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The Power of Energy Justice & the Social Contract

Edited by

Raphael J.Heffron · Louis de Fontenelle

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Just Transitions

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ISSN 2731-6041 ISSN 2731-605X (electronic)
Just Transitions
ISBN 978-3-031-46281-8 ISBN 978-3-031-46282-5 (eBook)
https://doi.org/10.1007/978-3-031-46282-5

Cover illustration: © Harvey Loake

This Palgrave Macmillan imprint is published by the registered company Springer Nature Switzerland AG
The registered company address is: Gewerbestrasse 11, 6330 Cham, Switzerland

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Foreword for 'The Power of Energy Justice'

Energy justice is now a common theme across energy research and also in activism activities for over a decade now. The quest for energy justice has its roots in the Environment Justice Movement—struggles dating back to the 1970s where grassroots leaders in frontline communities fought to speak for themselves and build power to dismantle systems and structures that create and maintain environmental injustice and other forms of inequality. It is timely therefore to see this text entitled '*The Power of Energy Justice*' be published. As ideas, concepts, theories, frameworks and methods evolve, it is important from time to time to have a period of reflection. For me that is what this short book contributes to the literature. It brings some reflective voices from around the world together to focus on assessing how powerful energy justice has become and how this is impacting the world today.

It is welcoming to see so many contributors from across the world for this just over 30 chapters edited collection. It covers contributions from people across the Asia-Pacific to the Middle East, to Africa, to Europe and to the Americas. It is possible to obtain a 'mini' worldview of some exciting developments around energy justice through this book. Further, it details the variety of different ways that countries have tried to bring energy justice into practice. Altogether this originality of what the editors have aimed to give the reader should be commended. For me, it certainly offers the reader a distinctive, insightful and impactful book which should provide research and policy inspiration to many of them.

Finally, the world faces the critical challenges of the climate change and the energy transition. It is also clear that the process for change needs to be accelerated. It is vital that this process be fair and characterised by justice, such as procedural, distributive, recognition, restorative and cosmopolitan. It is a significant step forward in expanding the energy justice body of knowledge to see so many scholars engage in these concepts and to think about how they can transfer into practice. For me, I hope more scholars see the merit in this framework, and that they see how change can happen when justice is place at the centre. I hope the scholars who interact with this text will continue its work and seek to make the world more fair, just, equitable and inclusive.

June 2023

Robert D. Bullard
Distinguished Professor of Urban
Planning and Environmental
Policy and Director of the Bullard
Center for Environmental
and Climate Justice
Texas Southern University
Houston, TX, USA

Preface

For many years, we have planned a book on energy justice. It has taken time, but finally we are delivering on what we intended to originally do and that is always to think about the impact of our research and initiatives. Here in this short book, we have gathered some leading experts from across the world and at different stages of their career to contribute to a book that has impact at its core. We would like to thank all contributors for making this book possible.

However, in particular, we would like to thank them for spending the time to consider the topic and focus their writing on an issue that has meaning to them in the context of thinking of the power of energy justice. We believe that this book will be an interesting, worthwhile and informative read for many scholars and practitioners. The central premise is to think of how powerful energy justice can be and also needs to be given the climate emergency.

Further, we wanted to encourage the contributors and also readers to be more ambitious in their thoughts and eventual work. We need more ambition in society today. We are challenging the status quo that is deeply embedded in society and new progress is needed. We are indeed indebted to the inspiring words of Dr. Robert Bullard in this regard in the Foreword to this book and who also visited us in June 2023 for the World Energy Justice Congress in France.

Energy justice scholars and practitioners can look forward to being on the right side of history, and we must continue to work progressively, with

solutions and ensuring justice is at the heart of transition to a low-carbon economy across the world. We aim further to unite energy justice scholars across the world and aid policymakers and business leaders in making more *just* decisions. We look forward to interacting on this publication internationally and continuing on the energy justice journey we have both began here in France and contributing to the global movement of a just transition to a low-carbon economy.

