal regime of the upstream oil industry (e.g. Tuffour and Owusu-Ayim 2010). These authors argue that the design of the upstream fiscal regime of a developing country such as Ghana and the quantum of rent this secures 'depends on the fine balance which policy-makers put on these features and on what they consider to be the priorities' (2010: 29).

These mainstream accounts of the dynamics shaping upstream oil governance regimes make broad business and economic sense. Such explanations, however, ignore the role of global capital, particularly how the asymmetric power relations between the FOCs and Ghana have shaped the tilting of oil benefits flowing more to the former. The question here is whether what makes business sense is necessarily just and equitable—answers to which lie within how the application of these economic approaches to, first, gold mining, and now oil, has created an enabling environment for foreign mining and oil companies to rake in huge profits at the expense of a fair share of the natural resource wealth for Ghana. This challenge, we argue, flows from the neoliberal doctrines underpinning Ghana’s bureaucracy more broadly, with both politicians and public servants, either oblivious of the exploitative power of global capital, or considers this as normal and unproblematic. Thus, they design policies and sign contracts with foreign mining and oil companies that enable the latter to acquire a disproportionately huge share of gold and oil benefits, leaving Ghanaians with a relatively small fraction. Our argument finds support in the meagre revenue flow from the various streams above, including royalties, GNPC’s carried and participating interests, corporate income tax, annual acreage fees, surface rental fees, withholding tax, additional oil entitlements (AOE) and bonuses. These fiscal streams as executed in the PAs offer very generous terms in the form of tax exemptions, customs and import levies releases, foreign exchange transactions, ownership and control of goods and equipment, and the repatriation of profits (Ayelazuno 2016; Ayelazuno and Graham 2022).⁴

3.2 The Negative Effects of Ghana’s Generous Fiscal Regime on Its Share of the Oil Benefits

As emphasised throughout this section, a major effect of Ghana’s generous fiscal terms is the country’s inability to capture greater rents from oil activities, securing a disproportionately low share of its own oil

⁴ This is strikingly similar to the generous incentives that Ghana grants to foreign mining companies, leading to the stupendous flow of FDI to the gold mining sector, following apace the neoliberal economic reforms four decades ago. Yet, the sector’s contribution to the growth of the Ghanaian economy and employment is insignificant (see Hilson 2002; Ayee et al. 2011; Ayelazuno 2011). The fiscal terms covering these revenue streams can be gleaned from the PAs uploaded on the Ghana petroleum register website: <https://www.ghanapetroleumregister.com/contract-areas>.

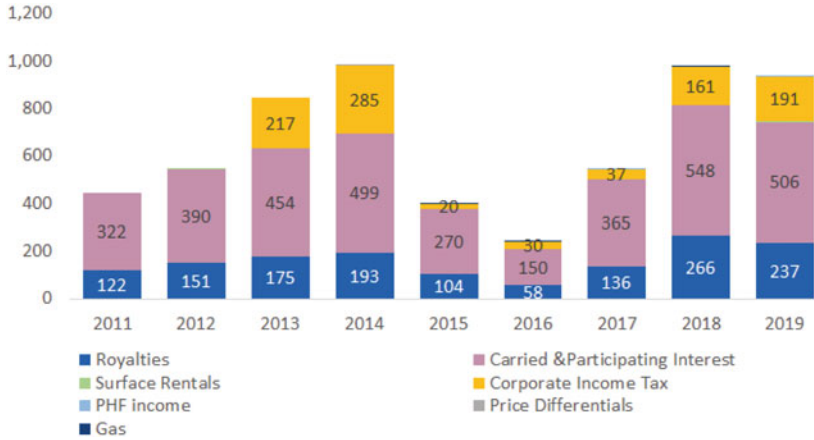


Fig. 3 Analysis of petroleum receipts

wealth. As Fig. 3 illustrates, between 2011 and 2019, GNPC's carried and participating interests constituted Ghana's major sources of revenue flow, followed by royalties (although overtaken by corporate income tax in 2013 and 2014). Except in 2013 and 2014, corporate income tax constitutes the lowest rents source, with nothing captured in 2011 and 2012, and very little secured between 2015 and 2017. Also, Fig. 3 illustrates that surface rentals attracted no revenues for this period.

While Ghana is clearly capturing some substantial rents from the upstream oil industry, it is not capturing enough to reduce the huge inequality gap between its share and that of the FOCs. As we have tried to illustrate throughout this section, the Ghanaian state is not aggressive in using the above-mentioned fiscal instruments to capture more revenue from the FOCs. This is not only because of the liberal and generous nature of its fiscal regime, but also, because it does not standardise the fiscal terms across PAs, allowing for variations in PAs to its disadvantage. The latter is not good for the capture of more rent because, *'with no apparent safeguard for contract transparency, this leaves the State's take of the resource rents from petroleum production subject to potentially ad-hoc negotiations with IOCs, vulnerable to corruption, and susceptible to sub-optimal financial outcomes'* (Amoako-Tuffour and Owusu-Ayim 2010: 15). For example, carried and additional participating interests constitute a strong fiscal instrument to secure greater benefits from oil, particularly

Table 2 Inequality of ownership of three oil fields

<i>Oil Company</i>	<i>Foreign/Local</i>	<i>Jubilee Field</i>	<i>TEN Field</i>	<i>Sankofa Field</i>
Tullow Oil Ghana	Foreign	35.48%	47.18%	N/A
Kosmos Energy	Foreign	24.08%	17.00%	N/A
Anadarko	Foreign	24.08%	17.00%	N/A
GNPC	National	13.64%	15.00%	20%
Petro SA	Foreign	2.73%	3.82%	N/A
Eni	Foreign	N/A	N/A	44.44%
Vitol	Foreign	N/A	N/A	35.56%
Total		100%	100%	100%

(Source Ayelazuno and Graham 2022: 353)

that it helps to ‘increase the sense of country ownership, facilitate transfer of technology and skills and increase the host government’s control over field development decisions’ (Amoako-Tuffour and Owusu-Ayim 2010: 21).

Yet, as Table 2 illustrates, the FOCs own about 80% of the three main oil fields in the Tano-Cape Three Points Basin. Ghana’s biggest ownership share is in the Sonkafa Field, with GNPC, owning 20%. This is even less in the other two fields, with the Ghana owning 15 per cent in the TEN Field and 13.64% in the Jubilee Field (Ayelazuno and Graham 2022; see also Kastning 2011: 8). This national ownership patterns undercuts carried and participating interests as effective strategies to capture a fair share of oil benefits.

However, one can counteract this argument by pointing to *the Petroleum (Exploration and Production) Act, 2016 and Petroleum Exploration and Production (General) Regulations, 2018 (L.I 2359)* that give Ghana the right to acquire additional participation interest in oil fields. While this is a well-founded and legitimate counterargument, it ignores the financial challenges most African countries face in increasing the state’s participation (Amoako-Tuffour and Owusu-Ayim 2010) and does not take seriously the power dynamics of the global oil assemblage as a challenge to Ghana negotiating good deals (see Siakwah 2017), nor takes into consideration the negative effects of weak institutions (see Andrews and Siakwah 2020), corruption and patronage/clientelist politics on the negotiation.

It is important, therefore, to situate Ghana’s fiscal regime, especially, its implementation, in the electoral democratic political context

of the country. It is a context characterised by the zero-sum competition between the two dominant parties, NPP and NDC, to win the next election by distributing patronage to their cronies and party supporters (Paller 2019; Ayelazuno 2019; Driscoll 2020). In the light of the inherent tendencies of corruption in the oil industry (see Gillies 2019; 2020), the political context of Ghana breeds corruption in the country's oil sector. Thus, the non-standardised and variable fiscal terms of Ghana's upstream oil governance regime would serve as avenues for unscrupulous politicians to engage in bribery and corruption to build their party's election war chest and to enrich themselves (see Gary et al. 2009; Mohan et al. 2018). World class fiscal regimes, even those that are aggressive in the capture of rents, have no real impact in the capture of more rents if they remain on paper, not implemented efficiently. The political context of Ghana shapes the implementation of its fiscal regime, and is a signal example of this situation (see Dartey-Baah et al. 2014).

Beyond participation interests, royalty payment constitutes an important fiscal instrument to extract increased rents from FOCs, but again, this has not been effectively utilised by Ghana. The existing royalty rate is not only low but negotiable and variable in PAs signed with different FOCs for different fields. It is pegged at between 3 and 12.5%. While this arrangement provides for some flexibility in pre-contract negotiations, the variable and negotiable nature of royalty payments expose negotiations to uncontrolled political discretion and foreign lobbying in the political context above. Little wonder that most of the PAs signed, the FOCs do not pay the high-end rate of 12.5%, mostly paying between 3% and 10% (Amoako-Tuffour and Owusu-Ayim 2010: 5). For example, successive annual reports on the Petroleum Funds show that none of the FOCs operating within the Jubilee and TEN fields has paid above 5% since the start of oil production in 2010. It is unsurprising, therefore, that Ghana's royalty rates are the lowest in comparison to Nigeria, Cote d'Ivoire, Congo, Cameroon, Equatorial Guinea and Uganda (Kankam and Ackah 2014: 410).

Income or corporate tax constitute another fiscal instrument that Ghana has failed to leverage on to capture more rents from oil. The old Petroleum Income Tax Law, 1987 (PNDCL 188) set a default rate of 50%, but allowed for some variability. However, in both the model and executed PAs, Ghana has pegged this at 35%, due in a large part, to the neoliberal incentive of attracting foreign investments into the sector (Mohan, et al. 2018). Although at 35%, Ghana's income tax rate is higher

than that of other new oil-rich African countries such as Cote d'Ivoire and Uganda, (Amoako-Tuffour and Owusu-Ayim 2010), the 15% drop is considerable and contributes to undercut the country's rents retention prospects. Meanwhile, the corporate income tax is computed net of all cost the FOCs incur in their operations, an arrangement duly adopted by the Petroleum Commission (PC) and the Ghana Revenue Agency as petroleum sector costs (Ayelazuno and Graham 2022). This opens avenues for the FOCs to reduce what they pay as income tax by reporting costs that are computed on profit rather than gross revenue. As correctly observed by Amoako-Tuffour and Owusu-Ayim 2010: 22), given the complexity of the industry, African governments are particularly vulnerable to the problems of cost verification, cost overstatement and profit stripping. This vulnerability, they argue, has to do with the weak capacity to monitor and verify the following avenues the FOCs may use to pay less revenues: capital expenditures, loss carryover provisions, transfer pricing mechanisms, ring fencing and the range and limits of expenses that may be considered deductible for tax purposes.

The issue of what costs can pass for deduction constitutes a key challenge to Ghana's rents retention prospects. The country's liberal and generous terms of cost deduction allow wide-ranging deductions, comprising rental fees, royalties, interest on fees and loans, expenditures on maintenance, repair or change of machinery, debts directly acquired in the conduct of petroleum activities, financial inputs into pension or provident funds accepted by the Petroleum Commission, capital allowance and losses from the previous year of assessment and many others (Ayelazuno and Graham 2022). Unsurprisingly, as Figs. 3 and 4 illustrate, rents captured through income tax are lowest in comparison with royalties and carried and participating interest.

4 LOCAL LEVEL INJUSTICES AND INEQUITIES: SOCIAL AND ENVIRONMENTAL RAVAGES OF THE OIL AND GAS INDUSTRY

Perhaps, nowhere are the injustices and inequities of the Ghanaian oil and gas industry more egregious than in the communities close to exploration activities. Intrinsically, oil and gas industries, both onshore and offshore, are inescapably accompanied by deleterious social and environmental effects, suffered disproportionately by the inhabitants of communities

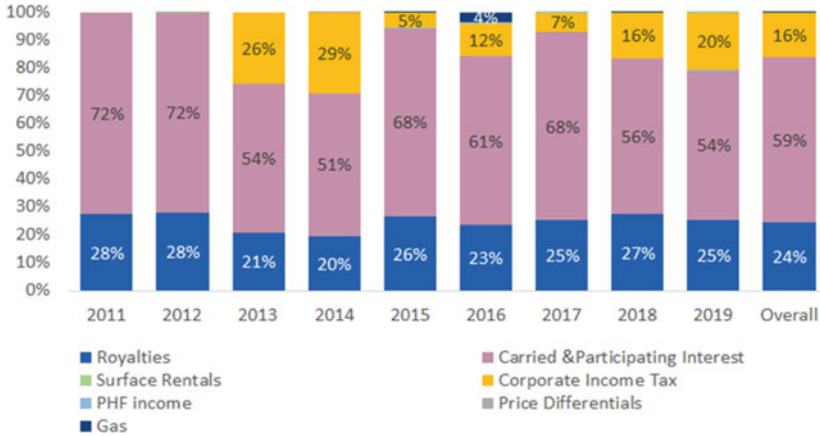


Fig. 4 Petroleum receipts from 2011 to 2019 in percentage terms

living close to the industry's operations. Despite bearing the huge social and environmental burdens of exploration activities, community folks receive an infinitesimal share of benefits. Redolent of what pertains in Ghana's mining sector, these deleterious environmental and social challenges have emerged strongly with oil exploration, alongside low political commitments to addressing these challenges. These injustices spawn a growing literature cataloguing the nature of these environmental and social ravages, particularly the dislocation of the livelihoods of fisher folks and peasants living in the coastal communities close to exploration activities (hereafter, the 'oil' communities).

Ethnographic research document, first-hand information, in the voices of the victims. This research has shown how inhabitants of the "oil" communities experience social and environmental injustices. In response to the question who benefits from the industry an elderly fisherman in Aboadze, one of the communities close to exploration activities, retorted that *'the oil is the Western Region's but we don't know who benefits. As for us the fishing folks we don't get any benefits but if some people are benefiting in other places we cannot tell'* (Ovadia et al. 2020: 416). In response to the same question, another fisherman in Half-Assini, another community close to exploration activities responded in a similar manner, albeit more detailed, *'the oil rig is in the Jomoro Sea and we are those suffering but we don't get any benefit. Whether it is the oil company or the government that*

benefits we do not know. They have not established anything good here that we can say that it is as a result of the oil extraction that we have this facility. We don't know who benefits' (Ovadia et al. 2020: 416).

The negative effects of oil and gas exploitation on the environment have generally been limited to the pollution of water bodies mainly due to the offshore nature of exploration activities, often manifesting through oil spillages that destroy biodiversity and fish stock (Acheampong 2018). Although Ghana has generally not experienced huge oil spillages of the scale seen in Nigeria and Angola (Baumüller, Donnelly et al. 2011), exploration activities discharge significant concentrations of chemicals into portions of the sea, leading to ground and marine water pollution and destroying huge volumes of fish and biodiversity (Nyarko and Klubi 2011). The evidence of the 26 dead whales between 2008 and 2012 on some beaches in the region points to this challenge, where exploration discharges are increasingly destroying the livelihoods of fisher folks (e.g. Obeng-Odoom 2014). Another emerging environmental challenge for fisher folks is the health risks associated with the debris dumped on shores of the sea by oil companies, which alongside, damage their fishing nets without any compensation (Owusu 2018). Rather, attempts by fisher folks to seek compensation from oil companies for their damaged nets have often failed, yet the fisher folks have been harassed with restrictions enforced by the Ghana Navy, pushing some to travel as far as into neighbouring Ivorian waters to fish (ibid).

The challenges around the loss of livelihoods and compensation here highlights the collusive behaviour between state institutions and oil companies that often sidesteps important regulatory rules under the pretext of investor-friendship, compounding the injustices associated with oil and gas exploitation. This excuse of investor-friendship contributed to undermining the states capacity to enforce sanctions against Kosmos Energy after it spilled 706 barrels of toxic substances into the sea between 2009 and 2010 (Obeng-Odoom 2014). Despite investigations finding Kosmos liable, and fining same US \$35 million dollars, the government subsequently waived the fine under investor-friendly considerations (Siakwah 2018).

This is similar to the low political commitments to investigate and punish the entities responsible for the incidence of the 26 dead whales mentioned above, although all indications pointed to offshore exploration activities. Despite the Environmental Protection Agency (EPA) investigating this in 2012, the results have never been made public,

with the excuse that the inquiries did not yield any scientific proof of liability to warrant the application of the appropriate sanctions (*ibid*). These compromises mirror a major injustice where the state seem less committed to protecting the environment and livelihoods of fisher folks within the epicentre of exploration activities, but appear more committed to enforcing fishing restrictions and compliance with no-go zones rules—an injustice that has recently bred tensions between fishing communities and oil companies.

Since 2010, tensions have ensued between fisher folk unions and oil companies mainly due to exploration activities encroaching on traditional fishing sites and the enclave nature of oil operations that both alienates and destroys the livelihood prospects of coastal communities. Under the conventional industry best-practice to protect oil and gas infrastructure and to keep people safe, both the state and oil companies deploy security agencies to enforce the 500 m radius rule around oil rigs and the 2 km 'no go' zone buffer in conformity with the International Organization for Standardization (ISO) ideals. This necessarily pits exploration interests against fisher folks as exploration activities within the Gulf of Guinea often occur very close (*i.e.* 60 miles) to coastal traditional fishing grounds (Agyei et al. 2012) and reflects what Watts (2004) deems a repressive strategy employed by the state and oil companies to protect their rent generation interests to the exclusion of the livelihood concerns of coastal communities. The fact that the ISO standards require oil companies to use lighting systems at specified intensities to protect oil rigs emerges as another exclusionary arrangement, not least because such lighting systems function as fish aggregating devices that attract large quantities of the fish within the no-go area (see Badgley 2011)—limiting fish catch, yet constraining fisher folks from following the fish. The injustice is compounded by the fact that both the state and oil companies have done little to provide alternative means of livelihood to fisher folks and fish-mongers despite cordoning off their major livelihood grounds, with such threats constituting a key basis for the conflicts between coastal communities on the one hand and the state and oil companies on the other (Ackah-Baidoo 2013).

Alongside environmental and livelihood challenges, the adverse societal effects of oil and gas operations on the social organisation, culture and values of the people of western region cannot be overemphasised. Admittedly, oil and gas operations in the region have had some positive social gains—generating both direct and indirect business and employment

opportunities, including triggering infrastructure development such as factories, offices, hotels and banks that have altogether had a broad positive impact on the living standard of residents particularly in the capital Takoradi and Sekondi. However, key publicised challenges, including high cost of living, housing challenges and displacements, increase in social vices etc., undercut the benefits above. At the risk of imputing these are novel here, such social problems are increasing in levels seen as unwelcoming and mainly caused by the concentration of exploration activities in the region due to the massive migration of people to the area to tap into the opportunities oil and gas operations and its ancillary services present.

High cost of living within the Sekondi-Takoradi Metropolis emerges as one major problem associated with oil and gas operations (see Plänitz and Kuzu 2015). Much of this challenge emanates from very high rent charges for offices, houses and shops which are often priced in dollars or its equivalent, particularly at supposed wealthy neighbourhoods such as Beach Road and Chapel Hill (e.g. Eduful and Hooper 2015), with housing deficit implications. Staff of oil companies and international businesses, with the value-power of foreign currency displace middle-income Ghanaian residents in such areas, including property owners lured by dollars. In turn, middle-income Ghanaians move to displace low-income and lower-middle-income residents within the commercially viable Market Circle area (ibid). The low-income to lower-middle-income residents bear the brunt of the housing problems within the Sekondi-Takoradi Metropolis, with some forced to seek shelter in make-shift structures (Eduful and Hooper 2019).

These disparities are reinforced by the high cost of living in the twin Metropolis, as income generating activities favour staff of oil and gas companies. The salaries of both local and foreign workers in oil and gas companies are often tied to the US dollar, potentially putting their incomes far above those in non-oil and public sector jobs. Beyond housing, the growing number of such high-income earners, coupled with the influx of people to the metropolis to share in the fortunes generated by oil have contributed to the rising prices of goods and services, including food and other commodities, exacerbating the city-wide infrastructure and services inequities. The oil propelled high cost of living within the Sekondi-Takoradi Metropolis is, thus, fast establishing a pattern of the social segregation, in terms of income, class and nationality, with implications on worsening the divides that already exist in such areas (also see Eduful and Hooper 2015).

The growing spate of social vices in the Sekondi-Takoradi Metropolis in particular is rooted in the increasing urbanisation, including the economic opportunities and social life that has emerged around the oil and gas industry. Social vices such as crime, prostitution, homosexuality and fraud have been on the increase since 2007 with the discovery of oil, occasioned by the incentives of both residents and immigrants to take advantage of the high economic and recreational living opportunities associated with oil and gas activities (e.g. Plänitz and Kuzu 2015). Prostitution, for example, increased to serve a growing demand for sex by expatriates, mostly foreigners who have immigrated without their spouses, but also locals who have earned some income in the oil economy and can afford to contract the services of sex workers (Obeng-Odoom 2014). Some prostitutes, nonetheless, migrated into the metropolis intending to trade or get jobs—failure to achieve their objectives then compels them to resort to prostitution as the only means of survival (*ibid.*).

Alongside prostitution has been the increase in homosexuality, in a large part, due to this sexual orientation being acceptable and practised in the countries that most foreign expatriates hail from (see Habib 2016). Unfortunately, the lure of ‘oil money’ push innocent young men into such illegal acts, threatening the social and moral fibre of the Ghanaian society. Both incidents of prostitution and homosexuality, it is believed, have led to an increasing trend in HIV cases in the Sekondi-Takoradi Metropolis since the start of oil production (*ibid.*). The growing incidents of crime, particularly armed robbery attacks, targeting prominent personalities in the metropolis and areas where many expatriates reside, is largely the creation of the real and perceived ‘oil wealth’ in the region (see Takyiwa 2014).

These negative social and environmental effects of the oil and gas industry illustrate the injustices local communities all over the world suffer from the oil assemblage. Yet, as noted above, these communities often do not get the benefits of the industry, commensurate with the burden of the ills that they disproportionately bear; and sometimes, indefinitely, and long after the FOCs have accumulated their profits and returned to their home countries.

5 CONCLUSION: ADDRESSING THE OIL-INJUSTICES AND -INEQUITIES IN GHANA

Drawing on critical political-economic insights of capitalism, this chapter argues that the Ghanaian oil industry is part of what Michael Watts conceptualised as the ‘oil assemblage’, whose imperatives, actors and processes are intrinsically exploitative and dispossessive of the Ghanaian subaltern classes. Far from promoting the well-being of these classes, the distribution of the benefits of the Ghanaian oil industry is unjust and inequitable. While the subaltern classes bear the deleterious environmental, social and economic effects of the industry, they do not benefit much from it. Based on these claims, this chapter has documented the injustices and inequities of Ghana’s oil industry at both the international (global) and national (local) levels.

In the rest of this conclusion, we offer suggestions for addressing these injustices and inequities. Based on the critical political-economic approach of this chapter, our suggestions are radical, requiring interventions aimed at making drastic changes to the asymmetric power relations mentioned above, the dynamics of which have engendered these injustices.

One of the major radical interventions is in the ownership arrangements within the oil and gas industry. Ghana must increase its share of ownership in all the oil fields, similar to the resource-nationalist interventions of Chávez and Morales of Venezuela and Bolivia respectfully (see Koivumäki 2015), through maintaining a firm bargaining front capable of calling off the bluff of the FOCs. While it may be impractical to renegotiate existing contracts to extract greater ownership, particularly because of the stabilisation provisions within existing petroleum agreements, the state must push for increased national share in the future contracts.

The second major intervention is in taxes, royalties and other generous incentives. The government must work through the prevailing investor-friendly fiscal regime more closely, adopting a stronger position in the capture of rents through renegotiating the royalty rate and rigorously enforcing the upper income tax limit. Rather than the present varying royalty rate of 5%–12.5%, a tiered royalty structure based on upsides such as increasing oil prices or reductions in cost can capture more revenues for the country. Similarly, the 50% upper income tax opportunity stipulated in Act 919 should be fully and forcefully applied. Ghana must limit the quantum of profits and other revenues that FOCs can repatriate to their home countries. This will ensure that some of the profits of the

FOCs are ploughed back into the Ghanaian economy, rather than the present situation where they are allowed unlimited repatriation of their profits back home. Other generous incentives such as tax exemptions on customs, import levies and duties related to the importation of equipment and other goods for oil and gas operations, including VAT, are not progressive and should be limited or withdrawn altogether.

These radical measures require a resource-nationalist state and political class, rather than the present neoliberal Ghanaian state and its liberal comprador political elite, whose political and material interests are closely entwined with the profiteering agenda of the FOCs and other actors within the oil assemblage. A resource-nationalist approach, committed to negotiating stronger deals best serves the national interest, particularly in terms of protecting Ghanaians from the inherent social injustices and inequities of the oil industry documented above.

In terms of the national/local level injustices and inequities, high political commitment towards affirmative action—deliberate policies designed to protect and give special attention to the environmental and social challenges of oil communities—is a progressive step. For example, the demand of the people of Western Region, through their chiefs to the parliament of Ghana, for 10% of the oil revenues to be allocated specially for development projects in the region should be embraced, rather than rejected (Osei-Tutu 2012: 1). Parliament should amend the existing Petroleum Revenue Management Act, 2011 to include a fund for a special development initiative in the Western Region. The request for 10% of the oil revenue may be too high, but it can be reduced to about 5%, rather than outright rejection. Similar to the Permanent Fund Dividend (PFD) programme of the state of Alaska in the USA (Brown and Thomas 1994), cash payments to inhabitants of oil communities, based on specific modalities agreed upon through a participatory decision-making process, will be a good measure to address the local level injustices documented above. Alongside cash payments, the funds should be used to finance public development projects such as schools, hospitals and roads in the oil communities.

In trying to gain social licences to operate, the oil companies have designed and implemented various corporate social responsibility (CSR) projects in the oil communities. These projects cannot address the injustices discussed in the oil communities above, because they are usually informed by business or market logic—a situation conceptualised by

one authoritative source as ‘the marketisation of social justice’ (Soederberg 2009: 213–14). The FOCs should implement more generous CSR projects which should aim directly to address the injustices of the oil industry delineated above. Similar to the participatory processes described above for the government projects, the CSR projects should be participatory in design and implementation.

Some liberals may see these recommended interventions as utopian and unrealistic. Although utopian, they are useful in provoking a rethinking around what constitutes social justice and equity in the governance of natural resource industries in Ghana and Africa in general. These utopias serve as ideas for proposing more radical initiatives that can invoke a high sense of social justice and equity in actors within the oil assemblage. They may also serve as doctrines upon which the victims of the injustices of the oil industry can muse about the possibility of change and to activate their political agency to struggle for justice and equity (Panitch and Gindin 1999).

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Travails of Ghana's Decade of Crude Oil Production and Exports: Lessons and Policy Prescriptions

Kwamina Panford

1 INTRODUCTION

This chapter deals with a decade of Ghana's oil and gas (OG) extraction for exports, lessons that have emerged and recommended practical policies. The latter aims at creating shared or inclusive economic and social prosperity which is sustainable over the long term in Ghana. Hence, this chapter is about how oil benefits can be shared broadly and more inclusively. Ghana's prevailing approach to oil production which is modeled on neo-liberal economic principles and practices is not capable and cannot trickle down to even the immediate communities—the six districts that adjoin Ghana's commercial oil fields in the Western Region (1).

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This study explains how Ghana could grow oil revenues plus other benefits to shape their distributional outcomes. This is achieved by tackling and creating three separate but closely linked facets of the petroleum industry in Ghana. These key phases also reflect the organization of sections of this chapter:

- (1) The business and financial, what we call the money, cash or fiscal regime being used to extract and export oil from Ghana
- (2) Monetizing OG through “Local Content”; In this case, the deployment of indigenous Ghanaian employees, skills or what we refer to as “Brain Power,” and the substantive use of locally owned and operated businesses as suppliers of goods and services; and
- (3) Using OG to spur and to scale up Ghanaian societal or macroeconomic-level genuine industrialization, value addition and creating a wide and deep pool of local talent that are applied to both OG and beyond. The latter includes leveraging OG to substantially impact the development of social infrastructure as well as green technology and energy.

This chapter also draws attention to the imperatives for why Ghana must change its orientation, fiscal and non-fiscal regimes with regards to oil production for the international market. Firstly, the world is seeking to reduce dependency on fossil energy, including crude oil and even natural gas. For instance, in his 2021 annual letter, Larry Fink (2021) Chairman and Chief Executive Officer (CEO) of BlackRock, the world’s largest equity investment firm with over USD7 trillion in assets, informed global investors that they should prioritize investing in non-fossil businesses and his company’s net zero commitment: “*in 2020, the world would not only confront the pandemic (COVID-19), it also sharpened its focus on the existential threat of climate change. As more and more companies, investors and governments focus on the global goal of net zero emissions by 2050, economic transformation is accelerating.*” In addition, the World Bank has announced in Paris that after 2019, it will not finance investments in petroleum apart from some gas projects in poor countries in exceptional cases (Reuters, 2017).

Equally important for the need for Ghana to be future-oriented in its usage of crude oil is that it is non-renewable—that is, once it is extracted and exhausted, it cannot be replaced. The Center for Natural Resources

and Environmental Management (2020) estimates that Ghana's premier commercial field, Jubilee, has a projected life span of some 23 years. Thus, Ghana needs to quickly and urgently work in a concerted manner to create and apply policies that will assure both impactful and long-term benefits of its crude petroleum resources and not the meager earnings from the production of crude and its exports to international oil markets to date. Civil society groups in Ghana have predicted gloom for Ghana's oil sector if measures are not put in place to realize sustainable benefits from Ghana's currently existing three fields and the soon to be on stream fourth oil field (Pecan) as noted: "... reserves of existing ... fields are fast depleting and the country risks an imminent downturn in the medium term and a stranded asset in the long term" (Ansah, 2021).

Ghana's announcement in June 2007 that it had discovered its first commercial petroleum resources at the Jubilee Field catapulted it into Africa's top echelons of oil-producing states. The discovery was by Kosmos Energy, which led a consortium of international oil companies (IOCs) and Ghana's national oil company (NOC), the Ghana National Petroleum Corporation (GNPC) (Panford, 2017; McCaskie, 2008). Jubilee was a blockbuster discovery because it was a significant play-opening find for the West African nation in the global oil industry at the time. It was one of the most important finds in Africa and the world because at that time, there was only one other big oil discovery which was in the Gulf of Mexico. The biggest find in the Gulf of Mexico, one of the world's foremost oil regions, was expected to produce 109,000 barrels of oil daily (bod), while Jubilee was projected to produce 120,000/bod from the "Kwame Nkrumah" Floating, Processing, Storing and Offloading vessel (FPSO) (Ordonez, 2011).

Since Jubilee was discovered and had first oil on 15 December 2010, Ghana has had two additional producing fields, namely: Tweneboa, Enyera and Ntomme (TEN) oil field and Sankofa Gye Nyame. The latest (fourth) oil field, called Pecan, was expected to produce first oil in 2021 but has been postponed indefinitely due to the COVID-19 induced shocks on oil prices (Offshore Technology, 2020). So far, all Ghanaian oil fields are located in the ultra-deep offshore waters of the Cape Three Points/Deep Sea Water Tano (OCTP/DSWT) area (Petroleum Commission, 2021). It is estimated that as of 2020, Ghana average bod was 194,000, and with Pecan coming on stream, Ghana could be close to producing 400,000–500,000 bod. This could make Ghana Africa's fourth to sixth largest oil producer (Offshore Technology, 2020).

Ghana has several advantages besides the desired or high-quality physical properties of its crude oil. It is a relatively peaceful country which since 1993 has sought to practice a multi-party system of governance (Aye, 2018; Gyeke-Jando, 2017; Panford, 2017; Gyimah-Boadi and Prempeh, 2012; Mohan et al., 2018). Ghana has also steadily attracted a fair amount of foreign direct investment (FDI) into its oil upstream sector. Like its Nigerian neighbor's world-famous "Bonny" oil, Ghana's crude oil is also high quality: it is light (flows easily with gravity) and sweet with little sulfur content. These physical properties fetch premium prices on oil markets because they are easy to refine and are less polluting.

Political stability and high-quality physical properties of crude from Ghana have culminated in Ghana having a commercially viable upstream oil business with high profits. Pecan, the latest oil field, for example, is reported to have a low break-even or profitable price points of USD20–USD40/barrel on the world market (Offshore Technology, 2020). Such advantages could facilitate Ghanaian efforts to totally monetize its crude petroleum resources to support society-wide economic transformation and hence, long-term positive benefits out of Ghana's prized crude.

2 WHAT GHANA HAS DONE RIGHT

Ghana deserves qualified or some commendation for initial and limited pro-revenue transparency measures. Included in such measures are efforts to literally put a ring or fence around petroleum funds paid to the Government of Ghana (GoG). Relevant statutes among these are:

- Petroleum Revenue Management Act, 2011 (Act 815), also known as the "PRMA," and the Petroleum Revenue Management Amendment Act, 2015 (Act 893), also known as the "PRMAA"
- Petroleum Commission Act, 2011 (Act 821)
- Petroleum (Exploration and Production) Act, 2016 (Act 919).