Anglet-Biarritz, France
August 2023

Raphael J. Heffron
Louis de Fontenelle

Acknowledgements

Raphael J. Heffron

I would like to thank all who contributed in some form to the development of this short book.

I would like to thank those who introduced me fully to the energy sector at the University of Cambridge (UK) and in particular, Professor William Nuttall and Professor Angus Johnston. Thanks also to those at the various institutions where I built up my knowledge of planning, environmental, climate and energy law and policy—these include the Energy Policy Research Group (University of Cambridge, UK), the University of Oxford, Massachusetts Institute of Technology (US), the University of Texas at Austin (US), the British Institute of International and Comparative Law (UK), the Honourable Society of King's Inns (Ireland), Trinity College Dublin (Ireland), University of St. Andrews (UK), University of Stirling (UK), the University of Leeds (UK), Queen Mary University of London (UK) and the University of Dundee (UK).

I also convey thanks to people I have worked with over the years from across the world and who I have learnt more on how the energy sector works and the justice issues that arise in the US, Europe, Asia-Pacific, Africa, Middle East, North and Latin America.

Sincere thanks also go to my family for their assistance and understanding, and the writing of this short text in Biarritz, Dundee, Achill and Trinidad. And finally, this book is for my wife, Alicia, and:

Le haghaidh mo h-oileán

Louis de Fontenelle

In 2016, my thesis director, Philippe Terneyre, advised me to focus my research on energy law. Today, this advice is the best of my career and will undoubtedly impact my entire professional life. For his constant support and invaluable advice, I am eternally grateful.

More generally, I would like to thank all those at the Pau School of Public Law in France who helped make this disciplinary research possible. I also want to thanks UPPA, which has always supported my national and international research career. I owe much to this university, for which I will always have a special attachment. I would also like to thank all those in France who have supported me with their advice and support. Finally, I would like to thank all those who have enabled me to develop an international research activity and who inspire me with the quality of their work and their activities.

The impact of our research is made possible by the close links between the academic world and the world of practitioners represented by the French Energy Law Association and the European Federation of Energy Law Associations. I want to pay tribute to these associations and their efforts to move towards a just and low-carbon society.

Finally, I would like to thank the people I work with daily to promote justice in the energy transition, the team at the Energy Justice and Social Contract Chair, and colleagues from other research centres.

Finally, I would like to thank my family, my wife, Anaïs, my first support, and my son, Charles, for whom I try every day to help make this world a reasonable and just place.

Contents

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He is leading several national and international research projects. Since 2016, he has held the E2S UPPA MOVE senior partnership chair in sustainable mobility law at the Université de Pau et des Pays de l'Adour. Since 2023, he is co-chair of the Energy Justice and Social Contract Chair (UPPA, CNRS, Région Nouvelle-Aquitaine). He is co-director of two national research projects, one devoted to energy networks as a common good (JUSCOOP) and the other to green hydrogen and energy communities (ENSUITE). He is also leading a research project, as part of a strategic programme supported by the French government, on French and European mining law (JPEC, PEPR SousSol).

He is a board member of the French Energy Law Association and an executive member and treasurer of the European Federation of Energy Law Associations and a member of the Academic Advisory Group (AAG) of the Section on Energy, Environment, Resources & Infrastructure Law (SEERIL) of the International Bar Association (IBA) since 2023.

He has published over forty articles in peer-reviewed journals in France and now devotes a significant part of his research to writing articles for international journals. He supervises or co-supervises ten doctoral students and five post-doctoral students. He is co-director of the master's degree in energy and environmental transition law at the University of Pau and Pays de l'Adour.

Demilade Isioma Elemo is currently carrying out her Ph.D. Research on Investment Disputes and Renewable Energy at the Centre for Energy, Petroleum and Mineral Law and Policy (CEPMLP), University of Dundee, where she is the President of the Postgraduate Researchers Association and a co-convener of the Dundee Africa Research Network (DARN). She is qualified to practice law in Scotland and Nigeria. She holds an LL.M. in Comparative and International Dispute Resolution

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Anton Ming-Zhi Gao is a Professor at the National Tsing Hua University's Institute of Law for Science and Technology. He has devoted himself to energy and climate legal research and projects in Taiwan, including publishing books and articles, hosting local and international energy law conferences, and participating in international events. Over the years, he has been very active in international publications involving investigations on global legal issues, as well as European, Asian and Taiwanese Energy Laws. In recent years, he has remained one of the most productive scholars in the field of Energy Law in Taiwan. He is becoming the most productive Law School Professor in SCI journals in Taiwan.