In addition to these statutes, Ghana extended its membership of the Extractive Industry Transparency Initiative (EITI) to petroleum in 2011 (Aryeetey and Kanbur, 2017; GHEITI, 2019). EITI is part of a global system that aims at ensuring financial transparency in extractive businesses such as mining and oil production. Both PRMA (2011) and PRMAA (2015) seek to safeguard revenues from petroleum including payments

for carried and participating interests or stakes of Ghana Government in oil fields; corporate taxes, royalties, surface rentals and all other revenues paid into the public coffers or accounts. The PRMA was passed to codify precisely how petroleum revenues were to be managed; that is, direct how to collect as well as spend. Then, in 2015, PRMAA was enacted for three purposes: to regulate the allotment of funds paid into a new Ghana Infrastructure Investment Fund (GIIF); to guide how the Investment Advisory Committee (IAC) that oversees Ghana's investments of petroleum proceeds was to be constituted in membership terms; and guaranteeing The Public Interest and Accountability Committee's (PIAC) funding (PIAC, 2017a; Stephens, 2019; Graham et al., 2019).

Carried interest payments come from standard practice in the Ghanaian oil industry. GoG in the case of OG, through GNPC, is given an automatic and minimum 15% stake without paying for it as encapsulated in Section 10(14)(b) of Act 919—this used to be 10% before the promulgation of Act 919. Also, the state through GNPC and its wholly owned subsidiaries such as GNPC Explorco, can pay for additional participating interest or stake in an oil field as a commercial partner to private and or international oil companies (IOCs). Surface rental fees are akin to on-shore, land-based rental fees or royalties for leasing parts of the sea that belong to Ghanaian continental shelf or territorial waters. Hence, they are annual payments for renting the surface of the sea for the exploration and production of OG. It is typically a charge per square area of the sea off the coast of Ghana where most of Ghana's oil fields are located.

Royalties, carried or “free” interest, surface rental and several other fees are due to the GoG because it is the sovereign owner of all natural resources beneath as well as above all Ghanaian land which also extends to the continental shelf—the Ghanaian territorial waters in the Gulf of Guinea in the Atlantic Ocean in West Africa (Constitution of the Republic of Ghana, 1992; UN Convention on the Law of the Sea, n.d.). Article 257 (6) of the Constitution of Ghana, 1992, states:

Every mineral in its natural state in, under or upon any land in Ghana, rivers, streams, water courses throughout Ghana, the exclusive economic zone and any area covered by the territorial sea or continental shelf itself is the property of the Republic of Ghana

World luminaries such as the late United Nations Secretary General Kofi Annan, IMF's Michel Camdessus, and Robert Rubin, former US Secretary of the Treasury, have commended Ghana for setting up uniquely innovative transparency institutions and practices (Africa Progress Panel, 2013). The foremost revenue-related transparency body is PIAC which draws its legal mandate from PRMA 815 of 2011. Section 51 of PRMA (2011) stipulates: "*A Public Interest and Accountability Committee is hereby established*" and spells out the objective for creating PIAC which is: "*The management of petroleum revenue and savings shall always be carried out with the highest internationally accepted standards of transparency and good governance.*"

Passage of PRMA (2011), the founding of the PIAC and its activities have led to the creation of an elaborate mechanism devoted to protecting OG revenues paid into GoG accounts (Ackah et al., 2020; Graham et al., 2019; Oppong, 2016). Among the provisions of the PRMA is that Section 2 establishes a Petroleum Holding Fund (PHF) at the Bank of Ghana under the auspices of a Petroleum Unit. Proceeds from all of Ghana's petroleum resources are required to be deposited in the petroleum account at the Bank of Ghana:

Box 1: Establishment of Petroleum Holding Fund as Per the PRMA (2011)

2. (1) A Petroleum Holding Fund is hereby established as a designated public fund at the Bank of Ghana to receive and disburse petroleum revenue due the Republic.
- (2) The petroleum revenue shall be deposited in the Petroleum Holding Fund for subsequent transfers in accordance with the provisions of this Act.

Payment into Petroleum Holding Fund:

3. (1) Petroleum revenue due the Republic derived from whatever source shall be assessed, collected, and accounted for by the Ghana Revenue Authority.
- (2) The Petroleum revenue assessed as due in each month shall be paid as direct transfer into the Petroleum

Holding Fund by the fifteenth day of the ensuing month by the entities obliged to make the payment.

- (3) The entity shall notify the Ghana Revenue Authority in writing of the payment into the Petroleum Holding Fund.
- (4) Where the liability of an entity to make a payment is not discharged on or before the due date, the entity shall pay as a penalty, an additional five percent of the original amount for each day of default or the default rate established under any other law, whichever is higher.
- (5) For the purposes of this Act, petroleum revenue paid into the Petroleum Holding Fund shall not be.
 - (a) treated as part of the normal tax revenue for purposes provided for in relevant laws of the Republic; and
 - (b) used as the basis for the determination of any statutorily earmarked funds.

Thus statutorily, without delay, as soon as the Ministry of Finance (MoF), Ghana Revenue Authority (GRA) or any government agency receives any OG proceeds, it is required to pay such funds into the PHF in the custody of the Bank of Ghana. According to Sections 9, 10 and 11^{1,2,3} of the PRMA, out of each year's total petroleum receipts (which have to be paid first into the PHF), 70% of this amount can be allocated to support the annual budget of Ghana. This 70% is called the Annual Budget Funding Amount (ABFA). The remaining 30% of annual petroleum revenues are placed into two separate funds—the Ghana Stabilization Fund (SF) and the Ghana Heritage Fund (HF). According to Section 21 (3) of the PRMA, ABFA shall give priority but not be limited to predetermined projects or areas. As noted already, the PRMAA created a special Infrastructural Fund that sought to accelerate social infrastructure creation in Ghana through the use of petroleum funds.

¹ Section 9 is titled, *Establishment and object of the Ghana Stabilization Fund*.

² Section 10 is titled, *Establishment and object of the Ghana Heritage Fund*.

³ Section 11 is titled, *Ghana Petroleum Funds*.

Due to apprehensions emanating from the so-called resource curse (Auty, 1993; Stevens, 2003; Karl, 1997; Obi, 2010; Ross, 1999) and its associated socio-economic and political ills or even disasters, two additional distinct petroleum funds were set up at the BoG: SF and HF as noted above. The former is for making up for losses in revenue caused by OG price slumps as happened in June 2014 when world prices slumped to under USD50/barrel from over USD110/barrel. A similar development occurred in the first quarter, 2020 due to the coronavirus pandemic (COVID-19) leading to slump in crude prices. Thus, the SF is expected to smoothen out and protect Ghana from the “boom and bust” or roller-coaster nature of crude prices on the world market (Aryeetey and Ackah, 2018). Ghana’s SF is akin to other nations’ rainy-day funds to cushion against shrinking public revenues leading to budget shortfalls.

Ghana’s second fund, called the Heritage Fund, as its name suggests, is a savings account set up solely for the benefit of future generations. According to Section 3 of PRMAA:

The object of the Ghana Heritage Fund is to provide an endowment to support development for future generations when petroleum reserves have been depleted.

These funds are not to be used for current or near-term consumption. Instead, they are invested in long-term financial instruments such as Eurobonds or US Treasury Bills. According to the PRMA, the SF can only be liquidated a year after Ghana’s OG is completely depleted. The long-term view or concerns over the HF is reflected by Section 4:

Parliament may by a resolution supported by the votes of a majority of members of Parliament at intervals of fifteen years from the date of commencement of this Act, review the restriction on transfers from the Ghana Heritage Fund and authorize a transfer of a portion of the accrued interest on the Ghana Heritage Fund into any other fund established by or under this Act.

The combined assets in Ghana’s Petroleum Funds are estimated at about half a billion dollars as at 2020 (SWF Institute, 2021).

With the objective of ensuring sound management of Ghana’s Petroleum Fund (PF), an Investment Advisory Committee (IAC) headed by a renowned Ghanaian international financial expert, Jude Kofi

Bucknor, was launched to oversee the PF and to advise the Minister of Finance on the choice of investments. Subsequently, the PRMAA led to a change in the composition of seven-member IAC to include at least two women from one woman earlier. The IAC's sole purpose is investing Ghana's OG funds prudently to meet the Funds' objectives in accordance with the PRMA. The IAC was not constituted from 2017 to 2019. During this period and the years thereafter, there were also major disagreements between PIAC and the GoG/MoF on possible abuse and non-transparency of the OG funds (PIAC, 2018; Wiafe and Adogla-Bessa, 2021; Ghanaweb, 2019a, 2021a, d). This includes issues such as the government's failure to account for unutilized Annual Budget Funding Amount (ABFA) and low returns from the Ghana Petroleum Funds. Additionally, PIAC raised issues about perceived partisan appointment of members and called for a depoliticization of the appointment of the Committee "if the Committee is to function properly and achieve the purpose of its establishment" (PIAC, 2018).

The PIAC is one of the jewels in crown of internationally/western donor-backed efforts at stemming corruption in Ghana's nascent oil and gas industry (4). Corruption in this particular context is confined to the misappropriation of OG proceeds, which in turn is perceived and treated in both mainstream natural resource literature and within the international donor community as one of the causes of the "resource curse" in poor or developing nations, especially those in Africa with abundant crude oil deposits (Auty, 1993; Stevens, 2003; Diamond and Mosbacher, 2013). A genuinely unique feature of Ghana's OG transparency-related structures is the membership composition of the PIAC (Ackah et al., 2020; Stephens, 2019; Graham et al., 2019; Oppong, 2016). Its membership from diverse civil society groups, associations and bodies attest to the central role assigned civil society and citizen stakeholders in Ghana's almost labyrinth system designed to ring-fence or impose fiscal constraints around all OG proceeds to pre-empt larceny, that is grand or small theft, pilfering or corruption by Ghanaian public officials.

Membership of the PIAC comprises representatives of a broad range of civil society and private groups and bodies ranging from workers, academics, research institutions, professional groups, think tanks, religious bodies, women's and industry groups. This key financial probity body is at the apex of Ghana's OG transparency system and backed by Sections 51 to 57 of the PRMA. Being the center piece of Ghana's transparency initiatives, PIAC is expected to superintendent the collection and disbursement

of petroleum revenues from Ghana’s oilfields (Fig. 1). In effect, PIAC is expected to watch over every pesewa, penny or pence paid into and withdrawn from Ghana’s Petroleum Holding Fund into which all OG revenues are required to be deposited in accordance with Ghanaian law.

The main premise of PIAC’s functions is that governance or management of Ghana’s oil will improve if there is adequate civic engagement in the country’s oil affairs. Furthermore, civic engagement would be enhanced if the public and citizenry were equipped with data and information about the oil industry. Thus, since its founding in 2011, PIAC, in accordance with its mandate, has produced reports submitted to Parliament, and the Office of the President on petroleum receipts and expenditures from OG Funds. PIAC publishes two reports each year: a Semi and Annual Report in line with timelines established by law.

Besides incomes and expenditures, PIAC reports provide an overview as well as fine details such as how much oil is produced each period, how much Ghana’s share of oil was sold for and at what price/cost per barrel and payments made to Ghana by oil companies. The PIAC also monitors and includes in its reports its evaluation of PHF; the HF; SF; ABFAs and

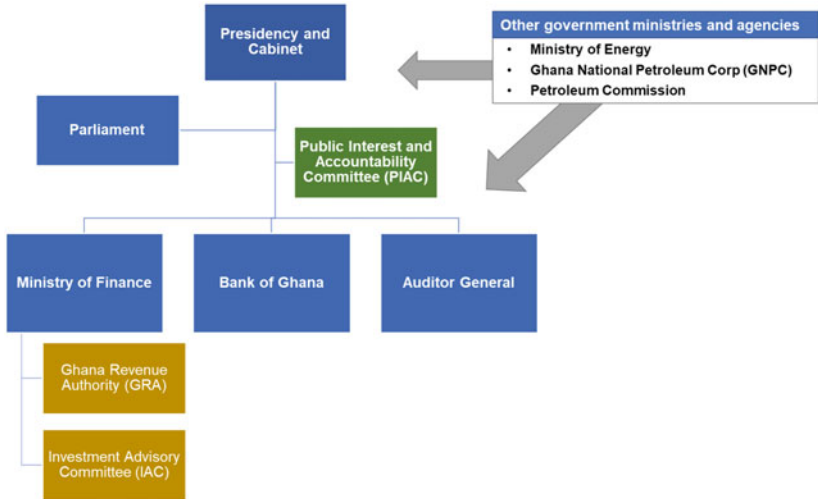


Fig. 1 Central entities involved in petroleum revenue management (Source Adapted from PIAC [2017b, p. 27])

gauge the extent to which fiscal activities comply with or deviate from legal provisions. As more infrastructural projects are funded through OG monies, increasingly on its own, since 2016, the PIAC has included in its reports “value for money” assessments. It is therefore monitoring the status of petroleum-funded projects and whether or not projects were worth funds expended on them. Community engagement in the form of town-hall meetings in different cities and towns of Ghana are essential to disseminating its findings. The PIAC has sought to take as it were, its reports and activities on “the road” across the country to drum up publicity (Graham et al., 2019; Stephens, 2019).

Taken together and in conjunction with the MoF and BoG to publicize summaries and highlights of Ghana’s OG fiscal affairs, it could be observed correctly that Ghana has set good examples for African and other resource-bearing nations to emulate by going to great lengths to implement several transparency measures to guide the use of OG proceeds and expenditures. However, as intricate, or even sophisticated as Ghanaians and their western donor allies have been in seeking transparency, current mechanisms may have protected revenues after receipt, but may not have adequately inoculated or provided enough powerful antidotes to the proverbial resource curse which we prefer to name as “mismanagement or misapplication.” Alas, Ghana’s transparent efforts may have guarded the anemic funds paid to the GoG but may not be enough to assure Ghanaians the fuller benefits of their OG. As it were, Ghanaians have been lulled into a false sense of security leading them to not pay much attention to the other main parts and determinants of whether a resource becomes a blessing or not.

We now shift to oil and gas extraction and its consequences beyond transparent management of paltry payments into GoG coffers. The issues and challenges we identify have consequences for not only the literal Ghanaian obsession with what is dubbed as “*post facto* oil payments” type of transparency, that is, Ghanaians being made to dwell on how to guard relatively small oil payments Ghana gets and not being cognizant of how the interests of IOCs—backed by western donors—have combined to ensure that western interests and now increasingly, Chinese needs, drive the operations of IOCs in Ghana.

3 THE IDEOLOGICAL (THEORETICAL) PEDIGREE OF GHANA'S PETROLEUM FISCAL REGIME

We begin with disappointing but not surprising facts of Ghana's startlingly low petroleum earnings, what we designate as anemic or paltry income flows into Ghana's Petroleum Holding Funds. Despite the extreme vigilance to literarily erect a fence around funds paid into the PF, it is an undisputable fact that since first oil in December 2010, Ghana has not earned more than a billion dollars from oil and gas in any single year. Interestingly, the World Bank in 2010 projected Ghana would earn from 2011 onwards over a billion dollars of revenues from Jubilee, the single and premier commercial oil field (World Bank, 2010, p. 3). Another 2009 report from the World Bank stated, among others:

Based on the fiscal regime in place, and a price assumption of US\$75 per barrel the World Bank's estimate puts potential government revenue at US\$1.0billion on average per year between 2011 and 2029....At US\$50 per barrel, government revenue would go down to an average of US\$0.4 billion per year; at US\$100 per barrel, government revenue would conversely go up to an average of US\$1.6 billion per year. Besides, higher cost of extraction could also significantly impact revenue. (pp. 1–2)

Table 1 shows petroleum earnings from 2010 to December 2020 that also render null and void the above assertions including ones from proponents including Hirschman's (1977) view that resource curse always emanates from lotto/lottery-like massive inflows of revenues into the coffers of resource-bearing nations.

The Natural Resources Governance Institute (NRGI) reported that from 2011 to April 2020, Ghana's total receipts from oil sales by the NOC, GNPC, were USD5.2 billion (Ghanaweb, 2020). Such low earnings, in our view, are not befitting of the status of Africa's potential

Table 1 Ghana's petroleum earnings 2011–2019

<i>Year</i>	2011	2012	2013	2014	2015	2016	2017	2018	2019
Revenue (USD million)	444.1	541.6	847.0	978.0	396.2	247.2	555.5	977.1	925.0

Source PIAC Annual Reports from 2011–2019

number four top producer of petroleum resources (Reuters, 2016). To be fair, we acknowledge that many factors account for Ghana's anemic yearly earnings from petroleum. Some of these result from Ghana's fiscal regime and practices while others are outside Ghana and may be beyond the country's control. Financial forecasting especially those related to petroleum extraction and sales is often not precise and accurate. Forecasting output, prices, sales and earnings from natural gas and oil is particularly challenging. Besides, despite advanced technology such as 3 Dimensional (3D) moving even into 4D seismic data imaging, mapping and modeling and also with 5G and beyond computer capabilities, estimating the size of oil and natural gas deposits is still not a precise science.

Until actual production occurs, it is hard to estimate exactly how much crude oil and gas reside in any oil field or well. In addition, initially some wells at the Jubilee Field did not produce oil. Production began only after a remediation program of drilling eight new production wells—five producers and three water injectors—and acid stimulation of other wells (Offshore Magazine, 2012; NewsGhana, 2012; Rodriguez et al., 2014). Drilling of the new wells came at an extra cost of USD1.1 billion encompassing the Jubilee Phase 1A development while remedial works including acid stimulations cost a reported US\$400 million (PIAC, 2012; Offshore Energy, 2012; Tullow and Kosmos, 2011). All these costs are cost recoverable by the Jubilee operators as petroleum cost under Ghanaian fiscal regime, which in part accounted for Ghana's reduced earnings. PIAC (2012, p. iii) notes:

There was an increase in the average production costs of the Jubilee partners from US\$13.99 per barrel to US\$16.11 per barrel as a result of having to correct some technical problems [relating to well productivity] encountered in 2011 and the early part of 2012. These corrections included acid stimulations conducted on the fields of the Jubilee Phase 1.

There is also the unpredictable behavior of global oil features akin to the volatile nature of liquid hydrocarbons. Crude prices behave like roller coaster or a seesaw that some call booms and busts (Aryeetey and Ackah, 2018) but that is only one side of the Ghanaian oil odyssey. There is the urgency to reflect also on the economic model that drives and hence underpins Ghana's approach to extracting crude oil and its sale on the international commodities market. For these drivers of what goes

on in Ghana, we turn to classical economics and its offspring, neo-liberal economics—a belief in markets, privatization, deregulation and open economies (Poku and Whitman, 2017; Harrison, 2010; Kobrin, 2005). The latter includes key axioms such as the indispensability and thus premium placed on liberalization of foreign direct investment (FDI).

This current orthodoxy has been the dominant posture that reigns supreme in post-1986 Ghana (Panford, 2001, Bofo-Arthur 1999, 2000; Meagher, 2019). FDI is not only treated as indispensable but, has as well been elevated to the status of *a sine qua non* development ingredient that Ghana cannot and will not be allowed to do without. FDI in Ghanaian and other African countries' extractives has attained the status of indispensability or absolute necessity (NewAfrican, 2016).

Ghana has been and retains the dubious accolade of Africa's most economically liberalized state. Ghana attained this distinction in 1994 (Opoku, 2010). Hence, both Ghanaian ruling, dominant duopoly parties of the NPP and NDC without much variance, since commercial oil was found, have sought to forge the country's oil fiscal governance in neo-liberal shape in outlook and in content (Osei-Tutu 2013). Under western donor aegis—mainly the UK, Norway, Germany and the US—Ghana's oil extraction and exports have been framed within classic or neo-liberal post-Cold War framework(post 1989–1990) as attested to by Osei-Tutu (2013, p. 6):

the burden is largely placed upon private stakeholders particularly the international oil companies (IOCs). Also, development partners are heavily relied on not only in policymaking, but also in initiation of Ghanaian content programs and projects. The GoG's role as it appears in the policy documents like PR 2012 is as a sort of 'enforcer,' a policing agent. The policy documents appear not to impose obligations on GoG to provide enabling environment for Ghanaians to develop the high skill and know-how needed in the technology-intensive field of petroleum.

Osei-Tutu (2013, p. 6) then succinctly lays out the dire policy consequences of such neo-liberal perspectives on resource production in Ghana:

We do not see any marked effort to nurture a robust Ghanaian private business sector that has easy access to capital to invest; and the skills that satisfy international standards needed in a highly competitive oil and gas business.

Yao Graham of Third World Network-Ghana (a civil society institute that seeks social equity in mining), points out that western donors, starting with gold and diamond mining, have successfully turned Ghana into the model neo-liberal resource extraction and export economy in which FDI and multinational conglomerates and not the Ghanaian State are major agents of economic policies and practices:

The neo-liberal ... policies which created the framework for the mining boom in Ghana and many other African countries have also resulted in the virtual dearth of the kinds of fruitful link that used to exist between African scholars and the concerns of ordinary people. (Yao Graham, 2000, p. 26 culled from Panford, 2017, pp. 78–79)

This precisely is the model that Ghana has adopted for OG production and export from the Jubilee Field, the premier oilfield to subsequent ones. In compliance with the classic/neo-liberal perspective, various administrations have whittled down Ghana's stake/ownership in the petroleum agreements. For example, government reduced its whopping 49% stake (the highest ever State ownership) in the South Deep Water Tano (SDWT) to a mere 10% (Ghanaweb, 2019a, b). The Akufo-Addo-led NPP government claims it reduced Ghanaian stake to 10% because it did not want to burden the NOC, the GNPC and its subsidiary, Explorco, with too much fiscal responsibility (Panford, 2021). Also, in 2015 and 2016, the government through GNPC Explorco also had the opportunity to acquire an extra 10% more stake in the Deepwater Tano Cape Three Point (DWT/CTP) block for US\$47 million, which contains the Pecan discovery earlier discovered by Hess before its interests were sold to Aker Energy. While the monies were reportedly allocated for the purchase, this never happened, forcing Hess to reclaim back its shares and leaving Ghana with only 10% shares in the block (Ghanaweb, 2019a, b). The Ghanaian government is now reportedly seeking to reacquire a 37% stake from Aker Energy in the DWT/CTP block and another 70% stake from AGM Petroleum in the SDWT block for a reported US\$1.65 billion (Citinewsroom, 2021; EnergyVoice, 2021).

A point worth stressing at this juncture is that due to extremely liberal lease terms, the bulk of Ghana's petroleum incomes since 2010 have come from its stakes in oil fields. That is, both carried and commercial stakes or equity ownership have been Ghana's largest single source of income from oil. Therefore, with regards to even newfound developments such

as Pecan, Ghana is likely to earn just as it did before. According to Landua et al. (2020), “*Ghana ... was receiving little in the way of taxes from the mining sector, from just USD27 million in 2004 to USD91 million in 2008. These ... were caused by generous taxation ... given ... companies ... and royalty and tax contributions did not increase along with commodity prices.*”

Neo-liberal perspective on economy and society has key tenets such as opening up economies for unlimited free trade and investment, especially FDI, the most favored type, to the detriment or exclusion of local, domestic or national capital formation. Local or indigenous capital is treated benignly at best or as inconsequential. Like classic economics, neo-liberal economics abhors large state roles in the economy, not even the industrial policy types that economists such as Aryeetey and Moyo (2012) deem necessary (7). As a matter of fact, the Berg Report, the World Bank’s (1981) road map to accelerate economic growth in sub-Saharan Africa and the harbinger of twenty-first century neo-liberalism treats the African state or public sector as the anti-thesis of economic efficiency and growth. Neo-liberalism consigns the state to the absolute minimal role possible. The state’s role is or analogized to that of the neutral umpire or referee in a game. In Ghanaian colloquial English adage, the state should be a “*watchman.*” It should only enforce the rules of business as minimally as possible. With regards to oil, the GoG is expected to stand by idly and watch as development unfolds with little or no intervention irrespective of the adverse effects on natural resource management and how its roles impact Ghanaian lives and society. The market, that is, the forces of supply and demand are supposed to be the optimum or best determinants or arbiters of Ghanaians’ best interests.

In this chapter, on the contrary, especially regarding policy prescriptions and based on Ghana’s colonial history and recent socio-economic developments, we have used a political economy perspective to infuse an industrial policy strategy to critique and offer policies to counter the disparate impact of oil extraction law, policies and practices in Ghana since 2007 when crude was first discovered commercially. Our approach centralizes the fundamental principles and practices of inclusive (Acemoglu and Robinson, 2012), more egalitarian approaches to both the extraction and usage of crude petroleum.

In this context, we pay attention to genuine local content and desirable outcomes beyond narrowly defined “traditional sustainability” tacked onto as an afterthought within traditional neo-liberal literature and practice. Within our perspective, sustainable extraction of oil means not only

how long an oil field is on stream, but also equally significant, how *bona fide* local content, value addition and usage will unleash genuine and meaningful social, economic and technological transformation. The primacy of the creation of both a deep and wide pool of pertinent local talent—in this chapter what is designated “brain power”—is paramount, supreme and non-negotiable. To reiterate, we seek to promote inclusivity in sharing in the benefits of crude oil and gas as well as creating benefits that last beyond the 20–40-year life span of most oil fields as well as extend the positive effects of these resources into every realm of Ghanaian life and work—that is, genuine socio-economic change.

4 ADVERSE EFFECTS OF GHANA'S NEO-LIBERAL POSTURE IN OIL AND GAS EXTRACTION AND EXPORTS

4.1 *Anemic Petroleum Revenues in Ghana 2010–2020*

As noted, Ghana has been lauded by the international donor community for steps it has taken in handling its OG receipts in a transparent manner (Africa Progress Panel, 2013). We however stress that much emphasis and efforts have gone into literally guarding petroleum funds that are placed in the public coffers—the Petroleum Holding and other Funds at the BoG in Accra. Hence, it is noteworthy to reiterate that following the orthodox neo-liberal perspective on the public management of natural resources, concerns have been raised about corruption as well as being the main target in being transparent as exhibited by one of the projects of the US's popular and liberal think tank, the Brookings Institution at Washington DC (Eisen et al., 2018, p. 1). The project's description and objectives for sharing are:

annotated bibliography (AB) of more than 150 books, papers, tools/datasets, and other resources addressing transparency, accountability, and participation (TAP) efforts along the natural resource value chain. We hope that the AB and related materials ... will serve as a helpful resource for practitioners, policymakers, researchers, donors, and other stakeholders...

Orthodox resource curse perspectives on natural resources not excepting crude petroleum are premised on several fallacious assumptions and biases such as neglecting IOCs and their roles in corruption and facts of “the foreign captured” or “dominated African state” and “race to the bottom

phenomena.” This perspective and its variants assume that only African government officials are corrupt, and the corruption of the African public sector is unique or inevitable (Panford, 2017). As we wrote elsewhere in Konadu and Panford (2006), the corrupt public or civic servant is and remains the “boogeyman” or “boogey person” for all things corrupt in Africa in mainstream literature.

The adoption of a neo-liberal stance in OG production and exports to the international market without refining a drop of crude oil in Ghana have culminated in the country being steered far away from optimum benefits from both the physical/technical extraction and uses of OG. It is important to state here that even with three already producing oil fields with a fourth likely to come on stream, Ghana’s yearly and accumulated OG incomes have fallen far short of forecasts of over a billion dollars *per annum* with prospects for appreciable boosts being minimal. As depicted in Table 1, Ghana is experiencing anemic cash inflows despite oil gushing from three operating fields (CENRM, 2020; PIAC; 2012, 2013, 2014, 2015, 2016, 2017a, 2017b, 2018).

Unlike neighboring African OG producers Nigeria, Angola and Equatorial Guinea (Panford, 2017; Appel, 2019) where large chunks of petroleum funds running into billions of dollars have been squandered or unaccounted for, Ghana’s case appears to be different. Anemic petroleum dollar or cedi inflows are not linked or connected to corruption or other types of stealing public funds. Data collected by this author and two colleague consultants made us report in PIAC’s maiden 2012 report, that Ghana’s true and correct petroleum receipts had been recorded and accounted for at the BoG as of February 2012 (PIAC, 2012). This has been the case in the subsequent years, also evidenced in various official public reports.

Several factors, however, have combined to generate the less than expected petroleum incomes for GoG. Some are unavoidable because they are inherent in the oil business due to the limits of technology. Others, which we deem avoidable are caused by tortuous, impossible, and fallacious fiscal gymnastics, wrangling or contortions that neo-liberal perspectives embraced by GoG (both NPP and NDC regimes) and applied faithfully to OG extraction and foistered onto Ghanaians.

One technical glitch or limitation causing Ghana’s low OG revenues occurred in connection with the premier oil field-Jubilee. In the early stages of production, some wells ran dry: they could not produce any or little petroleum. Salt and other chemicals were applied to stimulate

production. Thus, initial shortfalls in Ghanaian earnings could partially be attributed to less than forecast oil and gas output from Jubilee. Despite leaps in technological applications such as 3D getting into 4D seismic data and other technologies, oil prospecting and forecasting of output are still not a precise science. The industry is still fraught with forecasting/projection errors. This is especially the case in upstream oil and gas activities, namely exploration and production. Projecting future output still entails guess estimates that could prove false.

However, the real bane of Ghana's oil sector is meager income woes linked directly to the ideology and application of classic or neo-classic liberal economics. Neo-liberal economics drives orthodox natural resource curse theorem which in turn reinforces or undergirds western donor nudging in the form of conditionalities which result in Ghana's neo-liberal "umpire/referee" posture or orientation toward resource extraction. The result is a lackadaisical or at best lukewarm approach to local content—the involvement of indigenous Ghanaian businesses and the employment of Ghanaian employees and serious commitment to create local wealth through concerted policies and actions to add real value in the OG value chain. A cavalier governmental attitude to local content/value chain has resulted in oil extraction not likely to leave lasting and meaningful positive economic or social legacy in Ghana if current trends continue.

None of the above—substantial local content plus meaningful value addition which are the antidotes to the dreadful resource curse are permitted or conceivable within mainstream resource curse perspective and the neo-liberal economic framework especially in the context of natural resources in general and petroleum in particular in Africa. These require transformational or radical changes in governance which neo-liberals deem an anathema, and hence, cannot be altered even when natural resources do not create widespread socio-economic prosperity, especially in sub-Saharan Africa (SSA).

We are referring to changed governance and processes to tackle age-old colonial processes that assigned Africans roles backed by so-called comparative advantage to be hewers of wood, modern-day timber logs (Adu Boahen, 1966; Rodney, 1982) and places to extract for oil from ultra-deep sea levels as Ghana has become since 2007 when it announced its first commercial oil find. Hence, while the State of Alaska in the United States hands out cheques to citizens from profits from value added to its crude oil and mandates IOCs to pay taxes with crude oil *in lieu* of cash,

Ghana on the other hand, in the name of efficiency and alleged inefficiency and corruption in the public sector is sternly discouraged from refining even one barrel of oil from Jubilee and other fields. Hence, Alaska uses crude as payment for taxes, fees and royalties, to do value addition to create wealth which it passes onto its citizens via payments in the millions of dollars, while also generating good-paying jobs in the oil refinery business (Panford, 2010; Diamond and Moshbacher, 2013). Our examination of original documents including agreements between GoG and Aker AGM Norway (Original Pecan Agreement, 8 February 2006, First Amendment and Amendment No. 2, September 2013) reveals that currently there are no plans to refine crude from the latest oil field, Pecan which could add more value while creating more jobs. On the other hand, although Uganda discovered commercial oil, one year ahead of Ghana (in 2006), it has delayed producing its first oil because it seeks to create an oil refinery as a condition for oil production (Panford, 2017; Reuters, 2018).

There is one more proof of Ghana's improbable fiscal gymnastics or acrobatics in the oil sector. Even though the bulk of Ghana's emaciated petroleum funds come from carried or commercial participation in oil fields, contrary to expectations, the Akufo-Addo-led NPP Administration swiftly pruned Ghana's stake in SDWT from an unprecedented high 49% to a meager 10% interest. Its reasoning is that it did not want to saddle Ghana's NOC, the GNPC and its upstream subsidiary, Explorco "with excessive financial burdens." The real meaning of the cut from 49% to 10% ownership is that for every cedi, dollar, pound or euro earned from this field, Ghana's share is drastically cut from 49 pesewas, cents or pennies to a paltry or miserly 10 pesewas, cents or pennies. This is inexplicable. Such irrational measures steer Ghana toward the proverbial resource curse that afflicts neighbors like Nigeria, Angola, Cameroon, and Equatorial Guinea, because oil does not benefit citizens.

4.2 Ghana's Experience with "Race-to-the-Bottom" and "Captured/Foreign-Dominated State" Phenomena

While since the mid-1980s Ghana has burnished its neo-liberal credentials, with respect to oil business it is exhibiting clear and present signs of a fully fledged "race to the bottom" or the hallmarks of a "captured/foreign dominated state." This has been achieved through exceedingly liberal or excessively pro-foreign business oil contracts. There

is also the benign neglect or lukewarm orientation toward value addition and the use of crude oil and gas for accelerated socio-economic and technological development. Ghana and other African countries (mostly, Nigeria, Equatorial Guinea, Angola, and Cameroon) earn less from oil which protagonists of resource curse misconstrue as “a curse” largely due to two phenomena—“race-to-the-bottom” and its twin occurrence, “foreign dominated/captured state (Agbesinyale et al., 2008). Here are concrete examples. While Sierra Leone is notorious for its world’s leading smallest royalty fee of half a percentage point (that is less than 1%), Ghana had the oil industry’s least royalties: 5% for crude oil and 3% for natural gas at the time (Panford, 2017; GPJ, 2010). These ultra-low royalties culminated in part from technical assistance Ghana obtained from the Commonwealth Secretariat for formulating its Model Petroleum Agreement of 2000 (Panford, 2010). These low royalties were allegedly created to attract FDI into Ghana’s new oil sector (12).

The race-to-the-bottom phenomenon which is largely ignored in mainstream resource literature is mainly responsible for the paltry payments made to Ghana and other African States by IOCs to make more money for their shareholders and parent companies. According to Obeng-Odoom (2014), the incidence of captured state occurs when Ghanaian and other states like Liberia (in the case of rubber) or Equatorial Guinea (with respect to OG) get paid less for their resources because of their weak bargaining power within the global economic system. Unequal power or bargaining relations depicted in detail by Obeng-Odoom (2014) in the case of Ghana’s oil is backed concretely by the enormous capitalization of the world’s leading oil companies (Fig. 2) vis-à-vis weaker African resource-bearing countries such as Ghana, Liberia, Equatorial Guinea and Chad. Ghana’s Total GDP for 2020, for instance, was USD67 billion while Liberia’s entire 2020/2021 budget was barely half a billion dollars (FrontPageAfricaOnline, 2020). Ghana’s weak bargaining status within the world’s economy is indicated by its small GDP as shown in Fig. 3.

Countries like Ghana earn less than expected partly due to efforts to outbid other oil-bearing African states in the quest for FDI by offering low royalties and large fiscal incentives to IOCs. Also, in the global political economy scheme, states with low bargaining power such as Ghana tend to bend to the will of powerful countries, their donor agencies and

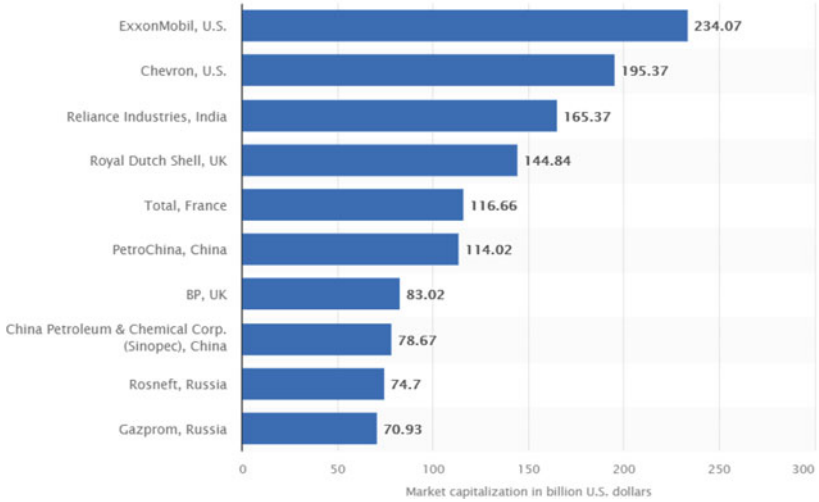


Fig. 2 Leading oil and gas companies worldwide based on market capitalization as of April 2021 (billion USD) (*Source* Statista [2021])⁴

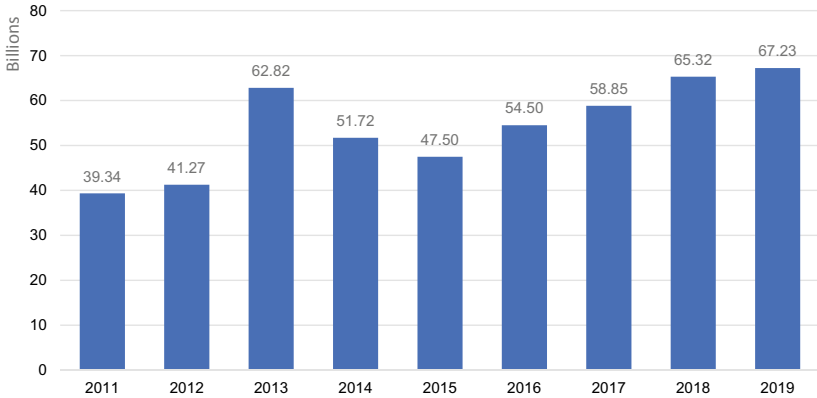


Fig. 3 Ghana's GDP from 2011–2021 (*Source* World Bank, World Development Indicators)

Table 2 State participation in Ghana's four oil fields

<i>Field</i>	<i>Government of Ghana Stake (%)</i>
Jubilee (West Cape Three Points & DeepWater Tano)	13.64
TEN (DeepWater Tano)	15.00
Sankofa Gye Nyame (Cape Three Points)	20.00
Pecan (DeepWater Tano Cape Three Points)	10.00

IOCs. Excessively liberal or pro-business oil contracts allow IOCs to accumulate wealth while countries like Ghana earn less (Krauss, 2021). Even the largest country and biggest African economy, Nigeria, has not successfully resisted the urge to offer extremely favorable lease terms to attract FDI into its solid minerals sector (New African, 2016, p. 13):

... creating the right regulatory landscape is the primary step for rejuvenating the sector and attracting international investors, whose hard cash and industry expertise are desperately needed. Investors will not come in if they do not have bankable information that they can trade with. We are lagging behind in that In the past decade, the government has done some work on the legal and regulatory issues. So, the laws are there, they can match others around the world, in this particular sector. The incentives are attractive enough—we have a five-year tax holiday, we have a 100% ownership arrangement for companies that want to come into mining. We even have a waiver for bringing in equipment.

A race-to-the bottom, and its twin, the foreign-dominated or captured state, have combined to create what we describe as improbable “fiscal gymnastics or maneuvers” in trying to attain two incongruent objectives in managing natural resources resulting in dooming to poverty raw material exporting countries, not excepting Ghana being in untenable positions. Such conditions are typified by “no win,” “lose-lose” propositions entailing extremely liberal oil contracts as depicted by the various state participation in Ghana's four oil fields in Table 2.

⁴ Biggest oil companies 2021 | Statista (2021). Available at: <https://www.statista.com/statistics/272709/top-10-oil-and-gas-companies-worldwide-based-on-market-value> (Accessed: 14 August 2021).

The incongruent and therefore untenable propositions donors offered to resource-rich African countries including Ghana is that:

1. Governments must refrain from direct engagement in resource extraction and value addition. The latter in particular is sternly discouraged in Africa;
2. Ghana/other states require FDI to maximize efficient resource extraction and exports;
3. Africans' route to the best use of resources is to tax IOCs and charge them fees;
4. To attract more FDI, resource-bearing nations have to provide pro-foreign business terms and conditions for investment.

The fourth proposition has led to a race-to-the-bottom which has been reinforced by “foreign capture” even in the case of Ghana which is considered an economic success in donor circles. Due to credence given to so-called imperatives of FDI, Ghana like other African countries has had to compete to attract overseas financing, technology and labor talent for its oil sector which is also capital and technology intensive. Both Jubilee Field contract (PIAC, 2017b; Panford, 2017) and the most recent, Pecan AGM Aker lease approved by Ghanaian Parliament, December 2019 (Panford, 2021), are replete with copious features of race-to-the bottom and many traces of a captured/foreign-dominated orientation to OG extraction and exports in crude forms.

Here are examples from the Jubilee Field lease; extremely high and lax capital depreciation or amortization rate of 20% for 5 years. The initial lease lacked any capital gains tax provisions. This constituted a huge financial *faux pas* committed by financial or tax novices. Added to that, there are no taxes or only nominal administrative fees for imported equipment for oil extraction and no duties on exports of crude. All foreign workers are also exempt from payroll and all other taxes. While a Ghanaian consultant is subject to 5.6% payroll withholding, expatriates pay nothing irrespective of their earnings. Hence, a 24-year-old welder from the US who was employed at Jubilee in 2014 did not only earn USD140,000 that year, but also paid nothing by way of taxes. Furthermore, he could take his entire USD140,000 out of Ghana in cash without paying any fees on the transfer (Hagerty, 2015).

The half-year 2017 PIAC Report provides an apt description of the generous financial breaks Ghana granted to the foreign-owned Jubilee partners:

The companies benefit from a capital allowance arrangement of 100% 5 years straight line deduction for exploration, appraisal, and development activities, as well as other capital expenditures. They also enjoy unlimited loss carry forward. This allows the companies to use realized capital losses to offset their taxation of capital gains in future use. Import and export duties are zero-rated for the companies.

Contrary to expectations, Ghana, the acclaimed trend-setter in Africa, after a decade of commercial oil production, has not improved its contracts. Details of the Aker AGM (Norway) Pecan contracts approved by Parliament in December 2019 support the contention that Ghana is slackening in terms of enhancing the benefits of its crude at its most recent oil field. Highlights of such retrogression are exempting Aker AGM, the Operator of the Pecan Field from current exploration and production statutes as well as laws passed to *inter alia*, enhance local employment and involvement of Ghanaian businesses such as the Petroleum Exploration & Production Act, 2016, and the Petroleum (Local Content & Local Participation) Regulations, 2013 (L.I. 2204). The Akufo-Addo-led NPP administration granted Aker AGM of Norway wholesale exemptions from laws in effect as of December 2019 that could have improved Ghanaian revenue streams, employment and usage of local services and other businesses (Panford, 2021).

The most egregious term in the Aker AGM lease is the precipitous drop of Ghanaian stake from the highest the country had ever had, that is, 49%, to a mere 10% in the 2019 agreement approved by Parliament. Other terms not favorable to Ghana are the freedom for AGM and subcontractors to hire workers and use services without any restrictions from the state to allow for meaningful local content and hence more positive and broader socio-economic benefits of the crude from Pecan. One bad feature with severe consequences for technology transfer and skills training is the non-payment of or reduced fees for training or equipping Ghanaians in oil talent the country lacks sorely. Above all, the Pecan AGM agreement's terms are not improvements on prior agreements, but also allow Aker, its contractors and subcontractors to turn Ghana's Minister

of Energy into their “errand boy,” or as said in Ghana, into its “messenger.” For example, the sector minister is required by the language in the contract to facilitate oil companies’ procurement of documents such as permits to operate. This not only denigrates high level Ghanaian public servants and undermines their authority, but also lead to conflict of interest. Instead of serving Ghana, these officials are now required by Ghanaian law to work to secure the interests of foreign oil companies (Panford, 2021).

5 OBSERVATIONS AND CONCLUSIONS

This chapter has demonstrated that since 2007 when Ghana found its first commercially viable oil, it has taken measures with the encouragement of western donors to create financial transparency largely in respect of earnings after they are paid into the public coffers. Although as this chapter has shown, fiscal transparency measures instituted in Ghana are commendable, these transparency measures including the unique PIAC, and Stabilization and Heritage Funds, are only partial solutions to the highly dreaded proverbial resource curse in Ghana and in other parts of Africa.

Firstly, Ghana’s transparency institutions and practices have had a narrow focus: *post facto* receipts. The transparency measures seek to ring-fence or guard only payments or funds after they are made by IOCs. None of the measures implemented seek to address what in this study has been called anemic payments to the GoG by IOCs. The grossly low payments made to Ghana by oil companies from 2007 to 2020 (see Table 1) are due to the excessively liberal nature of the oil contracts Ghana has entered into for its four oil fields. Ghana, the darling African country for neo-liberalism/extremely pro-FDI, has been lulled into believing that it can enhance its citizens’ living and work conditions by literally guarding funds paid to it irrespective of how small these funds are. Secondly, Ghana under the tutelage of western donors is attempting improbable financial or fiscal gymnastics or acrobatics which it expects to maximize benefits from crude oil and gas by offering IOCs sweetheart or highly pro-IOC agreements. But as shown in Table 1, these arrangements have ruinous outcomes by reducing drastically payments companies make to Ghana.

Lastly and equally significant, Ghana needs to drastically change its orientation toward fast-tracking drilling for oil by quickly attracting foreign capital, technology and labor without considering the meaning

of this fast-paced production of oil. Ghanaian policy makers and their political counterparts need to reflect on turning the country's petroleum resources into *bona fide* socially, technologically and financially transformative assets, which would yield positive long-term legacy. The Ghanaian state has to adopt a version of industrial policy that Japan and South-East Asian countries practiced in the 1980s to 1990s and now practiced by China to lift over two-thirds of a billion citizens out of poverty from 1982 to 2020.

A policy designed specifically and suitable for Ghana should include the state engaging in scaling up of genuine local content in oil and gas and beyond, to include technology and energy. Such roles require the Ghanaian state to beef up OG talent training, providing substantive financial as well as technical support to Ghanaian oil companies, to generate services and supply goods. The GoG should treat all businesses the same by extending to indigenous businesses the same or improved fiscal packages that it provides to IOCs. In terms of education and talent development, it is imperative that the Takoradi-based Jubilee Partners training facility is not only improved but is scaled up to train more Ghanaians in OG. Also, new programs—first of their kind in Ghana or the West African region such as a Bachelor's Degree in Science in welding and other trades and the unique combination of Electronics and Mechanics (Mechatronics) at Koforidua Technical University and other institutions should be supported, improved and accelerated to make them functionally salient for Ghana to produce *en-masse* industry or labor market ready graduates for oil, gas and emerging sectors of green energy and technology (CitiNewsroom, 2021) (13).

As Ghana should have learned after 10 years of crude oil exports, the real lasting legacy of its non-replenishable oil and gas lies in value addition, the production of more talented Ghanaians to enhance local careers and business participation in the OG industry. Without these measures, Ghana will continue earning miserly revenue and will lose a rare unique opportunity to raise its citizens' standard of living by failing to leverage OG resources for widely shared economic prosperity. Thus, as practical needs are concerned here, we urge that, for instance, Ghana's premier university for technology, Kwame Nkrumah University for Science and Technology (KNUST) should not only receive and use trucks assembled in Ghana, but also be diligent to make plans for students to intern at vehicle assembly plants. These and similar measures to infuse engineering and other training in Ghana with relevant industry skills will boost

employment and incomes and add to Ghanaians' brain power to ensure development.

Staying on skills and local talent, whereas as in the case of the USD140,000 a year welder from the US employed on Jubilee Field, (Hargety, 2015) and the Chinese importing even tractor operators to build Ghana's gas infrastructure in the Western Region, we propose that Ghana should plan and execute faithfully schemes that will allow local youth to be immersed in sophisticated processes such as laser and heat induction welding processes that will qualify them to earn more than they do from current underemployment or no employment. For example, the sector ministers for petroleum and labor could pool resources to create programs to replace, for instance, Chinese tractor operators with local youth while Ghana sets up a solid, well thought out process to draw more Ghanaians into careers in oil and gas and other technical fields.

Lastly, since value addition, in the case of crude oil and gas especially, refineries are essential, Ghana should seek to emulate Alaska by getting paid with crude instead of cash for some taxes and fees by IOCs. Such crude payments should be used to feed the Tema Oil Refinery set up in Ghana in the 1960s as well as create more refineries as Nigeria is doing with the Dangote Refinery. Apart from refining some 650,000 barrels of oil daily, this single refinery is projected to generate almost 10,000 direct and 25,000 indirect jobs. If a single individual can undertake such massive investment, the GoG should and thereby add value to the nation's OG to create enough wealth to lift most Ghanaians out of the low-cost consumption of less than a couple of dollars a day.

NOTES

1. The original six Ghanaian oil districts are: Shama; Sekondi-Takoradi Metropolis; Ahanta West; Nzema East Municipality; Ellembele and Jomoro.
2. According to Ghana's Petroleum Commission (Information provided in February 2011, from June 2007 to December 2011, USD16 billion was invested in Ghana's upstream sector. Upstream petroleum activities typically are exploration, discovery, production of crude oil and gas and the decommissioning of non-producing oil facilities. Ghana's second oil field, TEN, required a USD4.8 billion investment, while Pecan the latest Ghanaian oil field is estimated to

- attract in excess of USD2 billion following changes to the original plan of development.
3. For copies and details of these petroleum revenue-related statutes and practices, see Public Interest Accountability Committee (PIAC) 2017b, *Simplified Guide to the Petroleum Revenue Management Law in Ghana*.
 4. The PIAC Report (2012) was funded by the German International Development Agency, GTZ, with in-kind secretarial support from Revenue Watch Ghana.
 5. To enhance public awareness of oil finances, Section 8(1) of PRMA, for example, requires the sector minister for oil to publish in “at least two state-owned daily newspapers ... the records of petroleum receipts.” This author proposed this section of the draft PRMA to allow Ghanaians without computers or access to the Internet to get such vital information and data from *Ghanaian Times and Daily Graphic* newspapers (Notes submitted by author to Ministry of Finance, Accra, Ghana, April and May 2010).
 6. Two cases in point are the post-2014 drastic price slump in crude oil features from USD110 to under USD60/barrel, and the First Quarter of 2021, when Covid-19 caused crude prices to move into negative price ranges.
 7. We find it curious that unlike in the kind of economics we were taught in Ghana from the 1960s to the early 1980s, today most economic texts ignore or barely mention the roles of local capital formation in African economic development or even growth. Instead, FDI is treated as *sine qua non*. Industrial policy protagonists advocate the state picking and selecting indigenous companies deemed likely to succeed, be competitive and of strategic national economic importance. This strategy partly explains the so-called economic miracles in South-East Asia and China since the mid-1980s. The New Joe Biden US Administration is contemplating the use of Executive fiat to implement a pseudo-industrial policy for industries and goods deemed essential to US national security and finances like microchips, microprocessors, semiconductors and personal protective equipment (PPE) in post-COVID-19 era. To meet his campaign pledge to create jobs and bring back manufacturing to America, President Biden has embarked on multiple trillion dollar “Made in American” campaign by mobilizing the talent, grit and full power of the federal government to bolster

- American Industry, and to benefit technological strength (Joe Biden For President Official Campaign Website, 2021). This is an attempt to match China's rise through state subsidies to Chinese businesses in the form of financial aid to acquire land, raw materials and other inputs.
8. A major missing piece from the growing literature on Ghanaian oil sector is the lack of discussion of the efficiency of the technology and equipment such as Floating Production Storage and Offloading (FPSO) vessels such as the FPSO Kwame Nkrumah that sits one mile on top of the Jubilee Oil Field, the Gulf of Guinea in the Atlantic Ocean. The labor use and employment generation dimensions of such capital-intensive processes, technology and equipment are assumed to be unproblematic or not important in published works on Ghana's petroleum extraction. So for instance, little or no attention has been drawn to the fact that after spending over USD4b on the natural gas producing Sankofa Gye Nyame Oil Field, approximately 350 employees are on its payroll.
 9. As the lead technical consultant for the PIAC, in February 2012, this author met one-on-one with the Treasurer of the Bank of Ghana to account for Ghana's petroleum receipts from 2010 to 2011 (see PIAC Maiden Report, 2011). Other consultants were John Peter Amewu and Mahammed Amin Adam, the last Ghana Minister for Energy and Deputy Minister, respectively.
 10. The forward-thinking CPP and Nkrumah government established the Tema Oil Refinery (TOR) which can process 45,000 bod in 1963, some 44 years before commercial oil was discovered in Ghana. Alaska is expanding its roles in OG by bidding for leases in the Arctic Natural Wildlife Refuge (Clifford Krauss, *New York Times*, 20 January 2021). Norway has leveraged its petroleum resources to become the single most important real estate owner in the world while accumulating trillion dollars in its sovereign wealth fund it begun in the 1990s.
 11. Amendment No. 2 to the Petroleum Agreement Among The Government of the Republic of Ghana, Ghana National Petroleum Corporation, AGM Petroleum Ghana Ltd and Quad Energy Limited, in respect of South Deepwater Tano Contract Area Dated 10 September 2013 as amended and restated by SWDNT Amendment No.1 Agreement ratified by Parliament on 3 May 2019.

12. Suriname and Guyana are two new Caribbean oil states closely following in Ghana's footsteps by offering low royalties which beef up IOC's profits while shrinking benefits going to the bulk of their citizens who also tend to be poor (Clifford Krauss "Suriname Could be Latest Big Oil Find as Industry Cuts Costs" *New York Times*, 20 January 2021).
13. Information from field work to study Ghana's education, training and employment in petroleum and new technologies such as green energy, artificial intelligence, robotics, driverless vehicles and electric cars plus 5G going onto 6G (Visit to Koforidua Technical University, Koforidua 26 August 2019). The author successfully liaised with The Department of Bio-Medical Engineering, University of Ghana as well as the Departments of Physics, Mathematics and Computer Science, University of Cape Coast, and various North American diaspora colleagues to donate equipment/computers/books to create embedded labs to train Ghanaian students in basic sciences as well as practical robotics.

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PART IV

International Perspectives and Conclusions



Energy Transition and Africa's Oil and Gas Resources: Challenges and Opportunities

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Switzerland AG 2022

T. Acheampong and T. Kojo Stephens (eds.), *Petroleum Resource
Management in Africa*,

https://doi.org/10.1007/978-3-030-83051-9_16

1 INTRODUCTION

The stone age did not end because the world ran out of stones, and the oil age will not end because we run out of oil.

—The Late Sheikh Ahmed Zaki Yamani, Saudi Arabian Politician & Minister of Oil and Mineral Resources (1962–1986)

The above quote summarises some of the arguments put forward by climate change activists concerning the current debate to end reliance on fossil fuels. This holds true considering the current technological advancements in the energy sector relating to renewable energy, energy efficiency, and electric vehicles. Additionally, data has emerged that show that renewable energy is becoming more cost-effective than other sources of energy, even in the absence of subsidies. This is mainly due to the decline in installation and maintenance costs and renewables (Alemzero et al., 2021).

Despite the above arguments, we cannot help but also contextually critique the quote. This is mainly because, whereas the world is convinced that we are no longer in the Stone Age era, there are other parts of the globe especially rural communities in developing countries such as those in Africa and Asia, where poor communities are still living ‘stone age era’ lifestyles. Relating the quote to the energy sector, it is often said that the ‘oil age will not end because we run out of oil’, and yet in this climate change and energy transitions era, we are seeing more demand for fossil fuels, including oil, gas, and coal. One might ask what exactly we are transitioning from if in the late 2021, countries are keen to see more production of oil and gas in order to curb the rising gasoline and gas prices in the United States and Europe, respectively. As highlighted by Nalule and Mu (2020), it is often said that our world has transitioned from ‘coal age’ to ‘oil age’ decades ago. Yet, coal still accounted for more than a quarter of global energy supply in 2019 and the world used two and half times of coal in 2019 than in 1973 (Nalule and Mu, 2020). It is true that the use of traditional energy is associated with the Stone Age era, and yet today, over 70% of the rural communities in Africa are reliant on traditional energy such as firewood (three-stone cookstoves for cooking, especially in rural communities). Has the ‘stone age era’ really ended for these people? It is often said that traditional biomass (wood,

crop waste, firewood, or charcoal) has lost its prominent role in the global energy mix since the industrial revolution and it is indeed considered something of the Stone Age era. However, the world used 60% more biomass in 2019 than did in 1860 (Nalule and Mu, 2020). With respect to the African perspective, we note that over 80% of the population in rural Africa relies on traditional energy such as candles and firewood for lighting and cooking, respectively. Consequently, this has had a negative impact on other sectors, such as the mining sector, where the majority of miners involved in Artisanal and Small-Scale Mining (ASM) use rudimentary or '*stone age era*' methods to mine gold and other minerals (Nalule, 2020).

All the above point to the progressive character of energy use and the impact of the geographies of energy transitions (Nalule and Mu, 2020). As spotlighted above, when it comes to energy use, some regions are still in the Stone Age era—specifically due to the rudimentary energy resources they are relying on. Nevertheless, the world should focus on initiatives to transition to a low-carbon economy because of the pressing climate change challenges we are experiencing globally. For instance, in 2018, the UN Intergovernmental Panel on Climate Change (IPCC) issued a warning that humanity had just twelve years to limit global warming below 2 °C—necessitating an urgent energy transition.

Energy transition, therefore, is a pathway towards transforming the global energy sector to zero-carbon by 2050, represents one way to mitigate the impacts of climate change on humanity. Governments, companies, and individuals worldwide are under increasing pressure to do more to tackle the existential threat of climate change. Market sentiments on climate change have dramatically shifted, especially in the post-COVID-19 pandemic context, indicated by increased environmental, social, and governance (ESG) pressures on investors and regulators. For example, in May 2021, Royal Dutch Shell, one of the world's largest international oil companies (IOC), was ordered by a Netherlands court to reduce its emissions by 45% by 2030 compared to 2019 baseline levels (BBC, 2021a). Three climate-minded activist shareholders were elected to the Exxon Mobil Board during the same month following a shareholder revolt led by Engine No. 1, a small hedge fund, while Chevron investors also passed resolutions to cut carbon emissions (Bacchus, 2021). At the government level, US President Joe Biden, in April 2021, hosted a virtual summit of world leaders to stimulate global action to reduce carbon emissions (White House, 2021a). The US Government also announced that

it would use part of its fiscal stimulus to achieve a 50–52% reduction in greenhouse gas emissions (GHGs) by 2030 from 2005 levels under the ‘building back better’ theme (White House, 2021b). The European Union has also announced a 55% emissions reduction by 2030 on its path to net-zero by 2050 (EU Commission, 2021). Likewise, China has set in motion plans to peak its emissions before 2030 and to achieve carbon-neutrality by 2060 (BBC, 2021b).

All the above developments indicate the impact of climate change on the oil and gas sector especially as it relates to the financial risks. However, with the current (2021) energy crisis, the world has witnessed the practical dilemma of tackling climate change and ensuring energy security. For instance, faced with high gasoline prices, US President Joe Biden, as recent as November 2021, asked OPEC to increase oil production despite the President’s earlier net-zero commitments. The plea from President Biden was as a result of the American gasoline hitting seven-year highs of \$3.70 a gallon. With the oil prices climbing towards \$85 a barrel in November 2021, various oil consumers have pleaded with OPEC to raise oil production faster and help reduce gasoline prices. The demand for more oil production coincidentally came at a time when world leaders were meeting in Glasgow, Scotland, for the UN Climate Change Conference (COP 26) which took place from 31st October 2021 to 12th November 2021.

It remains to be seen if the energy demand, including oil and gas likely to follow the net-zero trajectory the world is focused on. In Europe, gas prices hit a record high in September 2021 and faced with the high prices of Gas, Europe turned to Russia to help increase the supply of gas to curb the rising prices. Therefore, the late 2021 energy crisis points to one fact: the intermittency of some renewable energy forms may not be effective to meet increasing global energy demand. Moreover, as the economies reopen and travel resumes after the COVID-19 pandemic, the shortfall between renewable energy supply and power demand will only widen, necessitating continued reliance on fossil fuels as a backup when renewables fail to meet the increasing demand for energy for the developed world. But what about the developing countries such as those in Africa? Can they entirely rely on renewable energy to meet the anticipated increase in population growth, industrialisation, and urbanisation? The answer to this is in the negative. According to the IEA data, the African continent will become the most populous region by 2023 (overtaking China and India), as one-in-two people added to the world population

between today and 2040 are set to be African. Coupled with a boom in industrialisation and urbanisation, the African continent will need more energy, including both renewables and fossil fuels, to meet the increasing demand and electrify the over 600 million people currently without access to electricity in sub-Saharan Africa.

Whereas there are various advantages associated with energy transitions, including tackling climate change and creation of new jobs: scholars have, however, noted that, if the transition to a low-carbon economy is not well managed, then energy poverty and energy security challenges will escalate globally (Nalule and Mu, 2020). Responding to the September 2021 energy crisis, the IEA noted that spending on fossil fuels is lower than needed if current demand growth continues. According to the IEA, oil demand will only start to decline in the 2030s under current policies. According to the IEA's annual flagship publication, it is spotlighted that even as deployments of solar and wind go from strength to strength, the world's consumption of coal is growing strongly this year, pushing carbon dioxide (CO₂) emissions towards their second-largest annual increase in history (IEA, 2021a). Besides the energy crisis, we have also witnessed that amid a pandemic such as the COVID-19, countries are capable of taking drastic measures to respond to energy security issues. For instance, in June 2020, China expanded its coal plant capacity to respond to the negative impacts of the COVID-19. Accordingly, China approved the construction of more coal power plant capacity in the period to mid-June than in all 2018 and 2019 combined.

Taking stock of the above, scholars have emphasised that a wholesome transition away from fossil fuels is not expected, but rather focus should be on 'Energy Progression' (Nalule, 2020). Therefore, the issue of energy transitions has had various setbacks recently, mostly due to the late 2021 energy crisis and the increasing number of people without access to electricity in developing countries. This has necessitated an emphasis on more investments in clean technology such as carbon capture and cleaner sources of fossil fuels such as natural gas. With respect to electricity generation, statistics show that natural gas has now surpassed coal to become the leading electricity generation fuel providing roughly 40% of Africa's electricity generation requirements. All the above point to the progressive character of energy use, especially the continued reliance on fossil fuels in this energy transitions era. Nevertheless, the threats from climate change initiatives have undoubtedly increased the financial risks

in fossil fuels investments globally. Consequently, it is essential to have some pertinent facts about climate change.

The Intergovernmental Panel on Climate Change's (IPCC) latest Sixth Assessment Report is unequivocal about the human causes of climate change: it states among others that *'it is unequivocal that the increase of CO₂, methane (CH₄) and nitrous oxide (N₂O) in the atmosphere over the industrial era is the result of human activities and that human influence is the principal driver of many changes observed across the atmosphere, ocean, cryosphere and biosphere'* (IPCC, 2021, p. 17). While human-induced burning of fossil fuels—like coal, and oil and gas—have been the mainstay of the global economy since the industrial revolution of the 1800s, GHGs such as carbon dioxide (CO₂) and methane from these fossil fuels are among the main drivers of climate change (United Nations, n.d.). These emissions form a blanket around the Earth, which traps the sun's heat and causes temperatures to rise—the so-called global warming. This, in turn, causes prolonged droughts in certain regions, making wildfires more likely, while other low-lying regions become inhospitable due to rising sea levels and flooding, among others (Met Office, n.d.). According to the 2021 Global Climate Risk Index, five out of the ten most vulnerable countries to climate change are found in Africa: Mozambique, Zimbabwe, Malawi, South Sudan, and Niger (Eckstein et al., 2021, p. 8).

In 2015, global governments pledged under the Paris Agreement to limit global warming to well below 2 degrees centigrade (°C) while also pursuing efforts to limit the temperature increase to no more than 1.5 °C compared to pre-industrial times (UNFCCC, n.d.). Doing so will help humanity avoid the worst climate impacts and maintain a liveable planet. This means significantly reducing the annual 50 billion tonnes of GHGs that the world emits, of which the majority comes from the burning of fossil fuels in various processes. The statistics show that 73% of GHGs come from energy use which comprises electricity, heat, and transport. Within energy use, the three largest GHG emissions come from mainly burning fossil fuels for industrial energy (24.2%) such as iron and steel; transportation (16.2%) including road transport, aviation, shipping; and lastly buildings (17.5%), including both residential and commercial. The remaining GHG emissions sources are agriculture, forestry and land use (18.4%), industrial processes (5.2%), and waste (3.2%).

Research also indicates that to combat climate change, *'60% of oil and fossil methane gas, and 90% of coal must remain unextracted to keep within a 1.5 °C carbon budget'* (Welsby et al., 2021). IEA corroborates this

position in its Net Zero by 2050 report, which makes the argument that *'beyond projects already committed as of 2021, there are no new oil and gas fields approved for development in our pathway, and no new coal mines or mine extensions are required'* (IEA, 2021, p. 21). So, for example, while it took 75 years for coal to be dethroned by oil as the predominant share of the global primary energy mix, forecasts indicate that it will only take half of the time (35 years) in the event of a rapid transition for renewables and other low-carbon technologies to catch up with oil at its peak in 1975 (Nalule and Acheampong, 2021).

However, since 2010, there has been a wave of significant oil and gas discoveries in several African countries, which promises to address critical energy security and equity needs. Moreover, revenues from these natural resource exports are critical to closing the estimated US\$130–US\$170 billion per annum continent-wide infrastructure gap and reducing poverty and inequality, among others (Arbouch et al., 2020; African Development Bank, 2018). However, how would African nations fund their development if they gave up on exploring newfound oil and gas resources due to climate concerns? This is even more so given that Africa emits the least when it comes to global CO₂ emissions on a volume and per capita basis. For example, whereas Africa emitted 1.43 billion tonnes of CO₂ in 2018, both the United States and China emitted 5.42 and 9.96 billion tonnes of CO₂, respectively.