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Prof. Raphael J. Heffron is Professor in Energy Law, Justice, the Social Contract and Sustainability at the Universite de Pau et des Pays de l'Adour, Pau, France. He is also *Jean Monnet Professor in the Just Transition to a Low-Carbon Economy* awarded by the European Commission (2019–2022). In 2020, he was appointed as *Senior Counsel at Janson* law firm in Brussels (Belgium). He is a qualified Barrister-at-Law and a graduate of both Oxford (M.Sc.-Christ Church) and Cambridge (M.Phil.-Darwin & Ph.D.-Trinity Hall). He also holds degrees from the University of St. Andrews (MLitt) and Trinity College Dublin (B.A., M.A.).

His work all has a principal focus on achieving a sustainable and just transition to a low-carbon economy, and combines a mix of law, policy and economics. He has published over 190 publications of different types and is the most cited scholar in his field worldwide for energy law, energy justice and just transition worldwide (3200+ *Scopus/6000+ Googlescholar*)

with translated work in multiple languages including Chinese, Italian, French, Spanish, Portuguese, Arabic and Persian. He has given just over 200 keynotes or guest lectures in 61 countries worldwide.

His energy research has involved funding from the European Union, ASEAN Centre for Energy, Commonwealth Secretariat, French Regional Government Administration, UK national research councils (the ESRC and the EPSRC), the UK Department for Business, Energy and Industrial Strategy (ERA-ACTOM), the British Academy and a European Commission Jean Monnet Professorship 2019–2022. He has given professional expert advice on energy law and policy issues (low-carbon energy and electricity systems) to the EU, UN, Commonwealth Secretariat, World Bank and various international thinktanks—he currently serves on the UNECE Group of Experts on Cleaner Electricity Systems. More recently, he has worked on low carbon energy projects for the 10 Member States of the ASEAN Center for Energy (2021); produced policy reports on the energy transition and energy finance for the 54 Member States of the Commonwealth (2021); advised Nigerian Ministries on oil, gas and the energy transition (2019), and Colombian professionals on climate & green finance (2019–2023).

He was elected to the Royal Society of Edinburgh Young Academy of Scotland in 2018. His research and teaching has been recognised by the award of a Jean Monnet Professorship by the European Commission twice in 2016 (–2019) and 2019 (–2022). His teaching has also been recognised in the UK by becoming a Senior Fellow of the UK Higher Education Academy in 2018. In addition, he is a Fellow of the Royal Society of Arts.

He is a reviewer for the most recent IPCC Report. He is also the Consulting Editor of the current *Halsbury's Laws of England* volumes on energy law (the leading practitioner energy law series). He is co-editor of the forthcoming *Oxford University Press Handbook for International Energy Law.* He is on the Editorial Board of the world leading international energy law and business journal the *Journal of World Energy Law and Business (OUP)*, the legal practitioner journal *International Energy Law Review,* and interdisciplinary journal *Oxford Open Climate Change*.

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In the business field, he was the General Director of Spanish infrastructures and environmental services business of the Group FCC. He

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PART I

Introduction to the Power of Energy Justice

CHAPTER 1

Energy Justice—The First Step in an Energy Decision Today

Raphael J. Heffron

Abstract The first step in any energy decision today should be how to factor in energy justice. This will have the result of ensuring that there is a just outcome for society. One powerful effect of placing energy justice at the forefront for all decision-makers will be that it can balance the 3Rs which are '*Risk, Reward, and Responsibility*'. Ensuring justice is applied across these 3Rs will ensure that a decision-maker has future-proofed their decision and in due course they can therefore demonstrate their accountability and process in their decision-making. The balancing of these 3Rs can provide the platform for developing what will be the new social contract between energy sector stakeholders. A new social contract is vital for taking energy justice further into decision-making in society.