Given the preceding, this chapter critically analyses what the energy transition means for developing Africa's oil and gas industry. It assesses the challenges and opportunities that this transition presents in exploiting these resources—for example, the possibility of using natural gas to fuel the industrial and sustainable development of their national economies and likely fiscal impacts. That is, how can African countries, several of whom have discovered vast hydrocarbon resources in the past decade, leverage the investment opportunities to create jobs and new industrial clusters while transitioning to or considering net-zero concerns? The remainder of the chapter is organised as follows: Sect. 2 discusses the legal, economic, and environmental risks of the energy transition. In Sect. 3, we review how petroleum-producing African countries are responding to the energy transition, using various regional case studies. In Sect. 4, we discuss three low-hanging opportunities available to African countries to advance global energy transition: the place of Africa's vast mineral resources, opportunities for value addition and economic diversification, and how alternative energy can bridge the energy access gap.

We then conclude in Sect. 5 and outline some policy recommendations concerning how petroleum-producing African countries can better address the multiple existential challenges that the energy transition poses.

2 ECONOMIC AND ENVIRONMENTAL RISKS OF THE ENERGY TRANSITION

2.1 *Economic Risks of the Energy Transition*

2.1.1 *Revenue Implications and Macro-Economic Shocks in the Event of a Rapid Transition*

Despite several African countries being hydrocarbon producers, many continue to suffer from the resource curse and the paradox of plenty syndrome (Dwumfour and Ntow-Gyamfi, 2018; Henry, 2019; Siakwah, 2017; Berman et al., 2017). The resource curse describes the situation where countries with abundant revenues from oil and gas resources tend to have lower economic growth and more social problems than countries lacking similar resources (Cust and Mihalyi, 2017). The commodities supercycle from the year 2000 to the year 2015 came with significant opportunities for African countries to use the proceeds to diversify their economies, but that did not happen. The 2014–2016 commodities price crash and the coronavirus (COVID-19) pandemic have once again exposed the inability of Africa's economies to cope with external shocks—just like the 1970s oil crises and commodity price decreases (Page, 2021). As Amra et al. (2019, p. 1) poignantly argue, the *'supercycle created the mirage that economic performance had structurally improved [in many countries]...[however] when the commodity boom ended, it became apparent that countries had saved less than they should have'*.¹

In effect, many countries run highly pro-cyclical fiscal policies, as the contrasts between Ghana and Chile in Fig. 1 show. There is a clear bias towards overspending during good times and large fiscal volatility around election cycles over the past two decades in Ghana's case (Geiger and Mendes, 2019). In fact, some countries such as Zambia even increased their resource nationalist stand to prop up precarious fiscal buffers (Acheampong, 2019). This is indicated by persistent fights between the state and investors over resource rent taxation and distribution (Bowman et al., 2021; Hickey et al., 2020).

¹ See also Mihaly and Fernández (2018).

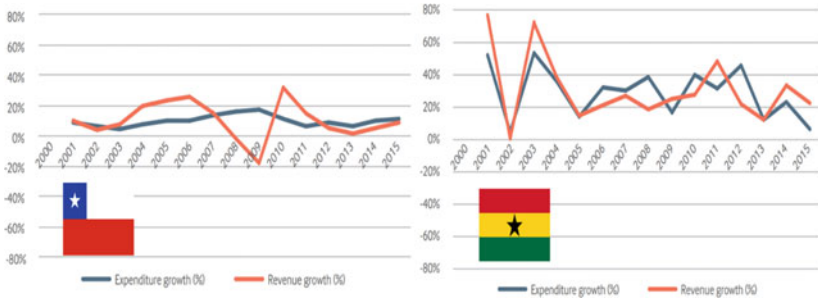


Fig. 1 Historical volatility of government budget in Chile (LHS) and Ghana (RHS) (*Source* Adam and Mihalyi [2017])

There is also an ongoing phenomenon of what Cust and Mihalyi (2017) describe as the *'presource curse'* in which even before production begins, the economies of many resource-rich African countries decline below economic growth forecasts due to lack of proper constraints on the executive arm of government to seek upfront funding from lenders to finance development in anticipation of future revenues which may either delay or never be realised. Most resource-rich African countries do maintain not only high levels of debts but also lack robust fiscal rules to keep governments in check on the extent to which they can borrow and spend borrowed funds even before oil and gas resources are extracted.

Fundamentally, many oil-producing developing countries on the African continent have weak economies and ineffective institutional frameworks and governance structures; this is the case in both established and some emerging oil producers. It is within this political economy context that the energy transition is also taking place. Figure 3 highlights the preparedness of selected fossil fuel-producing African economies for the energy transition using two measures: exposure and resilience. Exposure captures the degree of a country's reliance on fossil fuel rents using average rents in the last ten years (2007–2016) and other metrics, while resilience measures income in relation to the population proxied by power-purchasing parity adjusted GDP per capita and other metrics (Van de Graaf, 2019). As Fig. 2 shows, several countries on the continent such as Nigeria, Botswana, DR Congo, and Algeria are in the high exposure-low resilience category in the upper right quadrant and shown with the red dots. Others such as South Africa, Ghana, Angola, Egypt, and

Mozambique are also low exposure-low resilience, as shown by the blue dots. The former group of countries is more likely to suffer graver consequences of the energy transition if they fail to achieve robust economic diversification and critical investments to take advantage of the transition’s opportunities.

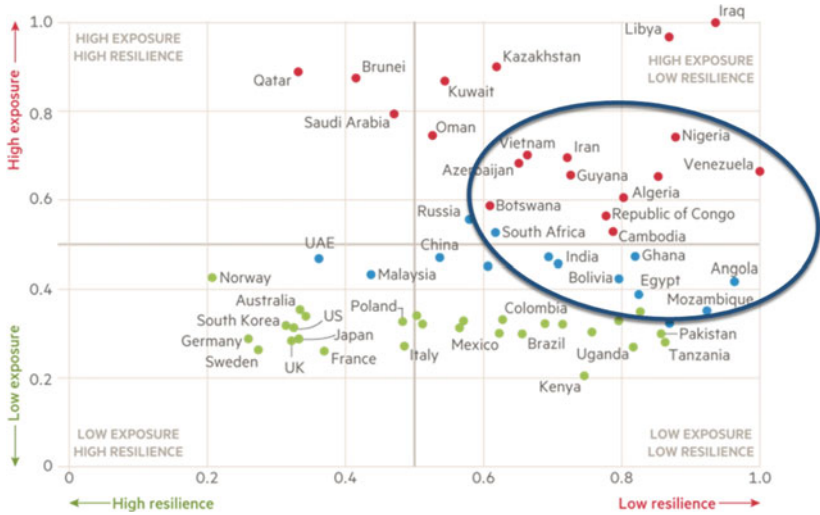


Fig. 2 Preparedness of fossil fuel economies for the energy transition highlighting a selection of African countries (Source FT; World Bank)

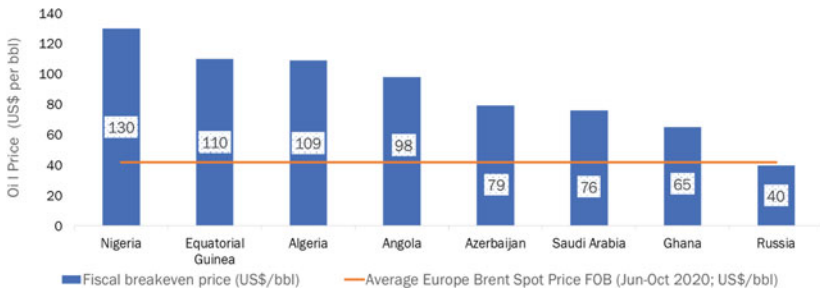


Fig. 3 Fiscal breakeven oil prices (Data Source EIA, IMF, Reuters, Ministry of Finance Ghana [2020])

Again, as Nakhle and Acheampong (2020) show, the fiscal breakeven of oil price is one illustration of the scale of the challenge facing several petroleum-producing and exporting countries (Fig. 3). What is pertinent here is that regardless of the type of exposure, many countries on the African continent have low resilience to the long-term energy transition—that is, there is little to no economic flexibility, weak diversification, and low-quality human capital and governance institutions. In essence, they are not prepared for the energy transition. Countries that have low exposure and high resilience *‘do not depend heavily on the export or domestic combustion of fossil fuels and related products...[and] their institutions and governance are strong, and their economies are very resilient and relatively flexible, making them well placed to adapt to various external climate policy shocks.* The energy transition, which leads to reduced oil demand, will leave several fossil fuel-exporting countries facing revenue gaps (Billon et al., 2021).

2.1.2 Risk of Stranded Assets and Forced Shut-Ins of Fields

Several African countries are already being affected by the shifting priorities of the international oil companies (IOCs), who, hitherto, were one of (if not) the principal players in the upstream space on the continent. Several IOCs have divested out of certain countries on the continent or announced plans to do so in the foreseeable future. For example, in Equatorial Guinea, ExxonMobil announced in January 2020 that it was seeking to divest its operating stake in the 90.00 bpd Zafiro oil field as part of a larger US\$25 billion divestment plan (Nasdaq, 2020; Luhavalja, 2020). Similarly, other IOCs such as Chevron, Shell, and Occidental Petroleum are exiting African portfolios to reduce exposure to riskier assets (Gavin, 2021; Africanews, 2021; Akomo, 2021). One of the main outcomes of these divestments is asset stranding. Stranded assets arise due to the significant uncertainty regarding anticipated renewable energy (RE) technology breakthroughs and increased government climate policy pressures leading to depreciation or loss of market value for these carbon assets, such as oil reserves and associated supply chain infrastructure (Rempel and Gupta, 2021; Van der Ploeg and Rezai, 2020; Ansari and Holz, 2020). For example, following the UK government’s legislation towards net-zero by 2050, BP aims to become a carbon-neutral company by 2050. In the first quarter of 2020, BP announced its intentions to invest more in cleaner energy and less in fossil fuels over the next thirty years (Ambrose, 2020).

The risk of stranded assets is one of the reasons the Ghana National Petroleum Corporation (GNPC), Ghana's national oil company (NOC), cited for its attempt to re-acquire assets for a purported US\$1.1 billion from Aker Energy Ghana Limited. The latter's plans to develop the Deep Water Tano/Cape Three Points (DWT/CTP) field in Ghana were scuttled by the pandemic-induced slump in oil prices and, probably, the investment risks that the global energy transition imposes on the oil and gas industry. The GNPC-Aker Energy deal remains controversial. Several civic organisations have advocated for it to be adequately scrutinised as it does not inure to Ghana's interests (Citinewsroom, 2021a, 2021b; The Fourth Estate Ghana, 2021). Going further outside of Africa, exploration and production (E&P) company Kosmos Energy, which was among the companies that made the first commercial discovery in Ghana in 2007, announced in September 2021 that it was halting its frontier exploration and selling some assets while it focuses its portfolio on two areas, namely: West Africa and the Gulf of Mexico (Gordon, 2021). The company also aims to shift to natural gas (Gordon, 2021).

The risk of stranded assets is further driven by the refocusing of IOCs and financiers' capital investments and longer-term concerns about oil demand. In the next three decades, the cost curve for oil supply shows oil prices hovering between US\$30 and US\$60/bbl equilibrium price (McKinsey, 2021). This means that projects will need to breakeven below US\$40/bbl to even stand a chance at commercialisation; else, they are likely to become stranded, as Fig. 4 shows (Walters and Bostan, 2020). Also, projects in existing oilfields or hydrocarbon play within a tieback distance to a processing platform, or hub (such as FPSOs) are likely to

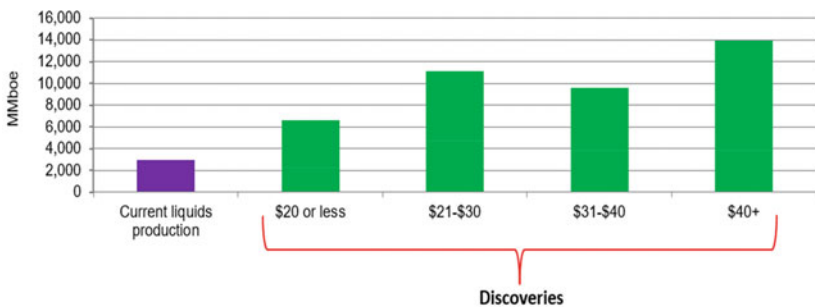


Fig. 4 African liquids reserve resilience (Source Walters and Bostan [2020])

be favoured as they improve overall field profitability and maximisation of economic recovery (MER) as being done in the North Sea (Acheampong et al., 2021; Abdul Salam et al., 2021; Acheampong et al., 2015).

However, these planned divestments will also create entry opportunities for willing investors who are not too exposed to some of the ESG pressures and who are focused on producing agile barrels and deploying technologies to reduce the carbon intensity of the extraction processes. Africa is already seeing a foray of these types of investors, including international NOCs, private equity (PE) firms, commodity traders, and local/indigenous E&P firms. Some of the focus areas for these new entrants include (1) competitive returns on capital to shareholders; (2) refocusing on short-cycle, high-margin developments; and (3) pursuing infrastructure-led exploration.

2.2 *Socio-Economic and Environmental Risks of the Energy Transition*

The discourse on global energy transition cannot be had without considerations of just transition for African economies who have made very minimal GHG contribution to the global warming menace but are among the most vulnerable to the effects of climate change. Materialising energy transition in Africa requires innovative approaches that also have adverse effects on the economic, social, and environmental well-being of the continent's inhabitants. This section highlights some of these socio-economic and environmental risks which, if not addressed, potentially entrench poverty, inequality, and biodiversity losses: the very problems energy transition seeks to solve.

2.2.1 *Loss of Revenue for Social Investments*

Fossil fuel constitutes an important source of export revenue that funds critical investments in education, healthcare, social services, transport infrastructure, and other public goods in many oil-rich African countries. The global demand to transition away from fossil fuel consumption would inevitably result in loss of export revenue from the hydrocarbon needed to fund government-led human development efforts in Africa.

In 2019, fossil fuel exports constituted 92.9% (or US\$30.5 billion) of Angola's total product exports (The Observatory of Economic Complexity, 2021). Oil revenues in Angola have funded recent infrastructure expenditure in electrification, the opening of five universities and

45 health worker training schools, and many health clinics. In Ghana, the government has invested significant portions of oil revenues in agriculture, education, health, road, rail, and other critical infrastructure (Ackah et al., 2020; Brunnschweiler et al., 2021; Abudu and Sai, 2020). Oil revenue support to basic education in Ghana, for instance, has focused on the socio-humanistic aspect of increasing access to basic education through infrastructure delivery, provision of free school uniforms to incentivise pupils to show up in school, and provision of Basic Education Certificate Examination (BECE) subsidies to remove financial barriers that limit completion rate at the Junior High School level. Enrolment to Senior High School went up by 69% between 2017 and 2019 due to the implementation of Government of Ghana's flagship Free Senior High School (SHS) programme funded significantly with revenues from hydrocarbons (GhanaBusinessNews, 2019). Similar petro-funded investments are happening in other countries such as Equatorial Guinea, Nigeria, South Sudan, and Mozambique.

Within the context of declining donor support and weak domestic revenue mobilisation efforts in many African countries, transitioning away from fossil fuels and the forfeiture of hydrocarbon revenues will result in significant budgetary cuts in public expenditure, which will, in turn, affect the quantity and quality of public goods available to, and accessible by, the ordinary African citizen. Africa, therefore, cannot succumb to global pressures to abandon its hydrocarbon resources in the short to medium term without alternative options to match up the fiscal losses. The governments and citizens of oil-producing African countries cannot solely shoulder the climate cost of fossil fuel extraction—which is why some accountability actors insist that fossil fuel producers and consumers bear their fair share of the climate costs (Gage, 2019). Fossil fuel companies, for example, must invest heavily in net-zero technologies to mitigate fossil fuel emission footprints.

2.2.2 Loss of Land and Livelihood, Especially Among Vulnerable Groups

As renewable energy and decarbonisation towards net-zero take centre stage in the global energy transition, vast lands in Africa would become the target for the installation of large-scale solar farms, onshore wind turbines, and carbon sequestration and storage (CCS) technologies. Energy transition will become the new phase of the extractive industry in Africa, and compulsory acquisition of private and communal lands would

become inevitable in paving the way for the installation of these low-carbon technologies. If not well managed, tough competition between energy transition and Africa's land resources can lead to population displacement, marginalisation, wider inequality gap, and potential tension and conflict as have already happened in some mining and onshore oil and gas communities in some African countries.

A major problem of compulsory or large-scale land acquisition and compensation in Africa is the difficulty in the identification of the right persons for compensations payment as well as compensation assessments due to the complexity of land tenure systems and weak land administration practices. Ghana, Uganda, Kenya, and Zambia are among the many African countries with heterogeneous societies where about 80% of land is communally owned and governed by complex customary laws and institutions (Ameyaw and de Vries, 2021). Multiple customary and statutory land tenure arrangements such as allodial title, customary freehold/usufruct, common law freehold, leasehold, tenancies, and licenses may co-exist in the same piece of land, conferring varying degrees of rights on parties (Munro-Faure et al., 2002). But the rights parties claim may be contested due to indeterminate land boundaries, multiple sale of land, and land racketeering (Ameyaw and de Vries, 2021). The overlapping, complementing, and/or conflicting interests in land, and the associated incidents of the bundle of rights as to who can use, control, and transfer land complicate compensation assessments and payments when land is compulsorily acquired. Evidence from Ghana's mining sector reveals that it is difficult to determine which stakeholders were rightfully entitled to receive compensation for the deprivation of land use, in their capacity as allodial owners, usufructs, tenant farmers, or sharecroppers (Kidido et al. 2015).

Having crossed the hurdle of identifying the appropriate expropriated persons entitled to compensation, the question also arises as to whether compensations paid are fair and adequate. It is expected that rural lands will be the target for large-scale acquisition for renewable energy technology deployment. More often than not, there is power imbalance in negotiations over the transfer of land between the entity acquiring the land and the expropriated who cannot afford valuation services for a second opinion of the worth of their interest in land to inform claims during negotiations (Bugri and Kumi, 2018; Nnoko-Mewanu, 2016).

Assistance should be provided to landowners and occupants to participate effectively in negotiations on valuation and compensation (Bugri and Kumi, 2018; Keith et al., 2008).

That prompt, fair, and adequate compensation have been paid to the expropriated rural poor does not always result in comparable reinstatement. The evidence from mining communities is that more often than not, expropriated rural folks whose main occupation is farming are made worse off. Not only do they not have alternative sources of livelihood, but also, they tend to mismanage funds because of poor investment decisions.

There is also a gender dimension to land rights, expropriation, and compensations which cannot be undermined. In most societies, women have unequal access to rural land and associated natural resources (Munro-Faure et al., 2002, p. 25). Bugri and Yeboah (2017) note that land access in Ghana tends to favour men than women. Under customary law arrangements in certain communities, women's rights to land are secondary because they are dependent upon others to access land. For instance, in northern Ghana (Talensi District), women's access to farmlands is tied to the life of their husbands and male sons who inherit lands from their fathers. Thus, upon the death of their husbands, women without sons are likely to lose their livelihoods and fall into poverty (Boakye et al., 2020; DW, 2018). Similar land ownership tenure for women exists in other African traditions such as Cameroon (Nnoko-Mewanu, 2016). The implication therefore is that women are more likely to lose out when land comes under pressure (Bugri and Yeboah, 2017). While men and women in Africa are likely to suffer livelihood losses when lands are compulsorily acquired for large-scale energy transition projects, women are more likely to be negatively impacted than men as they become more dependent on their male counterparts who own lands acquired and receive compensation for same. Unless land tenure and land administration systems are sanitised to be more inclusive and equitable in Africa, large-scale land acquisitions which will accompany energy transition investments would most likely worsen the plight of the poor and vulnerable in African societies, especially women.

2.2.3 Environmental Risks of Waste Disposal

The negative environmental effects of RE technologies are almost counterintuitive due to the premium placed on the environmental or climate change gains RE contributes towards energy transition. Solar, wind

turbines, lithium-ion batteries, and other RE technologies generate environmentally hazardous waste materials such as lead and mercury whose disposal requires a deliberate strategy at the end of their lifespan to protect human health and the environment (United States Environmental Protection Agency, 2021). Renewable energy waste management remains a difficult challenge even among developed nations. The United States Environmental Protection Agency (2021) has recently outlined the difficulties the United States will face in recycling and safely disposing off materials used for green energy technologies.

It is estimated that along with the global rise in solar PV adoption will come an increase in solar waste generation (Chowdhury et al., 2020). IRENA and IEA-PVPS project that by 2050, solar waste generation under early loss scenarios will rise to about 78 million tonnes from 2020 projected levels of 850,000 tonnes (Weckend et al., 2016). The data accounts for only 3 African countries (Morocco, Nigeria, and South Africa) whose combined waste projections are 1.715 million tonnes in 2050 as shown in Fig. 5, up from 2020 combined waste projection of 11,600 tonnes.

Another major environmental challenge associated with energy transition is the risk that Africa will be the dumping ground for technologically

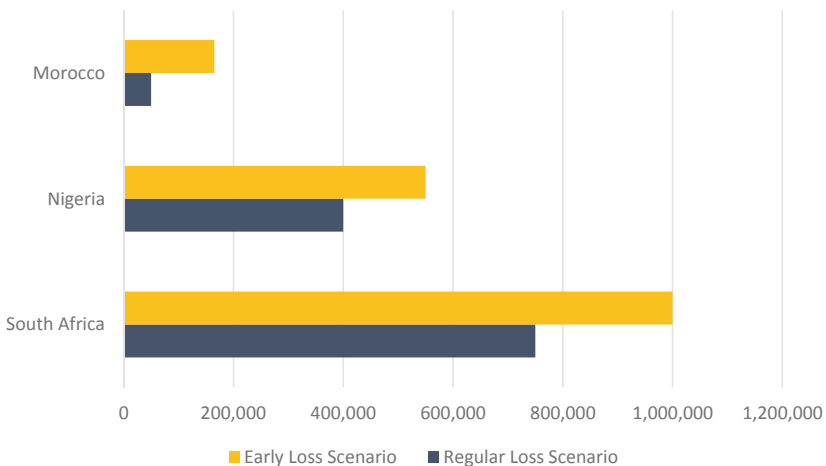


Fig. 5 Cumulative waste volumes of PV panels by 2050, by country (Source Authors, based on International Renewable Energy Agency (IRENA) data)

obsolete automobiles from developed nations in the short to medium term as consumers shift to electronic vehicles. The EU’s ban on the sale of petrol and diesel cars will take effect from 2035 pursuant to the target to achieve 55% cut in CO₂ emissions from cars by 2030 and 100% cut by 2035. The implication is that none of the 27 EU countries will sell fossil fuel-powered cars by 2035 (Carey and Steitz, 2021). The amount of used petrol/diesel cars exported to Africa annually is likely to increase towards 2035 as the EU will seek to rid itself of same to achieve emissions target.

On the other hand, African countries are likely to face difficulties in managing the end-of-life aspect of the renewable energy value chain and phasing out of fossil-fuelled vehicles considering that waste management on the continent is not sustainable and well-integrated in the manner laid out in Fig. 6. By 2025, municipal solid waste generated on the continent is estimated to reach 250 million tonnes. Apart from countries’ inability to collect 45% of waste generated on average, many African countries are also unable to recycle about 96% of recyclable waste (about 70%–80%) generated, 90% of which are disposed at uncontrolled dumpsites and landfills (UNEP, 2018). The continent’s solid waste and e-waste management challenges are bound to worsen with long-term effects on the environment and people’s health unless the physical and governance aspects of

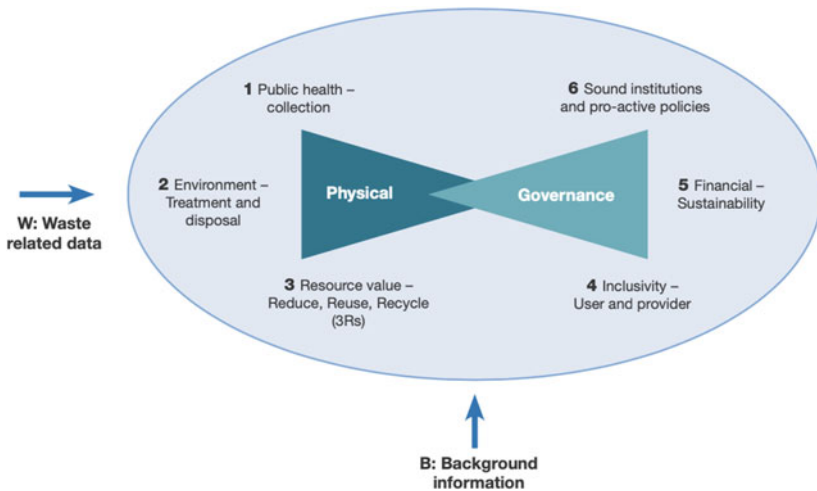


Fig. 6 Integrated sustainable waste management framework

integrated sustainable waste management are strengthened. Policies and regulations are needed to compel producers of RE technology to fund the cost of collecting and recycling waste. African governments must also be proactive about controlling the import and trade of petrol/diesel vehicles and the strategy to phase out fossil fuel-powered vehicles in an environmentally sustainable manner. Pursuing energy transition in Africa must be done sustainably to avoid a negative net effect of solving the climate change problem but creating new environmental problems.

3 COMPARATIVE ANALYSIS: HOW ARE PETROLEUM-PRODUCING AFRICAN COUNTRIES RESPONDING TO THE ENERGY TRANSITION?

In this section, we present some regional and country case studies of how petroleum-producing African countries are responding to the energy transition and compliance to Paris Agreement commitments.

3.1 *Kenya, Uganda, Tanzania, Mozambique, and South Sudan*

East African countries including Kenya, Uganda, Tanzania, Mozambique, and South Sudan have been at the centre of oil and gas discoveries and development in recent years. Prior to highlighting these countries response to energy transitions, we outline the fossil fuel reserves in some of these countries in Table 1.

From Table 1, we note that East African countries are endowed with massive hydrocarbon resources. For instance, Uganda has approximately 6.5 billion barrels of oil reserves, with at least 1.4 billion estimated to be economically recoverable. Tanzania on the other hand holds around 0.23 Tcf. Both countries have put emphasis on the development of energy infrastructural projects including the crude oil pipeline; and a refinery to produce petroleum products for the domestic and East African Community (EAC) markets (for the case of Uganda); and the LNG liquefaction facility for Tanzania. Likewise, as early as 2012, oil was discovered and drilled in Kenya by Tullow Oil which drilled the Ngamia-1 well in the South Lokichar Basin (North-west Kenya). Currently, over one billion barrels of oil have been discovered at an array of onshore basins in the north-west of the country. South Sudan also has significant reserves of oil

Table 1 Fossil fuel reserves in some East African countries

<i>Country</i>	<i>Resource</i>	<i>Reserves</i>	<i>Key highlights</i>
Mozambique	Gas	Approximately 204.750 billion cubic feet (bcf) of proven gas resources, of which 90% are found offshore	FDI in the country is forecast to increase
Uganda	Oil and gas	6.5 billion barrels of oil	Uganda and Tanzania agreed to construct the East African Crude Oil Pipeline. The main aim of the pipeline is to transport crude oil from the Ugandan fields to Tanga, Tanzania. The pipeline is estimated to cost US\$3.5 billion
Tanzania	Natural gas	0.23 trillion cubic feet (Tcf) of proven gas reserves as of 2017	Plans were made in Tanzania for constructing an LNG liquefaction facility of over 5000 acres in Likong'o Village, outside the town of Lindi

Source Author's construct

and it's estimated that the country produces roughly at 3.5 billion barrels of oil annually.

Whereas the above developments point to more investments in fossil fuels, East African countries have embraced renewable energy and energy efficiency as a way of meeting their commitments under the 2015 Paris Agreement. For instance, Kenya, in its intentionally determined contributions (INDCs), commits to investing in climate-smart energy systems that lower greenhouse gas (GHG) emissions. The country's INDC includes both mitigation and adaptation. With regard to mitigation, the country commits to invest more in renewables, including geothermal, solar, and wind energy production. Additionally, the country also commits to making progress towards achieving a tree cover of at least 10% of the land area in Kenya. With respect to renewable energy infrastructural developments, Kenya has invested highly in wind power projects and solar projects. For instance, the Lake Turkana Wind Power project in Kenya is a 310 MW facility and the largest wind farm in Africa. It is made up

of 365 turbines, each with a capacity of 850 kilowatts. In Uganda, the country continues to invest in the Bujagali Hydropower Station, which is a 250 MW project found in Buikwe District. Other East African countries including Rwanda and Ethiopia have also heavily invested in renewable energy infrastructural projects. For instance, Rwanda invested in the 8.5 MW Rwamagana Solar Power Station, while Ethiopia is known for its 6.450 MW Grand Ethiopian Renaissance Dam.

The above analysis is evidence that East African countries are striking a balance in the development of both fossil fuels and renewable energy. Important to note is that the legal and regulatory framework in these countries also supports a transition to a low-carbon economy. For instance, in Uganda, the major laws relating to energy transitions include the Renewable Energy Policy of 2007–2017; The Atomic Energy Act, 2008; the Energy Policy of 2002 just to mention but a few. Besides the deployment of renewable energy and energy efficiency technologies, East African countries have also embraced electric vehicles as way to transition to a low-carbon economy. The transport sector is one of the largest contributors to GHG emissions, consequently electric vehicles have been introduced in the different parts of the globe, and these have also made their way to East African countries including Uganda and Kenya.

3.2 *Nigeria*

Nigeria signed the Paris Agreement on Climate Change on 22nd September 2016, and ratified same on 16th May 2017.² Four years after ratification, the Federal Republic of Nigeria has adjusted its 2030 Green House Gas (GHG) emission targets downward from 898 million tonnes of carbon dioxide equivalent ($\text{CO}_2\text{-eq}$) to 453 million tonnes $\text{CO}_2\text{-eq}$ due to improved data availability. In its May 2021 interim updated nationally determined contribution (NDC), Nigeria's Federal Ministry of Environment expects that by 2030, total national emissions will continue to rise above 2018 levels at an annual rate of 2.6%, with energy-related emissions constituting 51% of the total estimated Greenhouse Gas (GHG) emissions of 453 million tonnes $\text{CO}_2\text{-eq}$ (Federal Ministry of Environment, 2021).

The energy sector emission contributes the largest to Nigeria's GHG emissions. As of 2018, 60% of total GHG emissions in Nigeria came

² See <https://unfccc.int/node/61130>.

from the energy sector. The oil and gas sector was the largest emitter constituting 36% of total energy emissions, followed by transport, on-grid and off-grid electricity generation, residential energy consumption, and industrial energy use. Nigeria relies extensively on natural gas for power generation due to its abundance in the country (Fig. 7). Power generation from renewable sources such as hydro and solar PV remains very low. Solar power generation increased from 21 GWh in 2012 to 41 GWh in 2019, whereas the undulating hydro power generation reached 6745 GWh in 2019.

The Federal Republic of Nigeria has a Renewable Energy Maser Plan which aims to increase renewable energy share of electricity generation from 13% in 2015 to 23% in 2025, and 36% in 2030. By 2025, 10% of electricity consumed in Nigeria should come from renewable energy sources. To achieve renewable energy generation targets by 2025, the government expects the installation of 2000 MW capacity small-hydro, 500 MW of solar PV, 400 MW of biomass-based power plants, and 40 MW of wind energy. Some fiscal and non-fiscal incentives to encourage private sector investment in renewable energy include moratorium on import duties for renewable energy in the short term, and tax credits, capital incentives, and preferential loan opportunities for renewable energy projects in the longer term.