Keywords Energy justice · Just transition · Decision-making · Future-proofing · The 3Rs · Risk · Reward · and Responsibility · Social contract

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R. J. Heffron and L. de Fontenelle (eds.), *The Power of Energy Justice & the Social Contract*, Just Transitions,
https://doi.org/10.1007/978-3-031-46282-5_1

1.1 Introduction

The potential power of energy justice is clear when one considers that research shows the energy sector is responsible for the majority of carbon dioxide emissions. It has taken far too much time for society to realise this and act. There are of course many barriers placed in front of any potential actions. These arise due to corporate and personal greed, corruption and misinformation, and political inaction about the price and/or subsidies of and for energy sources to name a few.

This is the opening chapter to this book overall, and it aims to open this book which is centred on short contributions from scholars across the world on the 'Power of Energy Justice'. Each author (or in some cases authors collaborated) has chosen an issue where they can see the power of energy justice having a transformative effect.

For me, it is an honour to write alongside the range of colleagues who have contributed to this book. In this chapter, I focus on where energy justice could have a significant impact for me. This is where at first instance when any decision on energy is about to be made in policy terms then justice should be an immediate consideration. If more energy 'just' decisions were made, then there would be less environmental impacts and less of a contribution to climate change from energy activities. Overall, this would decrease the injustices in terms of environmental and climate justice issues.

1.2 Challenges to Overcome

As stated at first instance when making an energy decision, part of the initial debate on that decision should begin with justice. Unfortunately, at the moment, that has not been the case. Over the years, there has been too much focus on corporate profiteering, revenue raising and personal greed. I have often used the quote from a mining economist who latterly went into teaching at universities to highlight this. This economist stated that the major focus of economics in relation to mining (which includes all the extractives industries) should be profitability. Further, he added that any social objective and even an environmental one for a mining

company are 'self-deluding'.[1] That quote is very revealing as that is how many decision-makers were thinking and still represents to this day what happens in the energy sector.

This economist was still working at a university in the United Kingdom (UK) and he sadly is not alone. There are others that continue to promote the exploitation of fossil fuels worldwide because it benefits their personal greed. This is ironically very evident in the legal community where lawyers are willing to accept high fees for inadequate advice about the impacts and consequences of climate change. Many academics in law choose to be out of date rather than addressing the challenges of sustainability, environmental impacts and climate change when developing their curricula.

A more recent case is how the Harvard University academic Jody Freeman has been receiving $350,000 per year (plus) from an infamous United States (US) international energy company.[2] This is directly a conflict of interest, and the university should have been doing more to promote energy, environmental and climate teaching and research so that students could have a balanced view in their education. Justice needs to be the part of the first discussion on all these courses and more broadly when it is discussed on society.

[1] Crowson, P. 2008. *Mining Unearthed*. Aspermont UK: London, UK.

[2] See multiple reports on the issue including one on her eventual resignation from the post: *The Guardian*. 2023. Harvard professor lobbied SEC on behalf of oil firm that pays her lavishly, emails show. Available at: https://www.theguardian.com/environment/2023/apr/06/harvard-professor-jody-freeman-sec-conocophillips-emails (last accessed 31 July 2023); and *The Guardian*. 2023. Harvard environmental law professor resigns from ConocoPhillips after months of scrutiny. Available at: https://www.theguardian.com/us-news/2023/aug/04/harvard-professor-resigns-conocophillips-board (last accessed 7 August 2023).

1.3 Resolving Challenges Will Lead to an Accelerated Just Society

Strong leadership is required in order to resolve the challenge of what is in essence the need to change the status quo in terms of decision-making. What is commendable in this regard for me is in the US where the US Department of Energy has made justice in energy and environmental decision-making as necessary in the project design.[3] This is the type of action that needs to be replicated throughout society when energy decision-making begins. Further, we are beginning to see justice action in policy development too in Colombia as it advances its policy on a just energy transition.

This corresponds really with actions by the United Nations which in a fascinating report discusses 'future-proofing'.[4] I have taken this term further and linked it directly with corporate strategy.[5] The definition of future-proofing is *that in the future, they can state at that a particular point in time in the past, they relied on existing best-practice (including scientific data, risk management strategy, environmental impact data, consideration of alternatives, etc.) to inform their decision-making*.[6] What this practice of future-proofing will result in is in the practice of justice at first instance. Decision-makers will have to ensure that 'justice' is in their mindset from the outset. This crosses into the ethical mindset of the individual, and far more research on this has to happen into the future.

[3] United States Department of Energy. 2022. Justice40 initiative fact sheet. Available at: https://www.energy.gov/sites/default/files/2022-08/J40%20Fact%20Sheet%208_25_22%20v3.pdf (last accessed 20 April 2023).

[4] United Nations Environment Programme. 2021. Future-proofing infrastructure to address the climate, biodiversity and pollution crises.

[5] Heffron, R. J. 2023. Repurposing for the just transition: Energy companies need to future-proof their structure and strategy. *Journal of World Energy Law and Business*, 16 (3), 302–307.

[6] Heffron, R. J. 2023. Repurposing for the just transition: Energy companies need to future-proof their structure and strategy. *Journal of World Energy Law and Business*, 16 (3), 302–307.

1.4 Conclusion—Balancing the '3Rs'

One powerful effect of energy justice for all decision-makers will be that energy justice can balance the 3Rs which are '**R**isk, **R**eward, and **R**esponsibility'. For all decision-makers in energy whether in politics, in a public or private company and a leader of a local community, achieving a balance between the 3Rs's is fundamental. Ensuring justice is applied across these 3Rs will ensure that a decision-maker as future-proofed their decision and in due course they can therefore demonstrate their accountability and process in their decision-making.

Figure 1.1 demonstrates the 3Rs in practice and highlights which forms of energy justice are relevant for achieving each of them in turn.

The balancing of these 3Rs can provide the platform for developing what will be the new social contract between energy sector stakeholders. A new social contract is vital for taking energy justice further into decision-making in society.[7]

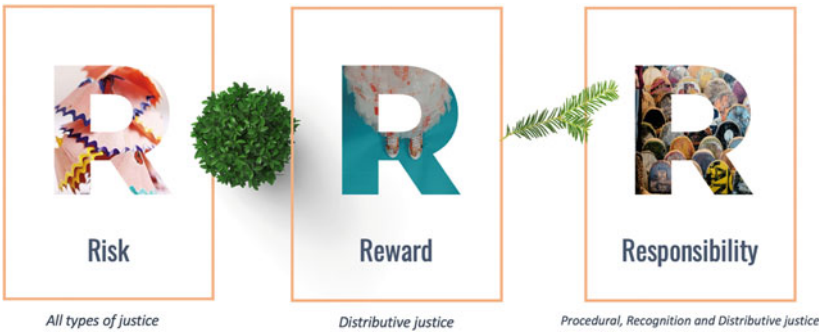

Fig. 1.1 Achieving the 3Rs and energy justice (*Source* Created by Raphael Heffron [2023])

[7] Heffron, R. J. and De Fontenelle, L. 2023. Implementing energy justice through a new social contract. *Journal of Energy and Natural Resources Law*, 41 (2), 141–155.

CHAPTER 2

Energy Justice and the Social Contract Theory

Louis de Fontenelle

Abstract Society is facing many crises, and in particular, the energy crisis is problematic given the climate change challenge. The energy sector needs a new social contract to solve these problems. The social contract is a prerequisite for a new legal and social order that includes legal organization of access, availability, and stability of energy resources, energy quality, and the type of energy used. This change, however, needs to involve citizens and ensure that they are recognized as part of the process. The role and involvement of citizens are central to the success of a new social contract.