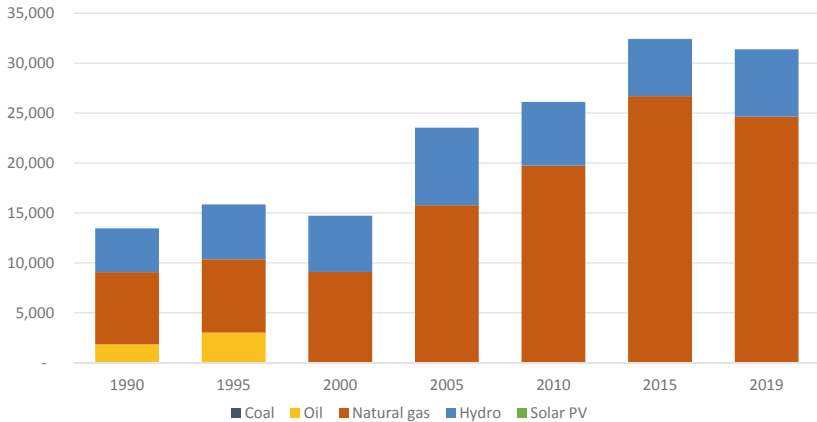


Fig. 7 Electricity generation by source, Nigeria 1990–2019 (GWh) (*Data Source* IEA)

In 2016, the National Renewable Energy Action Plan (NREAP 2015–2030) was adopted by the Inter-ministerial Committee on Renewable Energy and Energy Efficiency (ICREEE) and approved by the National Council on Power (NACOP) towards achieving the Sustainable Energy for All (SE4All) project. This NREAP action plan targets the delivery of at least 16% renewable energy by 2030 through domestic action and could be achieved with the following proportion of energy consumption in the electricity sector coming from renewables: small hydropower (7.07%); solar (5.90%); biomass (2.78%); and wind (0.25%). The government also intends to leverage on its oil and gas sector technology to explore its geothermal potential in all locations of the country. The country is also pursuing off-grid, and where grid connection is available, existing grids shall be retrofitted towards smarter grid systems. There is also a rural electrification strategy that allows communities to host renewable energy projects while keeping the additional business rates they generate as part of these schemes. The Nigerian Energy Roadmap and the new National Renewable Energy and Energy Efficiency Policy set out possible pathways for Nigeria in exploiting its renewable energy resources. Beyond power generation in-country, the Government of Nigeria sees the opportunity to develop businesses in the renewable energy sector to put Nigeria at the forefront of new renewable technologies and skills in the West African region (The Federal Republic of Nigeria, 2016).

Within the petroleum sector, Nigeria's NOC, Nigerian National Petroleum Commission (NNPC), has a Renewable Energy Division (RED). The latter aims include mitigating Climate Change and earning Carbon Credits from Clean Mechanism Development (CDM) projects. The RED has initiated the Automotive Biofuel Programme to produce a new fuel called green gasoline that will reduce CO₂ emissions. The green gasoline is a combination of fuel-ethanol and biodiesel blended with Premium Motor Spirits (PMS) at proportions not exceeding 10%.

Likewise, multilateral institutions like the African Development Bank (AfDB) and the International Finance Corporation (IFC) have provided funding to support the Nigerian government's green projects in the transport and renewable energy sectors as seen in Table 2. The Lagos Cable Car Transit Project—a 4.67 km public transport system which was approved in April 2018—comprises 218 cable cars with own power supply intended to transport about 77,000 passengers per hour connecting Lagos Island to Victoria Island. The project is a typical public–private partnership arrangement with federal and state guarantees. The project

Table 2 Clean Technology Funds (CTF) Projects in Nigeria

<i>Name</i>	<i>Fund</i>	<i>Funding (USD million)</i>	<i>Co-Financing (USD Million)</i>	<i>Financiers</i>
DPSP III: Ropeways Transport Limited—Lagos Cable Car Transit Project	Clean Technology Fund	20.0	274.0	AFDB
Line of credit for RE and energy efficiency projects	Clean Technology Fund	1.3	75.0	AFDB
Utility scale PV programme	Clean Technology Fund	29.3	100.0	IFC

Source Climate Investment Fund

is expected to cut annual transport emissions by 1,202,953.5 t/CO₂ equivalent (Climate Investment Fund, 2021).

The Federal Government of Nigeria continues to make efforts in securing funding for energy transition projects in Nigeria. In 2017 and 2019, the government raised green bonds worth N10.69 billion and N15 billion to fund environmental projects. In 2020, the government was preparing to raise a third tranche of N25 billion green bond to finance power, afforestation, deforestation, water, energy, agriculture among other projects.³

3.3 Ghana

Ghana immediately ratified the Paris Agreement on 21st September 2016 after signing in April 2016.⁴ In 2016, Ghana's emission levels were 42.2 million tonnes of carbon dioxide equivalent (MtCO₂e); an increase by 66.3% from 1990 levels. As shown in Table 3 below, the energy sector contribution to total emissions increased each year from 1990 to 2016.

³ See <https://www.thisdaylive.com/index.php/2020/02/07/fg-to-raise-n25bn-green-bond-to-fund-environmental-projects/>

⁴ See <https://unfccc.int/node/61071>.

Table 3 Trends in GHG emission by sectors

<i>IPCC sectors/Categories</i>	<i>Total emissions (MtCO₂e)</i>							<i>Change (%)</i>		
	1990	2000	2010	2012	2016	2016	2000–2016	1990–2016	2010–2016	2012–2016
National emissions with FOLU	25.34	27.26	35.23	39.35	42.15	42.15	54.6	66.3	19.6	7.1
National emissions without FOLU	11.32	14.53	22.5	26.39	29.28	29.28	101.5	158.7	30.1	10.9
Energy	3.73	5.96	10.11	13.07	15.02	15.02	152.0	302.7	48.6	14.9
Industrial processes and product use	0.49	0.36	1.09	1.52	1.04	1.04	188.9	112.2	-4.6	-31.3
Agriculture, forestry, and other land use	20.10	19.47	21.49	22.05	22.92	22.92	17.7	14.0	6.7	4.0
Waste	1.02	1.48	2.53	2.71	3.17	3.17	114.2	210.8	25.3	17.0

Source Environmental Protection Agency (2020)

Under Business as Usual (BAU) scenario, emissions are expected to reach 53.5 MtCO₂e in 2025 and 73.95 MtCO₂e in 2030.

Under the Paris Agreement, Ghana has undertaken to voluntarily keep emissions below the 2025 BAU levels by 12%, translating to 47.08 MtCO₂e, and below the 2030 BAU levels by 15%, translating to 62.86 MtCO₂e. Emissions cut could improve relative to BAU scenarios by 27% and 45%, respectively, by 2025 and 2030 if there is additional funding from external sources. To achieve these targets, the Government of Ghana has programmed 31 actions, including energy transition efforts, across the 7 priority areas of land use/food security, climate resilient infrastructure, equitable social development, sustainable mass transportation, sustainable energy security, sustainable forest management, and alternative urban waste management.

Specific actions towards energy transition include the scaling up of renewable energy penetration by 10% by 2030—this was originally to be attained by 2020 (Obeng-Darko, 2019; Agyekum, 2020). This will be done through the installation of 150–300 MW capacity small-medium hydro dams; installation of wind power capacity of 50–150 MW; establishment of solar 55 mini-grids with an average capacity of 100 kW which translates to 10 MW; and scaling up the 200,000 solar home systems for lighting in urban and selected non-electrified rural households. Still, on power generation, light crude-powered thermal plants will be retrofitted to use 120 million standard cubic feet of natural gas to improve energy efficiency in power plants by 20%. Other intended energy transition efforts include distribution of 2 million solar lanterns in rural non-electrified households, scaling up the adoption of LPG use from 5.5% to 50% in peri-urban and rural households, and scaling up access to and adoption of 2 million clean cookstoves (Government of Ghana, 2015).

The Government of Ghana has implemented some of these energy transition actions through the national budget. The 2019 budget statement and economic policy, for instance, provided for the procurement and onward distribution of additional 100,000 solar lanterns to poor off-grid rural communities, some to whom 24,770 solar lanterns had earlier been distributed at 70% subsidy (Ministry of Finance, 2019). Oil revenues have funded the procurement of some of these solar lanterns. The government also intended to extend rooftop solar to other public institutions, having already awarded contract for the installation of 65 kW solar rooftop system at the Ministry of Energy. Moreover, 26 solar micro-grids for 26 remote health facilities in the Brong-Ahafo, Northern and

Western Regions were completed and commissioned. Feasibility studies had also commenced for the installation of additional 55 mini-grids for remote islands and off-grid communities (Ministry of Finance, 2019).

At the maiden Presidential Business Summit held in Accra in September 2021, the Minister of Energy indicated that negotiations with the private sector are expected to conclude by the end of 2021 for the deployment of RE to accelerate renewable share of the national energy mix. Also, the Act establishing the Bui Power Authority has been amended to enable the Authority venture into renewable energy development. Other ongoing efforts to ensure the smooth rollout of renewable energy is implementation of prepaid meters and smart metering, and the benchmarking of feed-in tariffs to advance net-metering.

Donor agencies and multilateral institutions like the German Development Bank (KfW) and the French Development Agency (AFD) are rolling out green credit line in collaboration with participating financial institutions like CalBank and Ecobank to address funding access challenge that prevents the uptake of renewable energy especially by micro, medium, and small-scale enterprises (MSMEs) to boost productivity. The AFD's SUNREF programme, which comprises €30 million from AFD and €4 million from EU, was launched in July 2021.⁵

In the petroleum sector, the government has plans to use natural gas as a transitioning fuel to meet the country's electricity access needs. Government of Ghana has put in place plans to transition all power plants to natural gas based on environmental and commercial consideration. Also, some oil and gas companies operating in Ghana's offshore fields have taken climate change seriously and have developed a climate change strategy. Eni, for instance, has set out its decarbonisation targets towards net zero which apply to its operations in Ghana and the rest of the world (Fig. 8).

In the transportation sector, Ghana's Energy Commission launched the Drive Electric Initiative (DEI) in October 2019 at the 5th Renewable Energy Fair. The DEI seeks to promote the use of electric vehicles as alternative means of mobility in Ghana, create demand beyond the business-as-usual levels and enable the productive and sustainable utilisation of excess capacity and drive electricity demand and utilisation, and have at least one hundred (100) electric vehicles and at least 10

⁵ See <https://citinewsroom.com/2021/07/sunref-ghana-launches-green-financing-programme/>

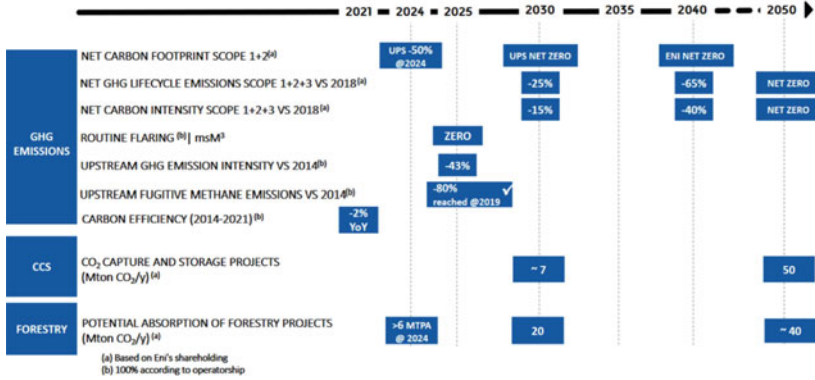


Fig. 8 Eni main decarbonisation target (Source Eni [2021]. Available at: <https://www.eni.com/en-IT/low-carbon/strategy-climate-change.html> [Accessed: 05 November 2021])

public charging outlets in Ghana by 2020 (Energy Commission, 2020). Although the electric vehicles and public charging outlets targets have not been met, private sector players such as Solar Taxi are providing Ghanians cleaner and cheaper transportation options.⁶ A recent study shows that it will cost US\$26,000 to install an EV charging infrastructure in Ghana (Ayetor et al., 2020).

3.4 Senegal

Senegal ratified the Paris Agreement on 21st September 2016 after signing the Agreement on 22nd April 2016.⁷ The country's total emissions in 2014 increased to 30.45 MtCO₂e from 2011 levels of 31.65 MtCO₂e, with the energy sector being the second highest emitter in both periods (USAID, 2016). Senegal's intended nationally determined contribution (INDC) sets sectorial emissions targets, benchmarked against Business as Usual (BAU) scenarios, under both unconditional and conditional terms.

⁶ See <https://solartaxi.co>.

⁷ See <https://unfccc.int/node/61164>.

Some energy transition targets include deployment of 160 MW capacity solar PV, 150 MW capacity wind turbines, 144 MW/522 GWh hydraulic power plants, electrification of 392 villages with mini solar electrified network or a hybrid (diesel/solar), installation of 27,500 biogas digesters, production, and distribution of 4.6 million improved stoves, and production and distribution of 3.8 million improved charcoal stoves. It is expected that these unconditional energy transition interventions, together with energy efficiency efforts and rapid bus transit investments, will reduce energy sector emissions by 7% in 2025 and further 6% in 2030. With external support, however, energy sector emissions in 2025 and 2030 could reduce by 23% and 31%, respectively (Republique du Senegal, 2015). Although crude oil constitutes Senegal's largest electricity generation source, significant efforts have been made towards renewable energy. In February 2020, Senegal's 158 MW Taiba Ndiaye project came online as West Africa's first large-scale wind plant. Also, Senegal installed its first solar plant in 2017 and has since added more solar capacity of about 200 MW (Cisse, 2021)—Fig. 9.

As the country hosting two of Africa's largest oil and gas projects in Africa, Senegal is keen on balancing environmental protection and meeting the nation's development needs through petroleum resources. The country's gas to power strategy, therefore, uses natural gas as a transition fuel to facilitate energy transition (Goosen, 2021a). Senegal signed a 5-year power compact in 2018 with the Millennium Challenge Corporation for a US\$550 million investment in the country's power sector. The government has prioritised investments in transmission and distribution systems, dedicating 69% of the funds to improve efficiency to enable more investments in renewable energy capacity and reach 30% renewable energy in the total energy mix by 2030 (Cisse, 2021).

3.5 *Angola*

Angola ratified the Paris Agreement on Climate Change in November 2020 amidst the coronavirus pandemic.⁸ The ratification came four years

⁸ See Executive Summary of the Nationally Determined Contribution of Angola, 2021: <https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Angola%20First/NDC%20Angola.pdf>.

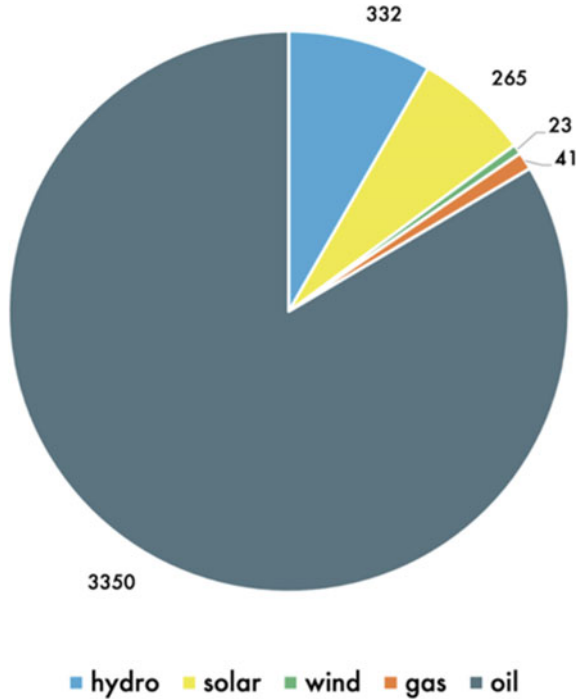


Fig. 9 Net electricity generation (GWh) in Senegal, 2019 (Source Cisse [2021])

Table 4 Emission breakdown by sector, Angola (2015)

GHG emissions source (2015)	ktCO ₂ e emissions	
	Total	%
Energy	18,115.62	18
Agriculture and livestock	6544.911	7
Waste	3151.339	3
Industrial processes	1819.919	2
Land use and land use change	70,360.442	70
total	99,992.231	100

Source Republic of Angola (2021)

after signing on to the Paris Agreement on 22nd April 2016.⁹ GHG emissions in Angola as of 2015 were 99.99 MtCO₂e (Table 3). Under Business as Usual (BAU) scenarios, emissions will reach 108.5 MtCO₂e by 2025. In the updated Nationally Determined Contribution (NDC) document, Angola has redefined its unconditional emission target by 2025 from at most 14% emission reduction below the 2015 emission level to a more concrete level of 15% below the 2015 level (Table 4). Unconditional emission target for 2030 is set at 21%. With external support, the emission target could reach 25% in 2025 and 36% in 2030.

The energy sector in Angola was the second-largest emitter of GHG in 2015. Although the 2021 updated nationally determined contribution (NDC) does not show any changes in the sector's emission as of 2020, the sector's emission levels will likely not improve unless unconditional and conditional interventions are implemented. Unconditional interventions in renewable energy options could potentially reduce emissions by 5999.02 ktCO₂e. With external support, the scope of interventions goes beyond investments in larger renewables capacity to include energy efficiency and low emission transport systems, potentially yielding an emission reduction of 14,655.1 ktCO₂e (Table 5).

Angola has embarked on energy transition initiatives in the oil and gas sector that are not captured in the updated NDC in view of 2025 emission targets. Sonangol, Angola's National Oil Company (NOC), is divesting its non-core assets as it has put on sale about 70% of the shareholding in businesses, including oil and gas services. The NOC has partnered with Eni and TotalEnergies to invest in solar energy projects, which will operate from 2022 with an initial capacity of 60 MW. The NOC is also exploring the option of developing green hydrogen in Angola (Africanews, 2021).

Angola plans to incentivise the private sector to produce 600 MW of electricity from 30,000 solar PV off-grid systems to feed rural communities without access to the grid. The Angolan government has also identified about 100 suitable locations to develop an aggregate of 600 MW capacity mini-hydro dams. The government has already committed to constructing the US\$4.53 billion Caculo Cabaça Hydroelectric Power Station in the Kwanza Norte Province. With a planned capacity of 2172. MW, the power station, is scheduled to begin operation in 2024 (Goosen, 2021b).

⁹ See <https://www4.unfccc.int/sites/ndcstaging/Pages/Party.aspx?party=AGO&prototype=1>.

Table 5 Angola—Conditional interventions towards 2025 emissions target

<i>Sector</i>	<i>Area</i>	<i>Unconditional contributions</i>	<i>ktCO₂e reduction potential</i>	<i>% contribution for target</i>	<i>Cost (Million USD)</i>	
Energy	Renewable energy	Installation of biomass plants—500 MW	2102	7.92	1698	
		Installation of mini-hydro—150 MW	291.30	1.07	675	
		Installation of hydroelectric power stations—2 050 MW	9511.05	35.83	2333	
		Installation of large-scale solar power plants (PV)—104 MW	159.58	0.60	156	
		Installation of small-scale solar panels (solar villages)—187 MW	258.25	0.97	1209	
		Installation of small-scale solar panels in the industry—2 MW	5.52	<0.1	26	
		Installation of small-scale solar panels (NAMA Program)—15 MW	20.88	<0.1	96.9	
		Installation of solar lamps on the streets—2000 lamps	1.55	<0.1	3	
		Installation of wind farms—100 MW	154.71	0.58	130	
		Energy efficiency	Installation of efficient LED lamps in public buildings—2000 lamps	0.31	<0.1	0.016
	Installation of efficient LED lamps in public lighting—2000 lamps		1.36	<0.1	2	
	Waste	Road transport	Natural gas buses—2000 buses	6.59	<0.1	3
		Waste	Composting of municipal solid waste—1000 ton/day	4136.78	15.58	8.1

(continued)

Table 5 (continued)

<i>Sector</i>	<i>Area</i>	<i>Unconditional contributions</i>	<i>ktCO₂e reduction potential</i>	<i>% contribution for target</i>	<i>Cost (Million USD)</i>
Agriculture, forestry and other land use	Forest	Reforestation—416,000 ha	1525.33	5.75	624
Industry	Fugitive	Reduce flaring—370 MMSCF/day	8366.99	31.52	37,000
Total			26,542.2	100	43,963.23

Source Republic of Angola (2021)

3.6 *Egypt*

Many North African countries are heavily dependent on oil and gas revenues to sustain their economies. Governments from Egypt, Libya, Algeria, and Tunisia are under increasing pressure to diversify their economies to mitigate the effects of the energy transition. Egypt is the most populous country in North Africa and remains the largest non-OPEC oil producer in Africa and the third-largest dry natural gas producer (EIA, 2018). It is also a key transit route for oil shipments from the Persian Gulf to Europe and to the United States (EIA, 2018).

Egypt submitted its intended nationally determined contribution (INDC) climate action plan to the UN Framework Convention on Climate Change (UNFCCC) in November 2015 ahead of the Paris Climate Conference (UNFCCC, 2015). The country subsequently ratified the Paris Agreement on 29th June 2017 after signing the Agreement on 22nd April 2016. Within the electricity industry, Egypt's INDC proposes implementing energy efficiency improvements and promoting renewables and nuclear energy. They, however, did not provide any benchmarks for assessment against Business as Usual (BAU) scenarios under both unconditional and conditional terms.

Egypt's primary energy mix comes from oil, natural gas, and hydro-electric power. The country's share of primary energy from fossil fuels was 95.44%, while another 5% comes from low-carbon sources as of 2019. Specifically, gas constitutes 51.81% of the primary energy mix, followed by oil (38.7%), with the remainder coming from hydropower

and some renewables, predominantly solar and wind. Natural gas has become the mainstay of the economy since the 1980s, evidenced by the significant year-on-year growth (Fig. 10). However, the data shows renewables gaining some traction despite their relatively modest contribution to the overall energy mix. For example, in 2019, solar and wind witnessed a combined positive 7 TWh year-to-year change while oil and gas declined by 13 TWh.

Under its 2035 Integrated Sustainable Energy Strategy (ISES), the country aims to scale up the deployment of renewable energy and energy efficiency. Specifically, Egypt targets to generate 20% RE by 2022 and then increase to 42% by 2035. The Egyptian government forecasts that solar energy will provide 25% of this new RE supply by 2035, followed by wind energy (14%) and hydropower (2%) (Invest in Egypt, 2021). Furthermore, the discovery of the Zhor field, which is one of the largest gas discoveries ever to be made in the Mediterranean, has radically improved the country's energy security. This means Egypt can meet its demand using domestic natural gas for several years (Eni, 2021). Despite the availability of natural gas, Egypt has announced plans to develop a 'robust green hydrogen industry' (Lee, 2021). Egypt follows other countries in the Middle East and North Africa (MENA) that are aggressively pushing to build a green hydro economy for exports to Europe and Asia. In August 2021, Egypt's state power group, the

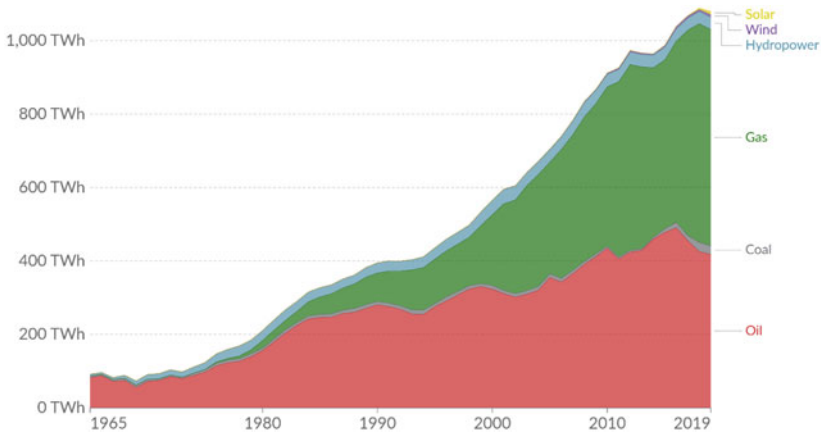


Fig. 10 Egypt energy consumption by source, terawatt-hours (TWh)

Egyptian Electricity Holding Company (EEHC), announced a partnership with German conglomerate Siemens Energy to produce hydrogen for exports—a home-grown hydrogen ecosystem and value chain (Lee, 2021).

4 ENERGY TRANSITION OPPORTUNITIES FOR AFRICA

Energy transition presents tremendous opportunities for African countries, notwithstanding the risks and challenges discussed in the earlier sections. Energy transition should be seen a global technological revolution that the African continent must actively shape. Whereas there are various opportunities presented by the energy transitions such as job creation, tackling of climate change, technological transfer, and many others, in this section we shall focus on the rising role of critical minerals and how African countries can position themselves to benefit from critical minerals especially in this energy transitions era.

4.1 *The Rising Role of Critical Minerals in the Energy Transitions*

There is no agreed definition of the term ‘critical minerals’. However, minerals are considered as critical or strategic if they are scarce and yet very crucial for the economy. These minerals are characterised by geological scarcity, hence limiting their supply. Geography and availability of domestic supply often define which minerals are deemed ‘critical’ for any particular region or country (Nalule, 2021). With respect to energy transitions, some of the critical minerals that are essential to take the transition forward are those metals and semi-metals used in the manufacture of wind turbines, electric cars, solar panels, and other high-tech applications which are crucial for shifting to a low-carbon economy. For instance, copper is essential for the use of electricity throughout the energy system. Lithium, cobalt, and nickel provide batteries with greater charging performance and higher energy density. Some rare earth elements such as neodymium are used to make powerful magnets, vital for wind turbines and electric vehicles (Nalule, 2021).

Some African countries including the Democratic Republic of Congo, Zambia, and South Africa are home to key critical minerals that are needed in the energy transitions including cobalt and copper, respectively. With these mineral reserves, it is essential for African countries to set up

strategies that positively have an impact on the revenue flow from critical minerals to these countries' citizens. This is because the world cannot effectively transition to a low-carbon economy without a reliable supply for critical minerals. Low-carbon technologies require more minerals than fossil fuel technologies. For instance, an electric car uses five times as much minerals as a conventional car and an onshore wind plant require eight times as much minerals as a gas-fired plant of the same capacity (IEA, 2020, 2021b). Consequently, electric transport and grid storage are currently the largest consumers of lithium, together accounting for 35% of total demand (Nalule, 2021).

Drawing from the above, we note that due to their scarcity, any disruptions in the supply of these minerals can disrupt global net-zero efforts. For instance, during the COVID-19 pandemic, some countries were forced to halt mining operations during the early stages of lockdown, including Peru and South Africa. Peru is responsible for 12% of global copper production while South Africa is responsible for 75% of global platinum production. The lockdown measures which were temporarily imposed on the mining sector in these two countries significantly disrupted the supply of critical minerals, hence highlighting the need for global initiatives to ensure security of supply for these minerals, even during a pandemic. The above clearly presents opportunities for mineral-rich African countries to benefit from the global energy transition initiatives. Figure 11 below highlights the increasing demand for critical minerals needed for the lithium-ion battery.

For the world to meet the commitments of the 2015 Paris Agreement, more investments in critical minerals are essential. Africa is home to 30% of global mineral reserves and these contribute significantly to exports and tax revenues. African countries such as the DRC, Rwanda, Uganda are known for cobalt and copper production. For instance, DRC is estimated to possess of 70% of the global cobalt reserves and it produced 100,000 metric tonnes of global 140,000 metric tonnes in 2019; Ghana and Zimbabwe possess significant reserves of lithium; countries like Mozambique are known for minerals such as aluminium and graphite; Zambia is a major producer of copper; Niger is responsible for around 44% of Africa's uranium supply. Consequently, African countries endowed with critical minerals can significantly contribute to the green revolution. However, lack of advanced technology and the dominance of Artisanal and Small-Scale Mining (ASM) are making it hard for some African countries to benefit from the green revolution. Additionally, the

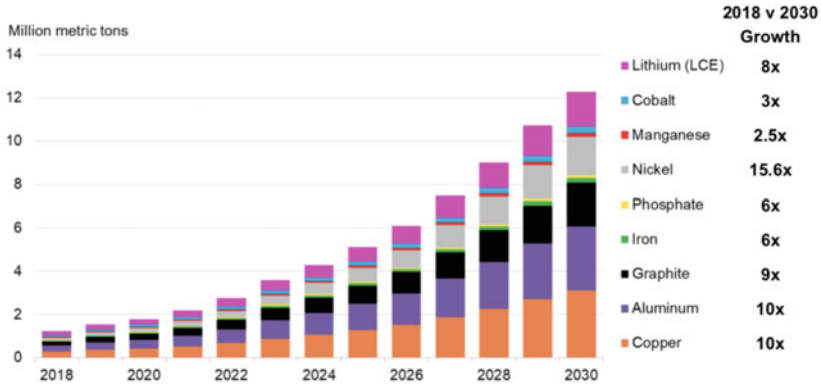


Fig. 11 Annual metal demand from lithium-ion battery (*Source* Bloomberg NEF [2020]. Available: <https://www.greencarcongress.com/2021/07/20210701-bnef.html> [Accessed: 04 November 2021])

lack of infrastructure such as refineries has made it impossible for these countries to benefit from the profits that accrue from ‘value addition’ or ‘mineral beneficiation’.

The energy transitions therefore present various opportunities for Africa to develop its mining sector by among others ensuring access to advanced technology especially to ASM miners involved in the extraction of critical minerals. It also presents opportunities to invest more in infrastructure projects aided at mineral beneficiation. This is in addition to tackling the challenge of energy access by ensuring that the 600 million people who have no access to electricity can benefit from the massive global investments in renewable energy projects.

5 CONCLUSIONS AND POLICY RECOMMENDATIONS

The idea of no new oil and gas exploration if net-zero goals are to be met is a rather difficult one for many countries to fathom. Indeed, many existing and emerging oil producers will have to deal with a major structural shock to their economies in the case of a rapid transition, which they are not prepared for. The Saudi Energy Minister Prince Abdulaziz bin Salman recently dismissed the call to end oil spending as *‘La La Land’* Fantasy.

Moreover, technologies for energy transition take a long time to develop. In the meantime, oil and gas resources will be relevant for energy generation. Beyond that, oil and gas resources are needed for energy generation and other uses. We also argue that there are so many possible pathways to reach net-zero. Our view of the transition is based on how developing countries can leverage the investment opportunities to create jobs and new industrial clusters while transitioning to net-zero emissions per their respective nationally determined contributions (NDCs) under the Paris Agreement. This includes, for example, the potential to create diversified and sustainable jobs in sustainable agriculture, forestry, renewable energy, construction, and manufacturing. To do this, countries that are more dependent on oil production and exports will need to put in place the right policies to help workers and businesses acquire new skills in the new energy economy. In this regard, we advocate for a four-tier strategic response to the pressures of the transition, as shown in Fig. 12. Our policy recommendations are framed around these strategic responses.

1. **Regulatory and investment strategy:** The economics of the energy transition for oil markets is that those who sit on the lowest end of



Fig. 12 Strategic options and policy trade-offs (Source Authors' construct)

the marginal cost curve will get their resources produced first—the so-called advantaged barrels. The energy transition will mean that only the best projects that deliver on overall economics and sustainability (lower carbon intensity) will likely attract capital. African countries will need to implement the right fiscal and regulatory incentives package or run the risk of permanent production declines to be a part of the advantaged barrels group. To do this, countries must urgently review and simplify their fiscal terms to improve competitiveness in the post-COVID and energy transition era. There will be E&P opportunities for well-capitalised, risk-tolerant buyers that are not as strategically constrained by shareholder and policy pressures. These include international NOCs, private equity (PE) firms, commodity traders, and indigenous E&P firms. The focus areas for these new entrants are likely to include short-cycle-high-margin developments and infrastructure-led exploration (in blocks or areas with existing infrastructure such as processing hubs and FPSOs). To catalyse this new wave of investments, there is a need to close identified gaps in the regulatory regime, especially institutional mandates and alignments—the evidence shows many duplicitous regulatory functions in many countries on the continent, which adds to the cost of doing business. We note that several countries have already taken steps to reform their fiscal and regulatory packages during the last downturn before COVID-19, driven by a decline in activity (Nakhle and Acheampong, 2020). Of particular mention are Angola and Equatorial Guinea. For example, Angola in 2018 introduced new fiscal terms and incentives for marginal fields by reducing the petroleum production tax from 20 to 10%, reducing petroleum income tax from 50 to 25%, and introducing incentives to encourage gas commercialisation. Likewise, in Equatorial Guinea, the country relaxed its prescriptive local content regulations and national participation in response to the pandemic. It granted a two-year extension for all oil and gas licenses and exploration programmes and adopted new regulations to attract more foreign and domestic investment. These examples offer valuable strategic lessons on the way to go.

2. **Exploration, asset stewardship, and infrastructure strategy:** The exploration strategy encompasses identifying data gaps, data availability, and data access for all key basins in respective countries. Countries must focus on improving recovery rates, production efficiencies, late-life of field issues, and decommissioning at the asset

level. The infrastructure strategy must encompass regional development concept using hub-based development of marginal and stranded fields. This must also address third-party access to infrastructure issues. In relation to this, we actively encourage countries on the continent to develop gas-friendly policies. This is because gas to power represents a promising way to ‘decarbonise’ Africa’s upstream oil and gas sector. Nevertheless, good incentives are needed to monetise natural gas and create new demand centres for internal power and non-power use and regional exports. This can also enhance value capture, thereby improving fiscal receipts and potentially more jobs. To this end, there is a need to fast track development of regional gas pipelines and resolve gas pricing issues to attract new financing. However, gas pricing will become more challenging due to energy transition concerns.