Keywords Social contract · Energy justice · Climate crisis · Energy resources

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R. J. Heffron and L. de Fontenelle (eds.), *The Power of Energy Justice & the Social Contract*, Just Transitions,
https://doi.org/10.1007/978-3-031-46282-5_2

2.1 Introduction—The Relationship Between Energy and Society: A Social Contract

Energy is a fundamental good for life in society. It underpins all human activities. Like water, medicine, and food, energy is vital. As a vital good, societies seek to rationalize and organize their production, transport, and access to promote their best allocation and avoid shortages. Within liberal regimes, energy systems are based on a social contract based primarily on energy security, i.e., guaranteed availability of the resource and physical, social, and economic access to stable energy at a reasonable price, enabling them to satisfy their needs and carry out their activities.

All human societies are going through a period of crisis: a climate crisis, an environmental crisis, an energy crisis, a social crisis, the combination of which indicates a broken social contract on energy. The problem stems from a physical limit, i.e., the scarcity and depletion of the resources needed to produce energy in sufficient, stable, and affordable quantities, and from environmental pressures, particularly global warming. The crisis immediately limits freedom in the sense of experience since energy is essential for carrying out many human activities—heating, feeding, lighting, transport, notably—and is, therefore, a problem of trust. This leads to a problem of individual trust in the ability of public authorities to manage the situation, while at the same time, a collective awareness of the need for change is emerging. This context reveals the problem of the social contract, what it is, what makes it fragile, and what it could be in the future.

2.2 In Search of the Social Contract

The classical theories of the social contract were developed in a specific context during the Enlightenment by political, legal, and philosophical thinkers (Rousseau, Locke, Hobbes) to explain the emergence of the State and its mechanisms and concepts (sovereignty, general will, general interest, democracy).[1] The content of the social contract is constantly evolving and revealed by texts and practices. The social contract helps us

[1] T. Hobbes, Leviathan or The Matter, Forme and Power of a Commonwealth Ecclesiasticall and Civil, 1651; J. Locke, Two Treatises of Government, 1690; J.-J. Rousseau, Du contrat social, 1762.

understand the continuous transition from fact to law. It is what individuals agree to in order to form a society together. This contract is neither constitution nor law but is revealed through texts and the practice of texts. It justified the power relations between rulers and the ruled. It explains the renunciation of total individual freedom in favor of order, collective security, and, paradoxically, freedom. The agreement is indispensable to society and the durability of governments and the State.

Energy is not the entire social contract but an essential component. In a context of crisis, rethinking the energy system as a political and legal theory of the social contract is essential for two reasons: firstly, as an element of legitimacy for public action in defining energy transition policies and rules (i) and as a principle and condition for the existence of energy systems (ii), most of which today are based on networks, with interconnections between producers, transporters, and consumers. The social contract is a prerequisite for the legal organization of access, availability, and stability of energy resources, energy quality, and the type of energy used. Rethinking the social contract in the energy field is a means of building a social and economic development model that balances several dimensions: the social system itself and the local, national, and international legal systems (the relationships between them). These systems are all evolving under the combined effect of new technologies, the tightening of environmental constraints, the accumulation of stakeholder demands, and the policies that will define the direction of the community's energy needs. The social contract is not abstract but is systematically constructed from reality and the people's demands.

2.3 Instruments of the Social Contract

The social contract is linked to the State, but it is tacit and therefore difficult to describe. We perceive it through legal texts and political and social relations. We maintain the idea of justifying government action through ad hoc deliberative and participative processes of a political or administrative nature. Nevertheless, the difficulty is that it is no longer considered in its total economy. It is no longer understood for its own sake. The social contract needs to be nurtured and built through a dynamic, ongoing process of concrete action to promote dialogue and collective choice. The search for social agreement is essential for the bond between the governors and the governed and for the bond of the social body, whatever

its scale—local, national, or international—especially at a time of climate change, which demands the utmost concord.

The coming years will see the emergence of a new energy system and a new social relationship. Therefore, we need to understand this social contract in the energy field. What principles and values do we want to establish? Decarbonization is not just a set of techniques, technologies, and data but also a choice of the social model we want to establish. Urgency is the enemy of the moment because it rushes decisions, actions, and reactions and suggests that management is the most credible, the most reliable, at the risk of forgetting the human being and his social function. The new social contract will be established through negotiation and mutual concessions. Reason dictates that it must be based on the principle of justice.