3. **Redefining the strategic role of African NOCs:** Various assessments show that the energy transition will redefine the commercial role and developmental mandate of national oil companies (NOCs) regardless of their type or size (Manley and Heller, 2021; Cahill, 2021). Forced asset sales and divestments by IOCs such as Exxon-Mobil, Shell, BP, and Chevron due to transition-induced ESG pressures will leave even more crude oil and gas production in the hands of NOCs and other privately held companies (Cahill, 2021). To put things into context, NOCs have 45.6% of the production market, followed by independents (28.4%), majors (13.9%), and INOCs (2.2%) (IEA, 2018).¹⁰ On the other hand, independents made the largest investments (40.4%), followed by NOCs (29.7%), majors (15.6%), and IOCs (14.3%) (IEA, 2018). Both of these NOC shares are forecast to grow in response to the energy transition. While many NOCs are likely to continue spending on new oil and gas projects, it is important to stress that NOCs are not a monolithic group (Cahill, 2021). Some of them, like Saudi Aramco and Petronas, are better technically oriented, run sophisticated operations, are competently managed, and also have good balance sheets, while others are subject to excessive political control and interference. The latter category of NOCs is prevalent within the African

¹⁰ NOCs also already control 56% of the world’s reserves as compared to the majors (12.3%), independents (22%), and International oil companies (INOCs: 9.7%)—See IEA (2018).

continent, where there are about 42 countries with NOCs in their statutory books (African Natural Resources Centre, 2021). A recent African Natural Resources Centre (2021, p. 16) study evaluating and benchmarking the performance of four African NOCs—namely Namibia, Kenya, Ghana, and Algeria—found that while some had good financial might and technical staff, many had ‘*suboptimal internal processes and unclear strategic direction, as well as bureaucratic and hierarchical corporate cultures*’. Thus, if African NOCs are to compete in the energy transition age, then there is a need for a more strategic engagement. In this regard, Africa can, for example, benefit from early adoption of the energy transition by using some of the oil and gas revenues to accelerate green investments, especially deepening RE penetration. Post-COVID economic stability and reform plans need to recognise this. Financially solvent African NOCs can champion this as part of a portfolio diversification drive. Columbia’s national oil company Ecopetrol has already taken the lead in this regard with an August 2021 announcement to acquire a 51.4% majority stake in electricity transmission company Interconexión Eléctrica SA (ISA) for 14.2 trillion Colombian pesos (about USD3.6 billion) (Cárdenas and Palacios, 2021; Enerdata, 2021).

4. **Supply chain and capacity development strategy:** This calls for aligning new supply chain and capacity development strategies with state-wide industrial policies. African countries must also assist exemplar local companies and joint ventures to increase their local and international footprint. Specifically, accelerated oil and gas capacity building for SMEs will be pivotal. This way, more value will be retained in-country while fostering the development of linkages, thereby helping to diversify economies. Finally, regional cooperation by countries and companies in the context of the AfCFTA will facilitate cross-border trade and investment flows into the petroleum and broader energy sector.

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Use and Application of Local Content Policies to Pursue Equitable Petroleum Resource Management: Lessons from Other Producer Countries

Berryl Claire Asiago and Hope Wanjira Miriti

1 INTRODUCTION

For centuries, natural resources like minerals, salt and now petroleum (*oil and gas*) have and continue to play a vital role in the life of humans. These roles are varied and range from economic, social and political. Economically, natural resources remain significant sources of income for individuals, the Host Governments (“HG”) and States (Acheampong et al., 2016). As a consequence, natural resources enable states

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to amass wealth, build nations and relatively prosper. For individuals, these resources facilitate and enhance the living standards of the populace. Hence, socially, natural resources influence the general quality of life of individuals around and associated with the extraction of natural resources. Arguably, the exploitation of these resources facilitates the movement and migration of people to enhance social classes. In this regard, the exploitation of natural resources is modelled in a community context that directly reflects the community's culture, values, economy, exchange principles, political system, and power relations (Van Assche et al., 2017). Significantly, despite the apparent advantages of exploring and exporting these resources, they remain unfavourable by developing conditions that frequently diminish their benefits. For instance, upon extraction, these resources either appreciate or depreciate following their material qualities in a given particular community. Consequently, these resources affect how they are either distributed or traded (Hunter, 2015). Also, these resources frequently come with political imperatives that limit how they are/ought to be managed/distributed. Therefore, overlooking the political perspectives of the natural resource sectors and their management camouflages the actual decision-making and power relations processes (Holden, 2013; Vostroknutova et al., 2010). The result of these oversight privileges actors who are unknown to other actors and would likely have a different impact/outcome than they would have in more inclusive and transparent governance (Taverne, 2008; Van Assche et al., 2017).

Thus, this chapter pays attention to the management and/or distribution of natural resources related to petroleum extraction. It does so by comparing how new African frontiers implement their legal and institutional mechanisms to identify suitable way(s) of managing the newly found source of revenue. Globally, countries and economies with natural resources observe the significance and ultimately the dependency of these resources. For instance, Ghana's economy is primarily dominated by natural resources such as gold and cocoa, making up 60% of export (EISD, 2016). Significantly, the recent oil and gas discoveries led to the exploration, development and operation of the commercially viable offshore hydrocarbon production in the Jubilee, TEN and Sankofa fields (Gyimah-Boadi, 2009; van der Ploeg et al., 2012). The confirmed oil reserves total 1.1 billion barrels and 2.1 trillion cubic feet of gas reserves (Agyei et al., 2012; Ayelazuno, 2014). Long-term oil production estimates a peak of 236,300 barrels per day and 323.7 million cubic feet per day for gas production, in the absence of no new discoveries

(Ayelazuno, 2014; Fragkos et al., 2017; Kopiński et al., 2013). The oil and gas fiscal revenues and GDP contribution are estimated to grow the economy by an additional \$75 billion over 2015–2030 (Fragkos et al., 2017). Evidently, there is an outstanding potential for Ghana’s petroleum industry to boost Ghana’s economy. Therefore, to effectively assemble this wealth, the country demands institutional frameworks including but not limited to drafting effective policies and legal frameworks around natural resource management to ensure the optimum realisation of the country’s petroleum industry.

Nonetheless, despite being portrayed as a relatively democratic, well-governed and prosperous African country, Ghana has yet to show the capacity and commitment to manage natural resources in ways that support inclusive or transparent development (EISD, 2016; Kopiński et al., 2013; Van Assche et al., 2017; van der Ploeg et al., 2012). The revenues collected from oil since discoveries and ultimately to production remain linear, making it challenging to achieve structural economic change. Expenditure patterns show that vulnerable communities, particularly the more deprived northern regions and some places in the Western region, continue to be marginalised despite the latter being host communities (EISD, 2016; van der Ploeg et al., 2012).

Yet, these concerns are not only peculiar to Ghana. As observed, other frontiers such as Kenya, Uganda and Tanzania (which are key subjects to this chapter) remain culpable in (i) marginalising host communities, (ii) disregarding sound legal frameworks that enhance the equitable distribution of resources (iii) yet continue to develop prescriptive frameworks that discourage in-country investments. Hence, the argument and advocacy to promote better and focused strategies that (i) recognise the key role of communities around and associated with the extraction of natural resources (ii) formulate policies that build the capacity, as well as accountability, of public sector agencies involved in natural resource governance and (iii) building and protecting the technical capacity by initiating better professional relationships between political elites and public sector bureaucrats (EISD, 2016; Gyimah-Boadi, 2009).

2 NATURAL RESOURCE MANAGEMENT

The discovery and exploitation of offshore oil prompt a spark in discussions around the need for sound, timely and feasible laws and policies. This is explicitly in relation to the tailoring of Ghana’s policies for sound

petroleum resource management with a view of accelerating the overall national development (Asante et al., 2021). Petroleum resource management is anchored on the creation and existence of regulatory institutions, procedural guarantees and recourse to promote the sustainable management and use of petroleum as a natural resource (Gyimah-Boadi, 2009; Van Assche et al., 2017). Similarly, the quality of governance of a country is a critical determinant in the development outcomes of extractive and petroleum industries activities (Agyei et al., 2012; Murombo, 2016). Ghana has developed a corpus of legal rules that encourages and controls natural resource management. This is reflected in Ghana's constitution, statutes, international instruments and customary laws. In this regard, this chapter favours the argument that formulating sound and practical natural resource management law is key to achieving national policy goals.

Natural resource management laws operate by prescribing and creating rights, duties, powers, establishing institutions and procedures (Moalim, n.d.) and forming basic foundational rules that guide peoples' interactions with each other and natural resources (EISD, 2016; Van Assche et al., 2017). The core function of petroleum resource management laws is to ensure that petroleum is exploited equitably and sustainably in line with the universally accepted Brundtland principles of sustainable exploitation and intergenerational equity (Brundtland, 1987a). The Brundtland principles outline that all-natural resource management strategies should meet the needs of the present generation without putting at risk the opportunity of future generations to enjoy the same (Brundtland, 1987b; Keeble, 1988).

At its core, natural resource management law determines the ownership of the natural resource, the terms of the legal rights acquired by those who utilise the natural resources and facilitating the natural resource-related transactions by way of formulating rules of conduct that govern a transaction unless the parties choose otherwise (Moalim, n.d.). Petroleum resources management law comes in as a legal instrument for distributive, conservatory or prescriptive utilisation of the resource.

The distributive function comes into play by specifying the natural resources that can be owned and the terms of the legal rights acquired by those who utilise the natural resources. Significantly, the conservatory perspective remains outlined in the jurisprudential theory of permanent sovereignty over natural resources, which addresses the ownership of resources and the rights of states to exploit and dispose of the said resources following their national development policies and goals without

outside interference. The law also facilitates and governs natural resource commercial transactions by establishing rules of conduct that govern a transaction unless the parties choose otherwise. Consequently, the natural resource management law creates a governance structure for resource users to coordinate resource use and resolve disputes (Wiersema, 2008).

The remainder of this chapter is mainly structured to cover the critical role of resource management laws that outlines the acceptable standards with respect to the exploitation of resources or particular forms and methods of exploitation. Specifically, the chapter narrows down to the use and application of local content policies to pursue equitable petroleum resource management in the petroleum sector. Discussions around the lessons from new African oil exploring countries and other petroleum-producing countries are covered. Similarly, the article reviews and compares the regulatory agents and bodies responsible for implementing the policies in these selected countries.

3 LOCAL CONTENT REQUIREMENTS

There is no universal agreement on what is “**local**”, nor is there a consensus on what amounts to “**content**”. That notwithstanding, governments continuously (re)define Local Content Requirements (“LCRs”) as either a policy tool or an objective for/of realising the economic, social and political benefits for the local economy (Asiago, n.d.; Hunter, 2014). The significance of these requirements seems to go beyond the typical fiscal benefits accrued (Acheampong et al., 2016). Thus, LCRs remain associated with supply chain systems that promote or enhance the value-added brought to any economy (Asiago, 2017a, b).

In this regard, LCRs are regulatory tools imposed by governments to ensure that benefits associated with the upstream petroleum sectors extend to local people and businesses (Acheampong et al., 2016; Asiago and Wasunna, n.d.; Hunter, 2017). Thus, mandatory LC requirements oblige operators (mainly foreign) to source a specific percentage of their workforce, goods and services from the local companies. Therefore, depending on the regulatory objective, these LC requirements will either strictly or laxly determine the application parameters, the model of compliance, monitoring and the provision of either sanctions or incentives (Asiago, 2021).

Typically, governments formulate LCRs in the oil and gas sector to include policy initiatives relating to law, regulation, contracts, amongst

others that encourage national labour, goods and services, technology and capital (Acheampong et al., 2016; Asiago, 2017a, b; Hunter, 2010). In many respects, this participation amounts to the value created or added through the deliberate use of local resources. In 2003, the World Bank classified this category as backward linkages because it relies on local-based factors (Tordo et al., 2013). Other definitions attempt to be more robust and involve foreign-based factors such as transferring knowledge, technology, and capital frequently associated with forward linkages. Arguably, depending on how they are applied, the backward linkages often limit value additions because of the constant reliance of locality rather than competency or the competitive edge required in improving forward linkages. In this regard, the World Bank report of 2013 advocates for the systematic use of LCRs that move from and beyond the affirmative actions related to backward linkages to forward linkages, involving the transfer of capital, technology, and suitable legal structures (Tordo et al., 2013). Thus, suitable LCRs develop two major elements involving “**local**” and “**content**”.

3.1 *Local*

The definitions relating to “**Local**” involve two significant categories involving (i) narrow and (ii) broad.

The narrow definition involving “*local*” considers the context of the geographic area, including the population living directly in or around the extraction site also commonly known as *host communities*. Thus, to qualify under this definition, the population or the business intending to work on a petroleum project should naturally originate from the designated or impacted community. For instance, prior to introducing the Nigerian Oil and Gas Industry Content Development Act (“NOGCID”) in 2010, the initial definition of local content in Nigeria originated from the Niger Delta region, in 1989 (*Nigerian Oil and Gas Industry Content Development Act 2010*, 2010). This policy eventually developed into the famous Nigerianisation approach. Thus, initially, the desire for the State was to ensure that the people originating from the Niger Delta region would be prioritised within the affirmative action. However, due to the politics associated with such a brush, narrow policy, the government quickly changed the objective from regional to national participation (Aladeitan, 2012; Ekhaton, 2016).

Currently, this narrow definition is shelved, and, in several countries, it is frowned upon because of the constricted focus on a small community rather than a unified national policy. Today local communal content also known as “*Community Content*” is limited to social and environmental issues such as the potential loss of agricultural land, source of income, displacements, etc.—especially in marginalised communities but not extended to include the complex supply chain systems (Warner, 2011). In other places, the elements associated with Community Content qualifies as the—*Social License to Operate (SLO)*.

On the contrary, a broader definition of “local” entails complex supply chains and integrated systems involving the roles of (a) nationality or citizenship in the case of employment, (b) company registration/incorporation, headquartered in-country, ownership and/or control of the capital and (c) value addition quotas and percentage of locally sourced inputs. In this regard, the issues involved include but are not limited to the following:

- **Local person/workforce**—this requirement demands selecting an individual associated with the host country’s nationality to perform an activity. In many respects, governments deem that local personnel must be able to identify with the nation/nationality of that country. And that the quota or percentages reserved must only be fulfilled by the said locals. For instance, the Ghana Local Content legislation (LI 2204 [Petroleum (Local Content and Local Participation in Petroleum Activities) Regulations]) passed in 2013 by the Ghanaian Parliament demands the prioritisation of employment in the petroleum industry to only Ghanaians/nationals. This requirement resulted from the 2010 local content policy observing the government’s commitment to ensuring the participation of Ghanaian citizens in the ownership of oil and gas businesses. The policy and eventually, the law mandates the priority allocation of the award of oil blocks, oil field licences, oil extraction licences, and all projects to Ghanaians. Similarly, in Uganda, the Ugandan Parliament passed the National Local Content Act on 20 May 2020. It specifically requires the employment of Ugandans in the petroleum sector. Conversely, the need to employ locals may be hindered by the lack of skill set in-country especially in the early stages of the E&P lifecycle. In this regard, there exist exceptions where Host Governments may allow the employment of an expatriate. However, these exceptions

remain subject to fulfilling certain conditions such as (i) obtaining permission from the relevant authorities (ii) gradually replacing the expatriate with a local. For instance, the Ugandan LCRs observe that the expatriate will apply to MEMD for a recommendation of obtaining a work permit/special pass. However, the licensee is expected to gradually replace its expatriate staff in key senior management or technical positions with suitably qualified and experienced Ugandan citizens. As will be observed, these requirements are similar across the board in Ghana, Tanzania and Kenya.

- **Incorporation of local company** including **local registration**—typically, LCRs demand the standard company incorporation/registration with the relevant state companies registration Acts/Authorities, i.e. in Ghana, Uganda, Tanzania and Kenya, including Nigeria and Angola. Thus, the law specifies the need to register the said company with the Companies Registration offices. However, beyond the statutory obligation to incorporate a company, these entities must extend equity participation rights to locals. For instance, in Ghana, the LI mandates that every petroleum agreement or licence between Ghana and a foreign company must have at least 5% equity participation of indigenous Ghanaian companies. This LC requirement is similarly reflected in Nigeria, Angola, Ghana and Mozambique. On several other occasions, these laws may also require the registration of companies' headquarters in the host country. There are specific laws that demand all three requirements relating to company set incorporation to be fulfilled—the Angolan 271/20 regulation demands that the company be locally registered, 100% owned by Angolans, and headquartered in Angolan. Similarly, the Nigeria NOGICD Act requires local registration, 51% owned by Nigerians and headquarters in Nigeria. Furthermore, there are situations where the law might select either equity participation or joint venture depending on suitability. This is the case in Tanzania, where law describes a local company as either (i) 100% owned by Tanzanians or (ii) a JV with Tanzanian(s) citizens holding at least 25%. In this regard, the law distinguishes between the roles of companies from that of individuals. Thus, it is observed that more equity participation is involved/required where a local company is concerned.
- **Local goods and services**—typically, E&P companies must purchase local goods that are either manufactured or produced locally to

attain this requirement. Often the provision of the law demands, i.e. “Made in XX” or “Buy XX” programmes introduced by many national governments. For instance, the NOGICD 2010 Act references that all fabrication and welding must be undertaken in-country even though Nigeria manufacturing only constitutes 4% of overall revenue. However, reports indicate that there has been success in improving fabrication and welding. Similarly, in Angola, there exist the 3-tier system (i) rule of exclusivity (activities less capital and technology, (ii) semi compliance—(JV for medium capital & technology) (iii) Competition system (offshore—the pre-salt area with capital) in which services must be in-country including, legal, financial, consultancy, etc.

3.2 *Content*

The definitions relating to “Content” vary and often depend on the objective of the policy tool. Importantly, governments have never fully defined what ought to be included as part of the content relating to LCRs. That notwithstanding, the conclusion is that either some of the following or all issues are included in determining the scope pertaining to LCRs have but are not limited to the following:

- **Increasing the participation of domestic industries**—these policies remain imposed by governments. They often require firms to use domestically manufactured goods or domestically supplied services to operate in an economy. The idea of increasing domestic participation is usually made and undertaken at the expense of foreign participants and is often applied without consideration of the capacity of local companies. For instance, the Ghana LCRs have requirements to submit LCRs plans to employ locals and procure goods and services. Furthermore, these entities should transfer advanced technology and skills related to petroleum activities. In this regard, oil companies must prepare and submit sound recruitment and training programmes to the Ghana National Petroleum Corporation (GNPC) or the Petroleum Commission.
- **Development of the local workforce**—like the desire to increase domestic industries participation, local workforce policies remain imposed by governments and often require firms to employ nationals

of a given country to operate in an economy. Indeed, in the absence of such policies, the licensees should often equip the locals by training or capacity building. For instance, the Tanzania petroleum law mandates the contractors to submit to PURA a programme for recruitment and training of Tanzanians within 12 months after the licence grant and every year report on the programme's implementation. Ideally, these policies are designed to reduce unemployment pressure whilst simultaneously stimulating growth after the global financial crisis and the pandemic to manage the adverse effects of globalisation. The idea is usually targeted towards reducing the role of foreigners but often applied without consideration of the capacity of locals.

- Thus, the eventual desire to **transfer technology or conduct research and development** is often shelved. Because the transfer of knowledge and know-how, including research, can only be effectively achieved if/when locals and foreigners work together to achieve the objectives outlined by the rules simultaneously. For instance, foreigners can add value through capital/financing, capacity building and implementing corporate governance structures that add value in seeking international investments etc. Whereas the locals can effectively manage the resources, secure petroleum interest and oversee the equitable distribution of these natural resources.

Thus, despite many governments mandates to achieve these requirement(s), unless these complementary elements, that is, local and content issues are intertwined to facilitate and promote local participation, one may argue that the **value addition becomes a proxy purely for “locally based” or “locally owned” issued that add no desired value to the economy!**

4 ROLE OF LOCAL CONTENT REQUIREMENTS IN FACILITATING EFFECTIVE RESOURCE MANAGEMENT—COMPARATIVE ANALYSIS

Governments pursue local content requirements—as an *objective or a tool*—to achieve sound resource management. Arguably, LCRs as a tool concern the means of achieving a set predetermined national goal(s).

Whereas local content as an objective, is the end itself, focusing on accomplishing virtues related to value addition by the locals in the host country. Hence, there is a need to have tailor-made laws and policies specific to each country that reflect the country's underlying fundamental principles either objective or tool. Notably, most developing African countries are notorious for transplanting LCRs from Norway despite the differences in context, political and economic status. A good example is Nigeria, which has had up to 12 local content laws whose success in implementing and yielding sustainable results is debatable.

In this context, the work will review the LCRs in Uganda, Tanzania and Kenya to draw out lessons comparable to Ghana's. The work focused on the select three countries because of the underlying similarities in the discovery of hydrocarbons; unlike Angola and Nigeria that have been carrying out production for over five decades, the select countries, Ghana included, made their discoveries about a decade ago. Thus, exploration and production are in the inception stages. Likewise, it is noteworthy that these countries have put in place local content laws and policies that are yet to be used and put to the test, considering that exploration and production are still at the onset. Hence, it is imperative to study the different local content laws and policies, establish why local content is essential to these countries, and whether local content is used as an end goal objective in and of itself or an end to a more significant purpose.

4.1 Uganda Local Content Requirements

Uganda first announced the discovery of commercial oil and gas reserves in the Albertine rift basin in 2006. A discovery that sparked excitement and raised the hope for social and economic growth amongst the locals and the National government (Gwayaka, 2014). Albeit the excitement, concerns of how the government and citizens of Uganda would benefit from the commercial oil and gas reserves once production kicks off cropped up. Questions as to whether the International Oil Companies ("IOCs") engaged would employ the local citizens, use locally produced goods and services, how the transfer of skill and technology will be harnessed, and whether Uganda had the local capacity to be engaged during production? These concerns highlighted the underlying need for Uganda to develop a legal and policy framework that addresses resource management concerns, the local content issues and gives practical and tailor-made solutions to the Ugandan people to benefit from the oil

and gas sector (Ogwang and Vanclay, 2019). For instance, during the exploration phase, the national government of Uganda commissioned a National Content Study in the Oil and Gas Sector in Uganda that revealed that as of 2011, the share of national content stood at 15%. The study also highlighted the need for the national government to employ practical and sustainable measures to ensure national content is achieved across the oil and gas sector.

Since discovering oil and gas, Uganda has legislated various laws and policies that address value addition through national content in the petroleum sector. The work will study and discuss the diverse national content laws in-depth to explore how the concept and tenets of local content have been formulated and implemented if at all they have been implemented.

4.1.1 *Legal Framework*

(1) *National Oil and Gas Policy for Uganda 2008*

The Ugandan National Oil and Gas Policy (NOGP) offers guidelines for petroleum resource management. The Policy framework emphasises the need for the development of sustainable resource management that promotes intergenerational equity. The common underlying goal of the policy is to promote *local content as a tool for resource management* in Uganda. This is seen throughout the policy objectives. For instance, objectives 7 and 8 of the Policy outlines the need to ensure maximum national participation in oil and gas development and production, which is to be achieved through the use of local goods and services, employment of Ugandan locals and promotion of transfer of skill and technology to the country. Promotion of national participation makes up for local content, which is defined by the Policy to include the value brought to the host nation, region and host communities because of activities in the oil and gas industry and outlines the parameters used to measure the value-added (Schwarte, 2008). From the above definition, one can infer that the essential components of local content in Uganda include value addition and procurement, use of local goods and services and transfer of technology and skills to the locals.

The Policy is an essential driver for obtaining and releasing national local content as it sets out the action plans and strategies to achieve

local content. The policy highlights the guidelines and guiding principles to achieve local content. It outlines the following national content pillars, translating to the action plan for maximum national participation in Uganda's petroleum sector. The five pillars embody the tenets of local content, and they include:

- *Formulation of the necessary regulatory framework for state participation and implementation of national content*—This Policy sets grounds for the establishment of the Petroleum (Exploration, Development and Production) Act of 2013 and has also informed the provisions of the Production Sharing Agreements (Art 11, 20 & 21). It activates Part VIII and Sections 124, 125, 126 & 127 of the Petroleum (Exploration, Development and Production) Act 2013. It also sets the basis for the provisions in the Production Sharing Agreements (under Art 11, 20 & 21) reflective of the national local content.
- *Establish the opportunities for national content in oil and gas activities and work around its implementation*—this pillar forms the basis for implementing local employment and workforce opportunities as well as the opportunity to study and specialise in the required skills in oil and gas exploration that is capital intensive and requires highly skilled personnel.
- *Training of government personnel to monitor oil and gas exploration, development and production*—This pillar sets the foundation for the requirement of the International Oil Companies to participate in the sponsorship and training of the locals in order to take up top managerial positions across the production value chain.
- *Review and improvement of the education curricula in the country with a view of producing a well-skilled workforce required for oil and gas activities in the country*—This pillar aims at creating a skilled local workforce in the production chain and, in the long run, create and strengthen capacity amongst the host citizens, and especially the youth.
- *Bolster the development of skills and competitive competencies required by the entrepreneurs to participate in delivering goods and services for the oil and gas sector.*
- *Condition for licensed oil companies and their subcontractors to provide training to Ugandans*—This pillar focuses on building extended-lasting capacities for Ugandans.

These pillars embody local content's tenets to include value addition to the host country through the employment of local workforce, supply and use of local goods and services provided by local or jointly owned companies, and capacity building and skills acquisition through training.

(2) *The Petroleum Exploration Development Program (EDP) Act, 2013*

The Petroleum Exploration Development Program (EDP) Act, 2013 [*The Petroleum Act (EDP) Act 2013*] is the governing law for Uganda's local content. It prescribes the National Content requirements relating to State participation, utilisation of Ugandan goods and services and formulation training and employment. The laws prescribed under this Act reflect the provisions under the National Oil and Gas Policy for Uganda, which mandates the National government to ensure maximum national participation across the value chains in the sector.

The following are the ways Uganda, through the Act, is implementing the 5 Pillars of National Content formulated in the Policy.

- (a) *Workforce Development*—Section 126(1) of the PEPD Act 2013 demands that the licensee, within twelve months after the grant of a licence, submit to the Authority for approval a detailed programme for recruitment and training of Ugandans in all phases of petroleum activities and shall consider gender, equity, persons with disabilities and host communities. This is to ensure that the International Oil companies, whilst carrying out production, are deliberate about the training of the locals. Long-term compliance ensures sustainability in the value created and passed down to the locals through training and recruitment.
- (b) *Utilisation of Ugandan goods and services and Supplier Development*—Section 125(1) the Act outlines that the licensee, its contractors and subcontractors shall give preference to goods produced or available in Uganda and services which Ugandan citizens and companies render. Furthermore, goods and services not available in Uganda can be provided by a joint venture company consisting of a Ugandan company and provided that the Ugandan company has a share capital of at least forty-eight per cent in the joint venture. The PEPD and the Oil company have cited difficulty in implementing this pillar because Ugandan companies have

yet to develop the capacity to supply high-value goods and services on the terms currently required by the oil companies. This impediment could be attributed to the lack of financial muscle by the local companies to procure high-value goods. For instance, the government of Uganda conducted a baseline survey and reviewed procurement reports of the oil companies for the period 2010–2013 and came to the finding that oil companies spent a total of USD 1,171.8 million on the purchase of goods and services. Only USD 329.9 million was paid to Ugandan service providers, representing 28% of the total money spent by all the companies under review. The big question is, what can the government do to bolster the financial potential of the local companies?

When it comes to supplier development, this should be jointly and collaboratively undertaken by the key players, including the government, oil companies, financial institutions and other key players in the sector. This is to enhance the capacity of the Local firms to participate and benefit from the promotion of National Content. The three IOC's companies operating in Uganda conducted a joint industrial baseline survey (IBS) in 2013 to gauge the capacity of the local industries, and their findings were that some industries would be able to absorb the demands of the project whilst the majority would need to enhance their capacity in terms of production volumes and standards. The report further noted that for the business community to respond effectively to the demands of the oil and gas development project, they would require more visibility and information about business opportunities and investment in technology and capacity. Through the ministry and in collaboration with key stakeholders, the government has engaged some private sectors to disseminate the opportunities in the sector and what it takes to win contracts. Our work recommends the Government to create incentives and a favourable financial environment for the local companies to successfully operate in the capital-intensive sector. This could include incentives such as low-interest rates on loans and favourable tax reliefs to the local companies.

- (c) *Training by the Oil Companies*—A licensee is mandated under Section 127(1) of the PEPD to clearly define a training programme for the Ugandan employees that occupy administrative and executive management positions and those that cut across all the phases

of petroleum activities. This provision ensures inclusion as it indiscriminately focuses on gender, equity, persons with disabilities and host communities. The training may be carried out in or outside Uganda and may include scholarships and financial support for education. The oil companies are expected to facilitate scholarships to locals for training both abroad and locally. Such training ought not to be basic or too generic. Still, it should identify training needs and gaps in technological skills and the necessary skills relating to the petroleum industry. After training, there needs to be a system of absorption that ensures those trained get employed and retained in the petroleum industry. This ensures value addition to the locals who in turn transfer it there through their work. This gap has been addressed by the Ministry of Petroleum which cited that although TUOP and CNOOC provide scholarships, they did not guarantee employment of the beneficiaries upon completion. To resolve this, the Oil companies should offer opportunities to recruit and employ the trained locals by offering internships and placement within the oil companies to enable them to gain hands-on experience. The government, through the Ministry, may also need to develop a strategy that supports local universities to enable them to provide world-class training in disciplines related to oil and gas. This would lower the costs of study and make the courses accessible to more Ugandans.

- (d) *Higher Education and Training Institutions*—The National Oil and Gas Policy (NOGP) 2008 requires the government to review and expand the country's education curricula to produce the workforce needed for national oil and gas activities. Since the industry requires a specific skill set for each stage of the activity, it is necessary to have skilled people ready when they are needed. This bolsters capacity building amongst the locals, and in turn, they can add value to petroleum production.

(3) *Production Sharing Agreements (PSAs)*

The PSA has dogmatic provisions that allude to local content and thus remain contractually binding to the oil companies. In Uganda, Article 21.1 of the Production Sharing Agreements (PSAs) prescribes that the

licensee commits to employing suitably qualified Ugandan citizens in its petroleum operations. The licensee is also required to ensure its subsidiaries do the same. Where a national applicant possesses the requisite qualifications, passed the interview, but lacks experience, they may be recruited to work under the supervision and mentorship of the hired expatriate (as an understudy) to replace the expatriate as per the approved Nationalisation plan eventually. Where there is no suitable candidate for the job, the oil company informs MEMD and justifies the need to hire an expatriate. Once the expatriate is identified, the oil company applies to MEMD to recommend the expatriate's work permit/special pass. However, the licensee is expected to gradually replace its expatriate staff in key senior management or technical positions with suitably qualified and experienced Ugandan citizens. All this is done with the view to developing a reliable and sustainable skilled local workforce.

Furthermore, Article 20.1 of the PSA prescribes that the licensee, its contractors and subcontractors shall give preference to goods produced or available in Uganda and services rendered by Ugandan citizens and companies. The provisions under the PSA reflect the local content provisions in the Policy and the Act, which ensures compliance with the local content tenet provisions that achieve sustainable and intergenerational local content in the long run.

4.1.2 *Institutional Framework*

There are several bodies set up to implement local content policies; these include but are not limited to the following.

- (1) *The Petroleum Authority of Uganda*—mandates, targets and ensures that licensees comply with this Act and regulations made under the Act.
- (2) *National Oil Company (NOC)*—manages Uganda's commercial aspects of petroleum activities and state participation, including attainment of local content.
- (3) *Petroleum Exploration and Production Department (PEPD)*—monitors oil companies' compliance with existing laws, regulations and agreements, including compliance with national content requirements.
- (4) *Advisory Committee—under the PSA*—is responsible for reviewing and approving the oil companies' annual work programmes and budgets, including planned activities relating to procurements,

training and employment. It comprises of four members: two appointed by the government and two (2) representing the oil company. The Oil Company holds the role of secretary of the committee.

- (5) *Public Procurement and Disposal Authority (PPDA)*—carries out procurement audits to ensure that International Oil Companies (IOCs) comply with the procurement requirements agreed upon in the contracts and those stipulated in the law.
- (6) *Universities and other educational institutions*—Universities and vocational training institutions in Uganda are required to develop and offer relevant university programmes/courses to equip Ugandans with relevant skills to participate in the oil and gas sector.

4.1.3 *Lessons Learnt/Borrowed*

The Policy and Petroleum Act have extensively provided for local content provisions. What stands out is the emphasis on developing and building capacity amongst the locals through training, scholarships and creating systems that ensure the trained locals get employed in the relevant fields within the petroleum sector. Proper capacity building ensures that local content as an objective is sustainably achieved and maintained throughout generations.

Another lesson to pick out is capacity building within the local companies that provide goods and services. This may be done by the government providing financial incentives to the companies and presenting opportunities that will build the financial muscles of the local companies to afford and match the high quality and capital-intensive goods and equipment required in production.

Emerging industry and media reports call for the revision of the national content provisions in the Petroleum Act and Production Sharing Agreements (PSAs), citing inadequacies and contradictions relating to procurements of local goods and ownership of local firms.

Finally, there is a need for political goodwill to promote local content in the petroleum sector. The Auditor-General conducted an audit and submitted a report on the Uganda Petroleum sector in 2015. The report cited that the National Government has been actively involved in promoting national content. However, the Ministry of Energy and Mineral Development (MEMD) has not been effectively playing its part, which has derailed the optimum realisation of the national content objectives of the Oil and Gas Policy (NOGP), 2008.

4.2 *Tanzania Local Content Requirements*

Tanzania is richly endowed with natural resources. The most recent discovery is 50 trillion cubic feet of Natural gas discovery in the Southern coast offshore in Lindi and Mtwara (Fjeldstad et al., 2019; Kolstad and Kinyondo, 2017; Stølan et al., 2017). In 2010, BG/Ophir discovered natural gas equivalent to 1.8 trillion standard cubic feet (Tcf) in Block 4. Two years later, in March 2012, Equinor, previously Statoil, and Exxon-Mobil discovered 6 Tcf of offshore natural gas in Block 2 (Fjeldstad et al., 2019).

Previously, domestic production of small-scale natural gas took place in Songo Songo island and Mnazi Bay which primarily generated domestic electricity (Fjeldstad et al., 2019). Notwithstanding that, whilst no commercially viable oil has been discovered in Tanzania, the natural gas tcf equates to 10 billion barrels of oil (Fjeldstad et al., 2019). Reports from the IMF estimate the natural gas will contribute between 3–6 billion USD in annual government revenues once production kicks off (IMF, 2014). The government's Natural Gas Policy of 2013 estimates the gas revenue will significantly increase and contribute to the growth and socio-economic transformation that will catapult the country to a middle-income country by 2025. Plans are underway to build an onshore liquefied natural gas (LNG) processing plant in Lindi, from where liquefied gas would be exported (Fjeldstad et al., 2019).

The discovery of commercial natural gas has created the need for the Tanzanian government to develop local content laws and policies that will ensure the citizens benefit from the natural gas once production starts. A sustainable and tailor-made legal framework for the Tanzanian context is necessary to regulate natural gas production and promote sustainable local content, economic growth, structural transformation and social progress in Tanzania.

The paper will review the various local content policies, laws and institutional bodies and their performance towards realising local content in the natural gas sector in Tanzania. The following Local Content Policies exist in the Petroleum Sector:

4.2.1 *Legal Framework*

- (1) *The National Energy Policy in 2015*

In 2013, the Natural Gas Policy and the Local Content Policy were formulated to provide guidance for the development of the industry and to deepen the participation of Tanzanian citizens and enterprises. These policies were later merged into the National Energy Policy in 2015, whose main objective is to offer guidelines for sustainable development that enhance optimal benefits to Tanzania's citizens.

The National Energy policy recognises the importance of local communities in the development of the petroleum subsector. It sets an objective to optimise the benefits of the petroleum industry for social and economic development.

The policy also sets action statements to attain its prescribed goals that include:

- (i) Ensure available opportunities in the petroleum industry are utilised by communities.
- (ii) Strengthen coordination of local content issues and petroleum industry.
- (iii) Ensure oil and gas players support Tanzanian communities in their economic activities to participate in the petroleum value chain effectively.

(2) *Petroleum Act, 2015*

This is the primary legislation governing the petroleum sector in Tanzania. The Petroleum Act was passed in 2015, repealing the PEPA and the Petroleum Act of 2008. The Act regulates upstream, midstream and downstream operations of the oil and gas sector. Part VIII of the Act addresses local content and National government participation.

The following are the ways Tanzania, through the Act, is implementing the Local content Tenets:

- a. *Workforce Development*—Section 220 of the Act mandates the licensee to submit to the Petroleum Upstream Regulatory Authority (PURA) a detailed programme for recruitment and training of Ugandans in all phases of petroleum activities and shall consider gender equity, persons with disabilities and host communities. It is noteworthy that this provision is similar to Uganda's PEPD Act, and this goes ahead to show the prevailing legal transplant of laws

amongst African developing countries. This provision ensures work-force development amongst the Tanzania citizens. It also provides the IOCs, whilst carrying out production, are deliberate about training the locals for long-term value creation and acquisition of skills through work experience.

- b. *Local Goods and Supplier Development*—The Act under Section 219 mandates licence-holders, contractors and subcontractors to give preference to the goods produced or available in Tanzania and services provided by (i) Tanzanian citizens or (ii) local companies. In cases where the goods and services are not available in Tanzania, the law permits a local company to enter into a joint venture with a foreign company (i.e. local company owning at least 25% shares of the Joint Venture or as otherwise provided in the regulation) to procure the goods and services. In this regard, the law describes a local company as either (i) 100% owned by Tanzanians or (ii) a JV with Tanzanian(s) citizens holding at least 25%. In the review of the Act, it appears that where individuals are concerned, i.e. citizens, then the participating right is lower and valued at 15%. Thus, the disparity between the 25% and the 15% mentioned above concerns the participating rights of the entity, i.e. the share of an individual from an incorporated entity. Leaseholders/Contractors are also mandated to submit to PURA a procurement plan for at least five years indicating the use of local services in insurance, financial, legal, accounts and health matters. This rolls out a long-term plan for the development and achievement of local content on a five-year basis
- c. *Training*—Section 220 of the Act provides for the training and employment requirements of Tanzanians. The contractors are mandated to submit to PURA a programme for recruitment and training of Tanzanians 12 months after the grant of licence and an annual report on the programme's implementation. The training shall collaboratively be spearheaded by the national government and the international oil companies who commit to maximise knowledge transfer to Tanzanians and establish management and technical capabilities and any necessary facilities for technical work, including interpretation of data.

(3) *The Petroleum (Local Content) Regulations of 2017*

The regulations set out the grounding principles upon which the Local content will be realised. It outlines the following: A person conducting petroleum activity shall ensure that: (a) a qualified Tanzanian citizen is given priority in employment and training in any matter relating to the petroleum activity; (b) preference is given to goods and services provided, manufactured or locally available in Tanzania following the provisions of the Act and these Regulations; and (c) a Tanzanian citizen is given priority in any matter relating to the technology transfer, research, development and innovation in any petroleum-related activities. **Regulation 15 (1)** of the Regulation mandates licensees, contractors and subcontractors working in the oil and gas industry to give preference to goods and services manufactured or locally available in Tanzania. **Regulation 15 (3)** indicates that goods, works and services required but not available in Tanzania, will be provided by a non-local company that has entered into a joint venture agreement with a local company (*one registered in Tanzania and with a Tanzanian holding between 15 to 100% of shares*) This local company must own at least twenty-five per cent (25%) of the Joint Venture stake. Furthermore, **Regulation 15 (4)** provides that a non-local company intending to provide goods, work and services to a licensee, contractor and subcontractor may enter into other business arrangements guaranteeing local participation of at least ten per cent (10%) shares, interest or equity of the contract value for the provision of the works, goods and services. **Regulation 30 (1)** of the Local Content Regulations requires a licensee, contractor and subcontractor to establish and implement a bidding process to acquire goods, works and services that will give preference to a local company. A non-local company that contains the highest level of local content shall be selected during the evaluation of bids. This acts as an incentive to IOCs to incorporate the local content policies. A non-local company must provide goods, works and services to a licensee, contractor and subcontractor, upon forming a joint venture with a local company that shall own shares of at least twenty-five per cent (25%) in the joint venture.

(4) *The Tanzania Extractive Industries (Transparency and Accountability) Act, 2015*

Tanzania Extractive Industries (Transparency and Accountability) Act, 2015 creates the Extractive Industries Transparency and Accountability

Committee (EITA), an independent government entity set up as an oversight body for extractive industries. The EITA committee is mandated to promote citizen participation in the extractives and ensure the benefits from the sector are utilised to benefit Tanzania citizens. The citizen participation extends to local content that seeks to bring value addition from the locals.

(5) *The Natural Wealth and Resources (Permanent Sovereignty) Act 2017*

The Act was established under the Constitutional principles of the country's permanent sovereignty over its natural resources as set out in Articles 8 and 9(f) of the Constitution. The Permanent Sovereignty Act reflects the United Republic of Tanzania has permanent sovereignty over all natural wealth and resources and entrusts the President on behalf of the people the control over those resources for the benefit of the people.

(6) *The Natural Wealth and Resources (Review and Re-Negotiation of Unconscionable Terms) Act 2017*

(The Review and Re-Negotiation of Unconscionable Terms) Act 2017 Act mandates that the use of natural wealth and resources be conducted to benefit Tanzanian citizens and protect the interests of Tanzania. This Act also requires, where necessary, all arrangements or agreements on natural wealth and natural resources to be tabled before the National Assembly for review to ensure that any unacceptable terms therein are corrected or deleted.

4.2.2 *Institutional Frameworks*

Several bodies/agencies have been set up to implement Local Content Policies in Tanzania. Specifically, the Act established oversight and regulatory institutions to achieve local content in Tanzania. These institutions include:

- (1) *Petroleum Upstream Regulatory Authority (PURA)*—Petroleum Upstream Regulatory Authority (PURA) was established under Section 11 of the Petroleum Act. It oversees and regulates the petroleum sector in Tanzania, and it is empowered to; grant, renew

- and revoke licences and ensure transparency in the petroleum industry. It is also mandated to promote local content through supporting Tanzanians to participate in the upstream ventures.
- (2) *The Energy and Water Utilities Regulatory Authority (EWURA)*—Section 29 creates and empowers the Energy and Water Utilities Regulatory Authority (EWURA) to regulate midstream and downstream natural gas and petroleum activities. EWURA is mandated to issue, renew, suspend, and cancel construction approvals and operational licences. Additionally, Section 30 of the Act outlines that EWURA shall promote access to local goods and services and encourage local participation.
 - (3) *National Oil Company*—Formed under The Petroleum Act, under Sections 8 and 44, makes TPDC the National Oil Company (NOC) of Tanzania. The NOC has the commercial agency of the Government in the petroleum value chain and is mandated to maintain at least 51% and 25% of shares in this NOC and participate in interest in petroleum projects. Under Sections 44 and 55 of the Petroleum Act, TPDC has exclusive rights over upstream operations and is the sole licence holder who assigns such rights to contractors through the PSAs (Sections 44, 55). The TPDC assumed roles across the upstream, midstream and downstream segments of the industry value chain. The National Oil Company also collects and retains non-tax revenues such as surface rentals, signature bonuses and training fees, which accrue as benefits to the local people. Under Section 9(2) of the Act, the NOC is also mandated to develop the necessary expertise in the sector. This feeds into the development of the local workforce and transfer of technical skills required in the sector.
 - (4) *National Economic Empowerment Council (NEEC)*—The NEEC was set up in October 2015 during a Tanzania National Business Council (TNBC) meeting. The then President, Jakaya Kikwete, created the council as an agency to coordinate the government's local content policy. NEEC was established under the Prime Minister's Office and was mandated to set up a Local Content Department to lead local content issues. It liaises with each ministry and parastatal to coordinate local content promotion.

4.2.3 *Lessons Learnt/Borrowed*

Tanzania's institutional bodies are characterised by overlaps and duplicity of duties within the Agencies. For instance, both PURA and EWURA are mandated to grant, renew and revoke licences. This presents duplicity of roles by both bodies and raises concerns such as can PURA revoke a licence and EWURA renews the same? Which body has the ultimate power over the other? Similarly, PURA and National Economic Empowerment Council (NEEC) are mandated to take the lead on local content issues. Each of the regulatory agencies has the power to regulate the oil and gas industry to promote LC. However, how they share authority over local content policy is not clear. The overlap and duplication of duties have impeded these various agencies' work to achieve local content objectives effectively. The overlapping institutional mandates ought to be replaced by clarity in the roles of these regulatory authorities.

4.3 *Kenya Local Content Requirements*

Kenya has recently experienced a boom in the extractives sector. This is attributed to discovering of the first commercially viable oil and gas in the Lokichar basin, Turkana. This discovery prompted the launching of the flagship project in Turkana, the Early Pilot Scheme (EOPS), which seeks to establish the commercial viability of Oil against the international oil markets. The oil and gas discovery is expected to improve the country's economic status and promote local goods and services to bring value creation and addition to the sector.

Unlike the two countries discussed in this work, it is imperative to note that Kenya does not yet have a specific law governing local content; instead, it has a Local Content Bill 2018 that is yet to assent into law. Despite the lack of a concrete local content governing law, the Constitution of Kenya 2010, the National Energy and Petroleum Policy (2015/18), the Energy Act 2019, Petroleum Act 2019, Local Content Regulations, Model PSC 2014 all have local content provisions. The work will use the outlined laws to analyse the local content tenets present and their implementation and the institutional bodies that implement the local content provisions in Kenya's extractive sector.

4.3.1 *Legal Frameworks*

(1) *The National Energy and Petroleum policy 2018*

Section 9.8 of the Policy recognises that all energy and petroleum resources found in Kenya belong to all citizens of the country and need to be exploited, developed and managed to benefit all Kenyans, a reflection of the provisions of Article 69 of the 2010 Constitution of Kenya. The policy cites insufficient legislative requirements for collaboration between foreign investors in the energy and petroleum sector and the local investors and the absence of a legislative framework that prioritises the utilisation of locally available goods and services. In response to the gap, it proposes and endorses purpose founded legislation to capture and retain value created from energy and petroleum resources to stimulate employment, entrepreneurship, value addition, diversification, transfer of technology and knowledge across the value chain and economy. Additionally, the policy outlines the need to have legislation that caters for technology and knowledge transfer and the development of local skills and know-how in oil and gas exploitation. On this basis, the Energy Act, Petroleum Act, the Local Content Bill and several other regulations were introduced to tackle issues related to developing local skills, technology transfer and collaboration with foreign entities.

(2) *Energy Act 2019*

The Energy Act 2019 was established to regulate midstream and downstream petroleum and coal activities in Kenya. The Act repealed the Energy Act (the repealed Energy Act 2006), the Geothermal Resources Act and the Kenya Nuclear Electricity Board Order No. 131 of 2012.

The Act mandates contractors to prepare and submit annual, long-term LC plans to correspond with the work programme offered to the Authority for approval. The Act similarly outlines local content tenets: (i) first consideration to services provided within the county and goods manufactured in the country. Provided these goods meet the relevant specifications as prescribed by the Kenya Bureau of Standards or in the absence of a Kenyan standard any other internationally acceptable standards. (ii) the first consideration for qualified and skilled Kenyans concerning employment at all levels of the value chain. (iii) the first consideration of the training of Kenyans on the job. The plans

need to detail sub-plans on the fourteen subcategories outlined under Section 206(4) of the Act.

(3) *Petroleum Act of 2019*

The Petroleum Act repealed the Petroleum (Exploration and Production) Act (CAP 308) and legislates the upstream petroleum sectors. The Act, under Section 9, makes it compulsory for the IOCs to comply with the LC requirements. The Act promotes workforce development and promotion of local goods by prescribing preferential treatment to local services and goods produced in the country. The Act stipulates the requirement to employ or engage qualified and skilled Kenyans at all levels of the value chain. The Act requires that IOCs, before commencing any petroleum operations, must first comply with LC requirements which remain monitored through the submission of LC plans to the Authority. The contractors are also mandated to submit annual LC plans corresponding with the work programmes as approved by the Authority. Section 51 of the Act mandates the EPRA to supervise, coordinate and manage the development of LC requirements. The law sets out penalties for non-compliance with the provisions of the Act. Non-compliance attracts substantial penalties, including fines and jail terms for those liable. As a result, contractors are required to evaluate their existing contractual and procurement arrangements to ensure compliance with the LC requirements.

(4) *Local Content Bill, 2018*

The Bill, once passed, seeks to regulate LC development in the extractives sector. The Bill establishes a framework that facilitates local ownership, control and financing of activities connected with the exploitation of gas, oil and other mineral resources. Once passed, the Bill aims at increasing the local value captured along the value chain in the exploration of gas, oil and other petroleum resources and for connected purposes. Thus, it will have the potential to cumulate and safeguard the role of local participants in the sector. The Bill seeks to create the Local Content Development Committee (the Committee) subject to the authority of the Cabinet Secretary and whose primary functions shall include overseeing, coordinating and managing the development of LC requirements in the country.

The Committee under the Bill will appraise, evaluate and approve all local content plans and reports submitted before it. The mandate has a striking similarity with that bestowed to EPRA under the Energy Act and the Petroleum Act of 2019 under Section 51 (1) where the authority is tasked with supervising, coordinating, and managing the development of LC requirements in the sector.

Similarly, Section 10 of the Energy Act 2019 mandates EPRA to enforce all-LC requirements in the midstream petroleum sectors. Specifically, Section 206 (4) of the Energy Act requires contractors to prepare and submit annual, and long-term LC plans corresponding to the work programme offered to the EPRA for approval. Additionally, Section 207(1) and (2) of the Energy Act mandates the Authority to monitor and enforce LC requirements in all energy undertakings and works. This is noteworthy considering that the Energy Act is also applicable in regulating midstream and downstream petroleum and coal activities per the preamble of the Act.

(5) *Model PSA*

The model PSA reflects local content requirements that bind the parties to fulfil their contractual obligations. The Articles 20 and 22 of the Model PSA require that all contractors comply with all the Kenyan local content policies, laws and regulations as amended from time to time. These include the employment and training of Kenyans, preferential procurement of Kenyan Goods and Services and the transfer of technology. The contractors are mandated to submit annually to the Cabinet Secretary and Authority (i) local content plans, (ii) a tentative schedule of the contemplated services and supply contracts and (iii) develop a Technology Transfer Programme. Notably, the Model PSA will require updating to synchronise with the present Petroleum Act. For instance, the training fund under the Petroleum Act 2019 is safeguarded under Section 52 and not 88(2) as mentioned in the PSA.

4.3.2 *Institutional Frameworks*

The following bodies remain tasked with implementing the ascertained Local Content Policies in Kenya.

- (1) *Energy and Petroleum Regulatory Authority (EPRA)*—The Energy and Petroleum Regulatory Authority (EPRA) is an independent authority tasked with monitoring and enforcing all energy and petroleum activities, precisely all-LC undertakings and works under Section 10 of the Energy Act 2019. The Authority has the power to issue, renew, modify, suspend or revoke licences and permits for all undertakings and activities in the energy sector, including those concerning LC requirements
- (2) *National Oil Corporation of Kenya (NOCK)*—The National Oil Corporation of Kenya is the State Corporation involved in the upstream, midstream and downstream marketing of petroleum products. NOCK is the Government’s policy instrument in matters related to oil and gas, which includes the promotion and realisation of local content.
- (3) *Local Content Development Committee*—Although not yet established, once passed, the Local Content Bill will create the Local Content Development Committee (the Committee), which will remain under the authority of the Cabinet Secretary. Its primary functions shall include overseeing, coordinating and managing the development of LC requirements in the country.

4.3.3 *Lessons Learnt/Borrowed*

Once implemented, the Local Content Bill will create the Local Content Development Committee, whose core functions and mandate will overlap with EPRA. For instance, EPRA and the Committee have been granted unlimited powers to implement and, where necessary, adopt new laws in respect to their jurisdiction. EPRA under the Energy Act and Petroleum Act 2019 may adopt policies and measures aimed at progressively enhancing the capabilities of local enterprises to compete effectively on quality, price, quantity and reliability in the supply of goods and services required in the extractive industry. In the same breath, the Committee under the Local Content Bill 2019 under Section 9 has been granted the same responsibilities. The Local Content Bill gives the Committee the power to set minimum requirements for local content in local content plans. This mandate has also been extended to EPRA under the Energy Act and Petroleum Act 2019. Thus, rather than advance the national objectives related to local participation and promote certainty for and amongst contractors as envisioned, the authorities (EPRA and LCDC) will potentially be grappling with clarifying their respective mandates by

determining who has the ultimate faculty to enforce LC requirements. This may result in contractors encountering challenges in deciding which LC requirements have been achieved and may find difficulty prioritising the order of compliance.

For this reason, before passing this Bill, the Kenyan Parliament must consider harmonising the regulatory framework for systematic implementation of LC requirements. Perhaps, these potential regulatory duplications would be mitigated by formulating one petroleum regulation to monitor all relevant petroleum operations, including the development of LC requirements. Alternatively, the Committee under the LC regulations could be subject to the mandate of the EPRA within the Energy and Petroleum Law. Unlike the present situation where the Committee remains under the authority of the Ministry who has limited control over the EPRA. Thus, unless revised, the Ministry (LCDC) and the EPRA may encounter regulatory duplications considering the independence granted to the EPRA in the law.

5 CONCLUSION

Upon reviewing the legal and institutional frameworks on local content and studying how these policies are implemented in these select countries, it becomes apparent that common elements favouring the initial hypothesis that these governments policies are similar. For instance, each of these countries considers the role of local content policies both as a tool and objective.

As a tool, governments deem local content as a means of implementing resource management objectives. This is assumed by attempting to equitably (re)define local content rights, duties, powers, and thereby establishing institutions and procedures that guide peoples' interactions with each other and with the natural resources. This element is notably observed where local content definition(s) contend(s) with the need to distribute/allocate the resources between and amongst the citizenry, including host communities within and around the areas of natural resource extraction.

As an objective, these select policies pursue core principles that concern local content tenets which typically, include value addition, procurement of local goods and services, system(s) of joint qualification, training, and employment that leads to the transfer and retention of skills, technology and capital by the locals of the host country.

As observed, LCRs foster noticeable returns, nonetheless, and despite these intentional yet ambitious policies, they remain unfavourable by developing conditions that frequently diminish their benefits. As observed, it is apparent that the implementation of these policies establishes periodic duplicity and overlap, particularly regarding the roles of the institutions set up to implement local content. These adverse effects certainly make implementing LCRs tedious and present the possibility of shelving their advantages. Consequently, this hinders the objective of local content as a tool in implementing resource management or as an objective in obtaining value additions principles.

Perhaps, the transparency in defining, establishing the agency and implementing the rules regarding LCRs will enable the legislators (including implementors) and stakeholders to successfully implement local content as either a tool or objective (depending on the policy in question).

More importantly, the select countries (governments) could facilitate suitable yet effective means of achieving local content. For instance, responsible ministries/agencies could develop pre-qualified lists indicating both favourable/appropriate local and local companies for the identified projects and the oil and gas sectors. This element could be borrowed from Nigeria's joint qualification system or the enlisting of the Norwegian pre-qualified techniques practised in the 1980s. However, it is observed that amongst the select countries, none of them has an equivalent of a joint-prequalification system that presents an opportunity for the countries to tap into a qualified pool of knowledge to realise local content objectives whilst simultaneously promoting local localities companies.

Significantly, government(s) must create a favourable environment for the local and foreign companies to effectively collaborate, considering the sector's capital-intensive nature. Arguably, shelving these opportunities renders the role of the private sector in implementing local content mute! Because (i) the incentives that would otherwise prompt a private company to develop local content intentionally are non-existent, and (ii) little or no collaboration efforts from either the authorities or the locals/local companies. In this regard, we recommend that some of these collaborative measures that could promote local/foreign collaboration include but are not limited to financial incentives, such as tax reliefs, low-interest rates (for local companies) involved in the provision of goods and services. And where possible, collaboration agreements between the key private sector

players and the ministry of petroleum, i.e. the Norwegian Framing and Training Agreement in the 1980s.

Despite the opportunities identified, local content is not sufficient in achieving all-inclusive resource management objectives, but it can be complementary to other tools. Therefore, governments may consider developing unified/standard units that perform sound natural resource management whilst successfully making local content long term and sustainable.

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Conclusion: The Future of Ghana's Petroleum Industry

Thomas Kojo Stephens and Theophilus Acheampong

I RECAPPING SOME FUNDAMENTALS

In recapping the central ethos of this book—which is about examining the lessons from ten years of oil and gas production in Ghana—it is pertinent to go back to the statement made by Ghana's former president, John Agyekum Kufuor (2001–2008), at the formal announcement of the

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607

T. Acheampong and T. Kojo Stephens (eds.), *Petroleum Resource
Management in Africa*,

https://doi.org/10.1007/978-3-030-83051-9_18

first commercial oil discovery in the country on 19 June 2007. President Kufuor famously remarked:

Even without oil, we are doing so well... With oil as a shot in the arm, we're going to fly... We're going to really zoom... you come back in five years, and you'll see that Ghana truly is the African tiger, in economic terms for development... Oil is money, and we need money to do the schools, the roads, the hospitals... I assure you that if others failed, Ghana will succeed because this is our destiny to set the good pace for where we are. So, we're going to use it well.

The above statement captures the optimism of many Ghanaian citizens following the discovery of commercial oil and gas resources. The discovery was met with a lot of euphoria, enthusiasm, and optimism that it would fundamentally turn around the socio-economic fortunes of the country. This was despite evidence that countries endowed with oil sometimes fell victim to the 'presource curse' whereby the euphoria of bountiful natural revenues for socio-economic development met with significant disappointment (Frynas & Buur 2020; Mihalyi & Scurfield, 2020; Bauer & Mihalyi, 2018; Cust & Mihalyi, 2017).

We devote the next couple of paragraphs to explain Ghana's socio-economic development trends to understand these developments. For this, we compare the following periods: the ten years from 2001 to 2010, which we classify as the "*pre-oil economy*", and 2011 to 2019, the "*post-oil economy*". Table 1 shows a selection of pre-and post-oil and gas development indicators. Starting with the human development index (HDI) values, Ghana's HDI has increased by about 13 percentage points between the pre- and post-oil economy periods. The average pre-oil economy HDI was 0.527 compared to an average HDI of 0.598 in the

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Table 1 Ghana's pre-oil and post-oil and gas development indicators

<i>Year =></i>	<i>Pre-oil economy</i>				<i>Post-oil economy</i>		
	<i>2001</i>	<i>2004</i>	<i>2007</i>	<i>2010</i>	<i>2013</i>	<i>2016</i>	<i>2019</i>
Economic indicators							
GDP (current US\$ bn)	5.31	8.88	24.83	32.20	62.41	55.01	66.98
GDP growth (annual %)	4.00	5.60	4.35	7.90	7.31	3.45	6.48
GNI per capita, PPP (constant 2017 international \$)	N/A	N/A	3,241	3,672	4,518	4,669	5,256
Fiscal deficit (overall balance, % GDP)	-3.90	-2.18	-5.28	-6.80	-10.10	-7.80	-5.80
General government gross debt (% revised GDP)	61.7	41.2	22.6	34.6	43.2	56.8	62.4
Official exchange rate (LCU per US\$, period average)	0.72	0.90	0.93	1.43	1.98	3.91	5.22
Inflation, consumer prices (annual %)	32.91	12.62	10.73	10.71	11.67	17.45	7.18
Tax revenue (% of GDP)	17.19	21.75	13.88	13.39	10.74	11.29	12.28
Oil and natural rents (% of GDP)	0.58	0.66	0.44	0.41	3.75	1.13	4.93
Foreign direct investment, net inflows (% of GDP)	1.68	1.57	5.57	7.85	5.17	6.34	5.79
Gross fixed capital formation (% of GDP)	27.12	28.38	15.38	11.76	25.75	26.98	19.59
Development indicators							
Human Development Index Score	0.493	0.509	0.541	0.565	0.586	0.598	0.611
Life expectancy at birth, total (years)	57.16	58.23	59.74	61.03	62.06	63.12	64.07
Population, total millions	19.76	21.27	22.96	24.78	26.61	28.48	30.42
Urban population (% of total population)	44.60	46.63	48.67	50.71	52.75	54.75	56.71
Access to clean fuels and technologies for cooking (% of population)	6.48	8.54	11.04	14.05	17.58	21.71	23.0
Access to electricity (% of population)	44.85	50.96	56.98	64.20	70.70	79.30	83.50

Source Authors' construct based on the World Development Indicators (World Bank) and Human Development Index (HDI) (United Nations)

post-oil economy. Ghana's HDI was slightly better than the sub-Saharan African average of 0.464 (2001–2010) and 0.529 (2011–2019).

However, the rate of change between years was about six percentage points in either instance, indicating that both Ghana and the continent were moving at the same growth rate. On a global level, the HDI increased by seven percentage points from 0.672 between 2001 and 2010 to 0.721 between 2013 and 2019. However, Ghana's HDI lagged the world average by 15 percentage points from 2001–2010, and 13 percentage points from 2011–2019. As at 2019, Ghana's HDI value of 0.611 put the country in the medium human development category, placing it at 138 out of 189 countries.¹ Ghana shared the same rank with the Kingdom of Eswatini.

Going into a more granular level, between 2001–2010 and 2011–2019, Ghana's life expectancy at birth increased by 4.05 years (7%) while Ghana's GNI per capita increased by about \$1357 per capita (39%) between 2001–2010 and 2011–2019. In addition, oil rents as a percentage of GDP increased five hundred-fold from 0.52% of GDP in the pre-oil economy to 3.17% of GDP in the post-oil period. At the same time, the economy, measured by the GDP, expanded by 245% from US\$17.81 billion between 2001 and 2010 to US\$61.47 billion between 2011 and 2019.

Nevertheless, there was an accompanying deteriorating fiscal performance with the budget deficit (overall balance, percentage GDP) increasing by 74% from an average -4.54% of GDP in the pre-oil economy to -7.90% in the post-oil period. There was a corresponding increase in the public debt as a result and widening current account deficit, high inflation, depreciating currency, and a severe power crisis commonly referred to as “*dumsor*” (IMF, 2019; Adam, 2015). In 2015, Ghana approached the IMF for a US\$918 million loan—the sixteenth such arrangement since independence²—to deal with balance of payments

¹ The Human Development Index (HDI) is a summary measure of average achievement in the three key dimensions of human development, namely: a long and healthy life, being knowledgeable and have a decent standard of living. HDI is the geometric mean of normalised indices for each of these three dimensions. See http://hdr.undp.org/sites/all/themes/hdr_theme/country-notes/GHA.pdf and <http://hdr.undp.org/en/content/human-development-index-hdi>.

² See Bokpin, G. A. (2018). Ghana and IMF Program. IMANI Centre for Policy and Education. Available at: <https://imaniafrica.org/wp-content/uploads/2018/11/Ghana-and-IMF-Program-2018-2.pdf> (Accessed: 2 October 2021).

issues and to stabilise the economy. Under a three-year Extended Credit Facility (ECF) arrangement signed with the Fund, Ghana implemented reforms to (1) restore debt sustainability by limiting hiring and wage increases in the public service as well as removing electricity and water subsidies; (2) strengthen monetary policy by ending the Bank of Ghana's financing of the budget deficit which was driving inflation; and (3) cleaning up and recapitalising the banking system (IMF, 2019). These fiscal excesses and events took place against the background of increasing oil and gas production and exports. As Aryeetey and Ackah (2018, p. 12) argue, *“in the face of weak fiscal management, unstable petroleum revenues have not been of much use, and the elaborate rules [to manage them] have not been followed.”*

Following the first few years of the oil and gas production boom, Ghana's economy witnessed a startling decline, with GDP growth decreasing from 10.22% between 2011 and 2013 to 2.84% of GDP between 2014 and 2016 (Acheampong & Amoah-Darkwah, 2020). Real GDP growth picked up strongly again from 2017 to 2019, averaging 6.96% year-on-year. However, this sustained performance has been curtailed by the COVID-19 pandemic. Also, despite the country's relatively modest growth, several authors have argued a lack of economic diversification and trickle down to the micro-level despite Ghana's relatively positive macro-economic indicators (Aryeetey, & Fenny, 2017; Ayelazuno, 2014; Whitfield, 2011). For example, about 25% of the country's population live in poverty, and youth employment stands at 17.7% (Baah-Boateng, 2020). Meanwhile, inequality is on a steady rise, climbing from 41.9% (2006) to 42.3% (2013) to 43.0% (2017) of the population (Baah-Boateng, 2020).

Part of the answers to unravelling this puzzle lies in understanding what Ghana and where it spends. Revenue performance has not been impressive even after discovering and exporting crude oil in commercial quantities in 2010. As Table 1 shows, tax revenues as a percentage of GDP have declined over the past years. The highest total revenue-to-GDP recorded was 23.2% in 2012, with the lowest being 15.3% in 2019 (Acheampong & Amoah-Darkwah, 2020). Ghana has had a persistent average 5% gap between revenue and expenditure. As a result, the

MyJoyOnline.com. (2021). We've Been to IMF 16 Times, we've nothing to show for It–Bokpin. Available at: <https://www.myjoyonline.com/weve-been-to-imf-16-times-weve-nothing-to-show-for-it-bokpin> (Accessed: 2 October 2021).

country has been borrowing to finance development. On the expenditure side, compensation of employees on government payroll comprising wages and salaries, social contributions and pensions, interest payments, and grants to other government units consistently accounts for most of the expenditure basket.

What this means is that Ghana's top three expenditure items consume all revenues and grants. The political economy itself drives these perverse outcomes, whereby fiscal policy is notably procyclical and is related to both commodity and electoral cycles (Adam & Mihalyi, 2017). The net effect of this continuous and disproportionate expansion in expenditure (relative to revenues) has been ballooning the fiscal deficit to an average of negative 7.9% of GDP in the post-oil period.

The country's graduation to a lower-middle-income country (LMIC) in 2011³ due to the recent rapid economic growth and the 2010 GDP rebasing exercise meant that Ghana suddenly found itself above the income limit for World Bank's International Development Association (IDA) eligibility.⁴ As Moss and Majerowicz (2012; p. 1) aptly argue:

...in November 2010, the country reached this milestone a decade early through a somewhat unconventional and in many ways unexpected way: a technical statistical adjustment... This accelerated leap put the country into a new income category overnight.

In essence, curtailment of donor funds on account of Ghana's LMIC status implies oil revenues replaced another fiscal stream, further compounded by increasing resort to external commercial borrowing such as Eurobonds to meet budgetary needs (Acheampong & Amoah-Darkwah, 2020). This means that these oil rents did not necessarily become the new funding source that had been envisioned.⁵

³ World Bank. (2011). Ghana Looks to Retool Its Economy as it Reaches Middle-Income Status. Available at: <https://www.worldbank.org/en/news/feature/2011/07/18/ghana-looks-to-retool-its-economy-as-it-reaches-middle-income-status> (Accessed: 3 July 2021).

⁴ IDA is the part of the World Bank Which Delivers Development Assistance to the World's Poorest Countries.

⁵ Acheampong, T. (2015). Ghana's Oil Dream: Can Oil Revenues Anchor Fiscal Policy? Available at: <http://www.theoacheampong.com/2015/06/ghanas-oil-dream-can-oil-revenues-anchor-fiscal-policy> (Accessed: 3 July 2021).

Since the Jubilee discovery, Ghana's oil industry has grown significantly despite challenges such as the slump in world oil prices between 2014 and 2016 and the maritime boundary dispute with Côte d'Ivoire. Over the past ten years (2011–2020), Ghana has produced 453.89 million barrels of crude oil from three fields (namely, Jubilee, TEN and SGN). A total of 452.09 million barrels (99.71%) have been lifted (sold) by all partners out of the 453.89 million barrels produced; the remaining 1.8 million barrel balance has been carried into the following year under the hydrocarbon accounting rules. Of the 452.09 million barrels lifted, Ghana's share has been 78.85 million barrels—17.44% of the total barrels lifted. Ghana's share comprises mostly royalties, and carried and participating interest (CAPI). Other receipts include corporate income tax (CIT), and to a lesser extent, surface rentals. In terms of value, we estimate that US\$31.62 billion has been generated as revenue from the sales of the 453.89 million barrels total crude oil extracted from Ghana's offshore fields 2010 using yearly average achieved crude prices, which is very close to Brent prices.⁶

This total value estimate is inclusive of all contractor cost recoveries which takes into consideration the inherent design of Ghana's upstream fiscal regime. Nevertheless, the actual amount that has accrued to the State from all fiscal entitlements as of 2020 is about US\$6.5 billion.

Despite this newfound wealth, however, Ghana struggles with poverty, inequality, lack of employment opportunities, conflicts over the use of marine resources—especially for fishing—and the lack of linkages to help diversify the economy. Revenue watchdogs—such as The Public Interest and Accountability Committee (PIAC) and Civil Society Organisations (CSOs) such as the Africa Centre for Energy Policy (ACEP) and Institute for Energy Security (IES)—have argued that Ghana has nothing monumental to show after ten years of oil and gas production and exports.⁷ Such assertions also run contrary to the pre-oil production expectations of sustained economic growth and economic transformation as encapsulated

⁶ Ghana's crude trade at close parity to Brent so this is a reasonable assumption based on norm traded value.

⁷ US\$6.5 billion from oil in 10 years but nothing to show—PIAC, CSOs (2021). Available at: <https://www.ghanaweb.com/GhanaHomePage/business/US-6-5-billion-from-oil-in-10-years-but-nothing-to-show-PIAC-CSOs-1268674> (Accessed: 3 July 2021).

in the comment by Ghana's former president, John Agyekum Kufuor, that the country was "*going to really zoom*" with "*oil as a shot in the arm.*"

One primary argument advanced for these sub-optimal outcomes is that successive Ghanaian governments have "*failed to align spending oil funds with long-term aspirations of the country, as required by the Petroleum Revenue Management Act (PRMA)*".⁸ Instead, successive governments have utilised oil revenues in line with political party manifestos instead of a national agenda, underpinned by weak governance structures and a lack of accountability.⁹ For example, IES argues that this sub-optimal outcome does not surprise more so that a "*large portion of oil proceeds are used to fund consumption – payments of interests on loans, Free SHS, sport, wages and salaries, among others*".¹⁰

Against this background, we sought to document Ghana's recent oil and gas experiences into a comprehensive volume that captures the knowledge and expertise built since first oil in December 2010. This includes how global developments such as commodity price volatility and industry innovation have impacted in-country industrial development. It also touches on future events that will likely impact Ghana and Africa's upstream oil and gas industry.

The next section summarises the key findings from each chapter in this volume on petroleum resource management practices in an emerging petroleum-producing country context.

2 SUMMARY OF CHAPTER FINDINGS

The book began with an analysis of the statute that governs petroleum operations in Ghana, the *Petroleum (Exploration and Production) Act, 2016 (Act 919)*. Thomas Kojo Stephens and Seyram Dzikunu illustrated that it deals with the inadequacies of the *Petroleum Act, 1984 (PNDCL 84)* which it repealed, makes changes to the law in line with practical experience, introduces new provisions, and allocates rights and responsibilities between the Ministry, GNPC, and the new entity under the institutional framework, the Petroleum Commission. They noted that Regulations have also been passed under the Act to provide detail to

⁸ Ibid.

⁹ Ibid.

¹⁰ Ibid.

provisions and further guidance. They further noted that failure to achieve the noble objectives that the *Petroleum Act, 2016* seeks to achieve will lie not so much in any inadequacies or limitations in the laws but a failure of duty bearers to implement them proactively and effectively.

Tsatsu Tsikata, in Chapter 2, discussed GNPC and noted that it was formed to provide the impetus for oil exploration and that since it was established, Ghana had attained significant success in oil and gas exploration. He asserted that GNPC focusing its resources on increasing oil and gas production from existing fields would increase the momentum in the industry and further noted the need for GNPC to strategically position itself to harness the benefits from the energy transition. He noted that GNPC's ability to deliver on its mandate is constrained by pressures from the government to engage in expenditure not in consonance with its objectives. However, by demonstrably pursuing a commercial corporate agenda that seeks to advance the objectives in the GNPC statute, it will be well placed to hold at bay deviations from the statutory responsibilities of the Corporation.

In Chapter 3, former President of Ghana, John Agyekum Kufuor, discussed the policy actions taken by his administration in the lead-up to the discovery of large-scale crude deposits in Ghana in 2007, and its immediate aftermath. He enumerated that it was a concerted and sustained effort coupled with a dogged belief that led to the discovery. He noted that though the discovery was made close to the end the term of his administration which limited the opportunity to continue with the long-term agenda, some of the policies implemented by his administration and successive ones have had a long-lasting impact on the industry and the Ghanaian economy.

In Chapter 4, Kweku Boateng, one of the pioneer members of staff of the Petroleum Commission, the regulatory body of the upstream petroleum industry, engaged in a factual narration of the Commission from its inception, development over time to its current state, and its management and regulation of the industry from an insider's perspective. He evaluated its impact on Ghana's industry and concluded that the Commission has taken bold steps to ensure optimum and efficient exploitation of petroleum.

Fui Tsikata, a member of the team that conducted the case involving the maritime boundary dispute between Ghana and Cote d'Ivoire before the International Tribunal of the Law of the Sea (ITLOS), gave an exposition in Chapter 5 of what transpired before the Tribunal. He discussed in

a comprehensive manner and from an insider perspective, the application for provisional measures by Cote d'Ivoire pending the final determination of the matter, the provisional orders of the Tribunal, the arguments made by both parties in the substantive matter, the equidistance line as a basis for delimitation, and the decision made by the Tribunal in favour of Ghana.

In Chapter 6, Pierre Klein, a member of the external legal team in the maritime boundary dispute between Ghana and Cote d'Ivoire followed up on Fui Tsikata's exposition to give an insider and practical account of how such matters before an international tribunal are conducted. He noted that despite linguistic and cultural differences, the close and constant cooperation between the two teams ensured a "communion of minds" that allowed for the case to be presented efficiently.

In Chapter 7, Theophilus Acheampong and Abdallah Ali-Nakyea analysed Ghana's fiscal regime in the industry to make that determination as to whether it is fit for purpose. They concluded that Ghana's fiscal regime is largely competitive, especially with its neighbours but noted that the Additional Oil Entitlement needs reform and cost monitoring should be taken seriously if Ghana is to get optimal returns under the current hybrid fiscal regime. Further, they, and other organisations such as PIAC, note that carried and participating interest (CAPI) and royalties bring Ghana the most revenues so the country must negotiate tenaciously regarding these two fiscal instruments. Other areas for reform suggested include targeted fiscal packages to maximise the economic recovery of stranded reserves, especially in the context of the energy transition.

In Chapter 8, Joseph Kwadwo Asenso and Ishmael Ackah reviewed the role of Ghana's fiscal institutions in managing the oil boom, fiscal policymaking in Ghana, and the legal architecture of petroleum revenue management in Ghana. They noted several factors that needed to be realised in order to have effective petroleum revenue management. They highlighted *inter alia* the need to link the ABFA priority selection to a long-term national development plan, the need for information regarding unutilised ABFA, and the need to address unsustainable borrowing and high interest payments that narrow the benefits of the resource to the State.

Ghana's former finance minister, Seth Terkper, in Chapter 9, also reviewed the fiscal framework and the general utilisation of petroleum revenue over the years since the large-scale commercial discovery. It was

noted that the objective behind the PRMA is the saving for future generations, stabilisation of the budget while still allocating a larger portion of oil revenues to development and annual operational expenditure. However, unplanned political-economy promises are a major cause of fiscal overruns and that with adherence to the PRMA, Ghana can use its reserves to manage its public debt and contingency in an efficient manner.

In Chapter 10, Austin Ablo and William Otchere-Darko reviewed Ghana's local content agenda. They noted that enforcement of processes that would ensure that local actors were integrated into the petroleum industry value chain and the extent to which the local content law could benefit the Ghanaian society was limited. Thus, achieving significant levels of local participation depends on local actors' abilities to meet industry standards, the capacity of state institutions to enforce various regulatory and local content requirements, as well as the ability of these state institutions to enhance the capacity of local businesses to enable them to take advantage of the opportunities in the oil and gas sector.

In Chapter 11, Ben Boakye discussed the gas industry and noted that it provided a cheaper and more stable fuel price for power generation. However, significant costs to the state had been occasioned due to institutional weakness and politics, and policies and actions that got implemented were those engineered on the spur of the moment. He noted the need for a retooling of the governance architecture to provide stable and predictable market environments for the sector, which would provide a more competitive market to encourage industrial consumption of gas. He noted that transparent policy reforms, which would crystallize into a Natural Gas Act, was a strategic way to achieve this.

In Chapter 12, Ferdinand Adadzi, Nana Serwah Godson-Amamoo and Jemima Nunoo reviewed Ghana's petroleum governance regime and identified progress made, as well as teething challenges. They noted that Ghana had achieved a marked improvement in its resource governance within the decade of oil and gas production. However, there are teething issues of enforcement, capacity building and resourcing of the governance institutions, and local entities' participation in the oil and gas economy beyond revenue accruing to the State.

In Chapter 13, Steve Manteaw and Emmanuel Graham undertook a narrative of events that have transpired over time to demonstrate the critical role that civil society has played in developing the policy, legislative and institutional framework of the industry. They also evaluated the impact of the Public Interest and Accountability Committee (PIAC) by

providing a background to how PIAC came into being, the developments at the time, and the impact that the institution has had in the industry. While admitting the limitations of the institution, they, however, make the point that the industry has benefitted from the presence of this institution in the dispensation.

Jasper Ayelazuno and Ishmael Ayanoore, in Chapter 14, contended that the dynamics of the petroleum industry made it inherently capitalist and exploitative and that being part of the oil assemblage, the Ghanaian industry was shaped by these characteristics. They argued that Ghana was receiving a disproportionately smaller share of the oil revenue and discussed several interventions—which they termed as radical—in order to bring some semblance of equity and justness in the apportionment of revenue between the State and the IOCs, as well as equity in the allocation of this revenue to its citizenry.

Kwamina Panford, in Chapter 15, provided an overview of key developments and highlights of Ghana's oil and gas production from 2007 to 2020, major challenges and the policy and practical measures needed to optimise the use of these resources. Taking a philosophical paradigm, Panford situated Ghana's oil and gas sector within neo-liberal economic perspectives whereby the ultra-liberal tax (fiscal regime) within which international companies operate has meant that government receipts have been anaemic. At the same time, Ghana has failed to engage in value addition despite robust local content laws due to these donor tutelage neo-liberal perspectives.

In Chapter 16, Victoria Nalule, Pauline Anaman and Theophilus Acheampong assessed the implications of the energy transition for the development of Africa's vast oil and gas resources. They showed that increasing environmental, social, and governance (ESG) pressures would translate into highly selective upstream projects on the continent with tighter re-evaluation metrics, including production carbon intensity. They advocated for a four-tier strategic response to the pressures of the energy transition: (1) an aggressive exploration, asset stewardship & infrastructure strategy, (2) regulatory & investment environment strategy, (3) redefining the strategic role of African national oil companies (NOCs), and (4) a supply chain & capacity development strategy.

In Chapter 17, Berryl Claire Asiago and Miriti Hope Wanjira documented the experiences and lessons from other new African petroleum-producing nations on petroleum sector governance through the lens of local content. They reviewed the regulatory agents and bodies responsible

for implementing local content policies to pursue equitable petroleum resource management in Uganda, Tanzania and Kenya. They showed periodic duplicity and overlap in the implementation of these local content policies, making it tedious and hindering the objective of local content as a tool in implementing resource management or as an objective in obtaining value addition principles. They advocated using pre-qualified lists for identified projects and standardised units for measuring natural resource management outcomes.

Finally, in this chapter, Thomas Stephens and Theophilus Acheampong return the gaze to the future of Ghana and sub-Saharan Africa's oil and gas industry within the context of inclusive economic development and growth. They highlight that Ghana's oil industry has grown significantly since the Jubilee discovery. However, despite this newfound wealth, Ghana continues to grapple with poverty, inequality, unemployment, and a lack of linkages to diversify the economy. They summarise the main issues and provided recommendations from each of the chapters.

3 FINAL WORDS AND SOME RECOMMENDATIONS

In undertaking this research, we were motivated by the need to document Ghana's recent oil and gas experiences into a comprehensive volume that captured the knowledge and expertise built since first oil in December 2010. The primary question at the back of our minds remained: has Ghana managed its newfound oil wealth and utilised the revenues to drive inclusive economic growth and development after ten years of production and exports?

This is particularly poignant given that Ghana's neighbours and peers, such as Nigeria, Angola, and Equatorial Guinea that have been producing oil and gas for several decades, continue to suffer from the "paradox of plenty syndrome." Thus, extractives, especially oil and gas extraction, are relevant to countries such as Ghana, which is continually looking to strengthen the contribution that the sector can make to national development, both from revenues generated and the associated direct and indirect impact value chain activities.

We brought together some of the most renowned researchers, policy-makers and practitioners in Ghana's oil and gas industry to comprehensively document the happenings in the industry over the past decade. The recommendations from this effort are presented below.

We hope that these recommendations, which are a synthesis of the ideas shared by the contributors, will help shape policymaking in Ghana—and other emerging petroleum producers—as the country’s oil and gas industry moves into the next decade of production and exports against the backdrop of a looming energy transition away from fossil fuels. The recommendations are organised in line with the thematic arrangement of the book.

3.1 *Recommendation Set 1: Regulating and Managing Ghana’s Upstream Oil and Gas Industry*

1. Although the petroleum industry legislation is always a work in progress, there is sufficient legislation to guide the effective operation of the industry as it stands. Therefore, failure to achieve the noble objectives that the *Petroleum Act, 2016* seeks to achieve will lie not so much in any inadequacies or limitations in the laws but duty bearers failing to implement them proactively and effectively.
2. As the outcome of the ITLOS ruling demonstrates, achieving successful outcomes requires a lot of work and institutional collaboration; a combination of strategic thinking, extensive foraging for and meticulous examination of material; encouragement of open and respectful discussions alongside a requirement of prompt responsiveness to assignments; a clear-eyed evaluation of options and a tough-mindedness in decision-making.
3. At an institutional level, there is a need for GNPC, the national oil company, to be strengthened. GNPC needs to prioritise the realisation of value from the reserves of the existing fields and gas utilisation as well as accelerated development of discoveries. This necessitates a national debate and reconsideration of the prohibition of borrowing against reserves in section 5(2) of the *Petroleum Revenue Management Act, 2011*, (Act 815), as amended by Act 893. Reserve-based lending is a widespread commercial practice in the oil and gas industry. Ten years down the line, there is no reason why GNPC could not borrow against its oil and gas reserves even as its international partners are borrowing against these same national reserves to advance their corporate objectives. The principle thing is to ensure that there are adequate institutional checks and balances, including from Parliament, the Ministry of Finance and Ministry of Energy to ensure the amounts borrowed strictly conform with the

NOC's value realisation priorities and also strictly applied for their intended purposes.

3.2 *Recommendation Set 2: Improving Oil and Gas in Ghana's Economic Performance*

3.2.1 *Improving the Fiscal Regime*

4. There is a need to reform Ghana's fiscal regime as it heads into the next decade of production, even with the competing pressures of the looming energy transition. While it may be impractical to renegotiate existing contracts to extract greater ownership, mainly because of the stabilisation provisions within existing petroleum agreements, the State must push for an increased national share in future contracts. The carried and participating interest (CAPI) and royalties bring Ghana the most revenues so as PIAC aptly notes, the country should negotiate tenaciously regarding these two fiscal instruments.
5. In terms of the windfall tax structure, the current AOE regime can be simplified (easy to administer) while accruing more rents to the State by reducing the current five tiers to a single tier by using the top headline rate while also lowering the trigger threshold.
6. The government must work through the prevailing investor-friendly fiscal regime more closely, adopting a stronger position in rigorously monitoring petroleum costs and enforcing corporate income tax provisions. Also, Ghana can consider introducing targeted fiscal packages to maximise the economic recovery of stranded reserves. This should also be anchored on asset stewardship of critical hubs through regional and area development strategies.

3.2.2 *Improving Petroleum Revenue Management*

7. There is an urgent need to review the Petroleum Revenue Management Act (PRMA) and the Public Financial Management Act. Regarding the PRMA, it must consider sanctions for state agents for violations of the law. This is one of the surest ways of curbing impunity in the management and use of petroleum revenues.
8. Ghana's example shows that unsustainable borrowing and high interest payments can narrow the benefits of petroleum revenues. A major cause of fiscal overruns, pressure on statutory funds and

inappropriate use of oil revenues are ambitious and unplanned political-economy promises. Thus, there is a need to support political promises with clear revenue-raising or cost-cutting measures to preserve budget thresholds for existing expenditure. These include preserving fixed percentages of revenue allocated for compensation, amortisation, transfers, and ongoing capital projects. To ensure the efficient use of the petroleum resources, the *Public Financial Management Act, 2016 (Act 921)* must be amended or clear rules introduced to ensure that proponents give the source of funds for political promises in order not to encumber other funds.

9. To support intergenerational equity, Ghana should aim to preserve the principal in the Heritage Fund and utilise part of the interest earned to boost investments, preferably through the Ghana Infrastructure Investment Fund (GIIF).
10. While ruling party manifestos as the basis for ABFA priority allocation may be understandable, most political party manifestoes are drafted without much rigorous empirical analysis. This means the potential effect of a particular priority on the economy is not fully assessed before it is selected. Efforts should be made to link the ABFA priority selection to long-term national development plans, as prescribed by the law. Public interest organisations are essential to mobilising Ghanaians on the need to have a long-term development strategy to which petroleum revenue expenditures would be aligned. This is a requirement of the PRMA.

3.2.3 *Deepening Linkages and Industrial Development*

11. Ghana needs to develop and implement a diversification strategy that properly links the petroleum value chain to other sectors of the economy. The emphasis of Ghana's local content laws have been on the achievement of various targets and not necessarily how the multiple targets can be linked to the broader national economy. Developing infrastructure such as expanding the capacity of the Tema Oil Refinery (TOR) can potentially complement forward linkages and local capacities, thus enhancing linkage development. Achieving significant levels of local participation depends critically on local actors' abilities to meet the oil and gas industry standards, raising of financing, and state institutions' capacity to enforce various regulatory requirements.

12. Policy confusions and planning distortions are major threats to the development of the natural gas sector. The government needs to take action to adjust law and policy to ensure predictability and certainty of decisions. The power sector will continue to be the primary market for natural gas in Ghana because of the comparatively high price. Industries, however, require gas at a cheaper price to remain competitive. Therefore, policy actions must seek to reduce the gas price without the need for direct subsidy. These policies include optimising domestic gas resources through investment attraction, production and export of current and existing discoveries such as the Pecan Fields and Akoma gas discoveries to the domestic market.
13. The low cost of Jubilee and TEN gas makes it important for those fields to be prioritised. Minimising the effect of take-or-pay obligations in the relevant gas supply contracts will ensure an even lower Weighted Average Cost of Gas (WACOG) in addition to enabling enhanced oil production from Jubilee and TEN.

3.3 *Recommendation Set 3: Improving Oil and Gas Governance*

14. Independent accountability bodies—such as PIAC and GHEITI in Ghana’s case—are particularly important in countries with perceived weak oversight institutions. In order to fulfil their mandate and ensure that the governance of petroleum is transparent and accountable to the people, these bodies should have robust internal accountability structures; develop knowledgeable and experienced human capital that can bring this to bear concerning petroleum resource management.
15. Governments should desist from being overly suspicious of civil society actors as they perform their surveillance role. Political tagging for the most part, serves no useful purpose, mutes dissent over policy choices, with the attendant risk of less checks on government actors and imprudent decisions. Within the spirit of consensus and mutual respect for all stakeholders, the first-ever Ghana National Forum on oil and gas development, which was held in 2008 to discuss how to make the oil and gas discovery a blessing for Ghanaians and not a curse, has resulted in a relatively robust set of governance arrangements, such as the new fiscal

- administration framework for petroleum revenue management, and which has served the industry well. However, there is still some need for reform to further strengthen sector governance.
16. While Ghana has performed creditably on transparency as indicated in the various international and national benchmarks, more needs to be done to deepen accountability, especially when it comes to ABFA prioritisation and spending. There is usually incomplete information regarding unutilised ABFA.
 17. In terms of the national/local level injustices and inequities, high political commitment towards affirmative action is needed—deliberate policies designed to protect and give special attention to oil communities’ environmental and social challenges would be a progressive step.
 18. The foreign oil companies should implement more generous CSR projects which aim directly to address the injustices of their industry. Furthermore, these CSR projects should be participatory in design and implementation.
 19. While there are so many possible pathways to reach net-zero, Ghana and Africa can benefit from early adoption of the energy transition to create jobs and new industrial clusters. In addition, countries could use some of their oil and gas revenues to accelerate green investments especially deepening RE penetration to reduce the energy access deficit. Regional and country-level post-COVID-19 economic stability and reform plans need to recognise and adequately budget for this.

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INDEX

A

Act 815, 5, 7, 22, 58, 70, 73, 80,
209, 239, 241, 244, 245, 255,
257, 299, 363, 365, 385, 420,
421, 426, 431, 432, 460, 486,
620

Act 893, 6, 7, 58, 70, 73, 76, 80,
218, 239, 241, 271, 365, 366,
420, 431, 460, 486, 620

African petroleum-producing nations,
618

Angola, 88, 89, 91, 189, 292, 354,
375, 450, 455, 470, 500, 502,
503, 531, 535, 551, 553–555,
561, 580, 581, 583, 619

C

Carried and participating interest
(CAPI), 70, 160, 183, 192, 195,
260, 276, 361, 366, 384,
464–466, 468, 487, 613, 616,
621

civil society, 11, 23, 171, 231, 236,
249, 250, 256, 371, 372,
410–412, 417, 418, 421, 422,
424, 439–442, 450, 491, 497,
617, 623

Corporate income taxes (CIT), 160,
166, 167, 169, 185, 188, 190,
259, 260

E

economic rents, 162, 163, 167, 189,
195

economy, 97, 105, 115, 116, 159,
195, 208, 209, 212, 214, 234,
242, 251, 265, 267, 293, 294,
304, 306, 308, 309, 325, 326,
335, 342, 351, 364, 393, 397,
398, 420, 452, 454, 473, 475,
497, 498, 503, 525, 527, 528,
543, 556–558, 560, 574, 575,
577, 581, 582, 598, 608, 610,
611, 617, 619, 622

energy transition, 82, 83, 85, 160, 196, 524, 525, 527, 529, 531–536, 538, 539, 541, 543, 546, 548, 551, 553, 557–560, 562, 563, 615, 618, 620, 621, 624

Equatorial Guinea, 91, 292, 354, 450, 467, 500, 502, 503, 533, 536, 561, 619

exploration, 4, 11, 13, 18, 21, 22, 25, 27, 31, 37–39, 41, 42, 44–64, 77, 80–82, 84, 87–93, 96, 98, 102, 107, 108, 111, 112, 122, 125, 129, 130, 140, 148, 151, 157–159, 161, 164, 166, 177, 179, 183, 194, 198, 238, 259, 265, 276, 292, 299, 300, 316, 339, 351, 352, 361, 365, 376, 390, 417, 418, 420, 455, 458–460, 466, 468–472, 487, 501, 507, 534, 535, 559, 561, 574, 583–585, 599, 615, 618

F

fiscal policy, 207–212, 215, 222, 228, 612, 616

fiscal regime, 24, 89, 90, 158–161, 163–165, 177, 179, 182, 184, 185, 188, 189, 194–197, 234, 462, 463, 465–467, 474, 484, 495, 616, 618, 621

fishing, 56, 123, 307, 470, 471, 613

G

gas market(s), 317, 328, 331–333, 339, 343

Ghanaian citizen(s), 14, 35, 579, 608

Ghana National Petroleum

Corporation Act (GNPC), 1983, 4, 6, 11, 13, 15–19, 21, 22, 25, 26, 29–31, 33, 34, 36, 38,

41–43, 45–57, 60–68, 70, 71, 73–76, 78–85, 87–96, 98, 102, 105, 135, 142, 148, 151, 168–170, 194, 196, 209, 219, 256, 258, 265, 266, 273, 276, 289, 299, 301, 322, 328, 330, 333, 340, 343, 351, 352, 360–362, 366, 380, 385, 388, 394, 410, 417, 419, 460, 463, 464, 466, 485, 487, 497, 502, 534, 614, 615, 620

good governance, 8, 97, 105, 118, 230, 239, 350, 351, 353–356, 364, 371, 377, 386, 388, 397, 410, 416, 425, 450

I

inclusive development, 196, 209, 237, 317

inclusive economic development, 619

Income Tax Act, 2015, 6, 48, 166, 170, 357, 369, 460

International oil companies (IOCs),

10, 44, 55, 64, 83, 88, 90–92, 98, 101, 115, 122, 158, 159, 167, 170, 179, 182, 189, 196, 300, 307, 351, 360, 362, 363, 367–369, 383, 385, 391, 393, 457, 485, 487, 493, 496, 499, 501, 503, 505, 506, 508–510, 525, 533, 534, 562, 583, 585–587, 590, 593, 594, 599, 618

International Tribunal of the Law of the Sea (ITLOS), 126, 128, 135, 140, 143, 615, 620

J

Joint management committee (JMC), 52, 98, 360, 394

K

Kenya, 537, 541, 542, 563, 575, 580, 583, 597, 598, 601, 619
 Kosmos Energy, 15, 22, 53, 54, 90, 93, 99, 171, 320, 423, 455, 457, 470, 485, 534

L

L.I. 2204, 118, 300–302, 304, 305, 307, 308, 507
 linkages, 104, 107, 115, 294–298, 309, 405, 563, 578, 613, 619, 622
 local content, 14, 15, 29, 34, 35, 104, 107, 108, 112–116, 118–120, 122, 167, 170, 209, 210, 299, 300, 309, 357, 362, 364, 367, 368, 370, 395–398, 420, 421, 498, 501, 507, 509, 561, 577, 579, 582–586, 589–598, 600–603, 617–619, 622
 local participation, 14, 104, 107, 108, 112–114, 209, 293–296, 299, 300, 309, 362, 367, 368, 417, 460, 579, 594, 596, 601, 617, 622

M

maritime boundary, 133, 138, 139, 142, 144, 147, 149, 151, 152, 455, 613, 615
 maritime territory, 125

N

National oil company (NOC), 4, 26, 44, 70, 71, 76, 77, 83, 96, 102, 103, 166, 168, 194, 219, 259, 352, 360, 378, 393, 397, 410,

494, 497, 502, 534, 535, 545, 553, 561–563, 589, 596, 620
 natural resource revenues, 211, 365, 434
 Net Zero, 82, 83, 484, 529, 549
 neutrality, 161, 164, 167, 195, 463
 Nigeria, 42, 61, 66, 68, 80, 88, 89, 91, 93, 216, 256, 292, 317, 319, 320, 336, 338–340, 353, 363, 375, 411, 450, 455, 467, 470, 500, 502, 503, 505, 510, 531, 536, 539, 543–546, 578, 580, 581, 583, 603, 619

O

oil and gas resources, 94, 170, 209, 238, 246, 364, 365, 410, 413, 414, 463, 529–531, 560, 608, 618

P

paradox of plenty, 121, 292, 404, 530
 Petroleum Commission (PC), 6, 15, 17, 33, 111, 117, 118, 121–124, 142, 195, 196, 238, 299, 303, 305–307, 350, 359, 368, 377, 395, 410, 417, 421, 422, 455, 460, 468, 485, 581, 614, 615
 petroleum governance, 350, 405, 617
 petroleum resource management, 209, 576, 577, 584, 614, 619, 623
 Petroleum Revenue Management Act (PRMA), 2011, 5, 22, 58, 70, 80, 106, 210, 239, 241, 244, 255, 257, 299, 357, 363, 365, 405, 420, 422, 426, 460, 475, 486, 620, 621
 Petroleum Revenue Management (Amendment) Act, 2015, 6, 70, 241, 365, 431, 460, 486
 petroleum sector governance, 618

political economy, 243, 288, 351,
410, 452, 454, 498, 503, 531,
612, 622

political settlement, 351, 405

pollution, 23, 24, 37, 372, 470

poverty reduction, 356, 435

presource curse, 531, 608

progressiveness, 161, 164, 167, 195

Provisional National Defence Council
(PNDCL 64), 4, 41, 352, 360,
460

Public interest and accountability
committee (PIAC), 57, 58, 70,
73–77, 185, 218, 219, 240–242,
244, 249, 257, 264, 284, 296,
299, 613, 618, 623

R

resource curse, 215, 230, 292, 293,
295, 403–406, 409, 450, 451,
490, 491, 493, 494, 499,
501–503, 508, 530

risk sharing, 161, 195

royalties, 24, 159, 160, 166–168,
182, 183, 185, 192, 195, 196,
215, 219, 256, 259, 260, 276,
296, 363, 464, 465, 468, 474,
487, 502, 503, 513, 613, 616,
621

S

Sankofa Gye Nyame (SGN), 76, 77,
79, 80, 84, 85, 160, 226, 352,
385, 461, 485, 512, 613

Sekondi-Takoradi, 306, 425, 472,
473, 510

social inequities, 450

sub-Saharan Africa (SSA), 292, 295,
301, 304, 309, 374, 498, 501,
619

surface rentals, 24, 160, 166, 170,
179, 219, 224, 238, 259, 363,
385, 428, 465, 487, 596

T

Tanzania, 460, 462, 541, 542, 575,
580, 582, 583, 591–597, 619

Tweneboa Enyenra Ntomme (TEN),
77–80, 105, 111, 113, 115, 125,
160, 226, 260, 273, 290, 320,
328, 329, 336, 342, 352, 385,
424, 461, 466, 467, 485, 510,
574, 613, 623

U

Uganda, 467, 468, 502, 537,
541–543, 558, 575, 579, 580,
583–590, 619

W

Western region, 115, 122, 324, 403,
414, 418, 424, 438–441, 455,
471, 475, 483, 510, 549, 575

World Bank, 62, 65–67, 74, 96, 98,
105, 106, 183, 184, 208, 267,
285, 293, 317, 322, 330, 342,
373, 411, 415, 416, 436, 484,
494, 498, 578, 612