2.4 Conclusion—Toward a Social Contract Based on Justice

The social contract in its energy dimension is an element of legitimacy for the State and the socio-technical system. It is essential to recognize the central role of the social contract. Today, policies and projects are made without, or to a lesser extent with, society. The State makes direct agreements with mostly private operators who are often responsible for damaging the environment, people's lives, ecosystems, and resources. Energy must be owned by the regions and the people who live there, respecting their aspirations, cultures, and customs. The social contract issue raises questions about the distribution of roles and responsibilities, the sharing of choices, and solidarity between actors, especially the most vulnerable.

The role of the social contract is essential in making justice,[2] particularly energy justice,[3] a reality and in setting the direction for the development of the energy society as a whole. Justice is a determining factor in the distribution of the resources generated, which should benefit the entire territory where the projects are located, while the location and ownership of the necessary resources and means of production are

[2] J. Rawls, A Theory of Justice, 1971.

[3] Heffron, R. J. and De Fontenelle, L. 2023. Implementing Energy Justice Through a New Social Contract. Journal of Energy and Natural Resources Law, 41 (2), 141–155.

unevenly distributed at international and national levels. Equally, justice is essential to ensure that rights and freedoms are respected throughout the energy life cycle, from exploration and production to consumption, and that any damage caused is fairly compensated. That is the whole point of the social contract.

PART II

Core Energy Justice Issues

CHAPTER 3

The Formation of Energy Law as a Discipline That Integrates the Principle of Energy Justice

Vicente López-Ibor Mayor and E. J. I. López-Ibor Mayor

Abstract Justice and energy are undoubtedly a combination of the highest importance. It touches the most important values and foundations of society. It also brings together important elements such as energy and climate policy, regulation and principles of energy law. The transition requires overarching principles that are valid and applicable to all energy sources, hence the importance of identifying energy justice as a principle, its constituent elements and its legal, technical and economic implications. Energy justice, in turn, requires that energy law considers the entire supply chain; the impacts and projections, from the extraction or use of raw materials to infrastructure development, transformation and provision of economic general services of general interest.

Keywords Principle · Energy Law · Green first · Circular economy · Economic services of general interest

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R. J. Heffron and L. de Fontenelle (eds.), *The Power of Energy Justice & the Social Contract*, Just Transitions,
https://doi.org/10.1007/978-3-031-46282-5_3

3.1 Introduction

We can affirm that justice is a concept that has always been the subject of reflection, that it has been present in the formation of law as a discipline of study, that it has been a source of inspiration for transformations, and that what is just and what is unjust is a weighting of a moral and ethical nature that is constantly carried out in different spheres. Aristotle said in his *Magna Moralia:* "what is just with respect to the other is, to put it briefly, what is equal, since what is unjust is what is unequal".[1]

We can affirm that energy is a basic object of all human activity, and it is required for the satisfaction of human needs, from the most basic and fundamental to the materials for the production of goods and services in society. A situation that put all of the above to the test was the COVID-19 pandemic, and the provision of electricity was an essential service at critical times that helped to maintain the workforce without physical presence, connectivity, and health care. It is not for nothing that the energy sector plays a leading role in global industrial and economic activity. The energy sector is of considerable importance for the economy in general, which is why its recognition in the European construction as a legal source, end and means, should not be discussed[2] and, from a legal point of view, the universality of the service, understood as access for all citizens, is an unavoidable requirement.

Thus, the sum of justice and energy is undoubtedly a combination of a higher level of importance that has an impact on the most relevant values and fundamentals of society and also has an impact and consequences for the industry in general; it converges the technical revolution, communication technologies, digital networks, service provision, etc.

[1] (MM, 2011c, 1193b:171). Cited in: Giraldo Zuluada Conrado and Garcés Giraldo Luis Fernando. La justicia aristotélica: virtud moral para el discernimiento de lo justo. Indivisa, Bol. Estud. Invest., 2014, nº 14, pp. 44–52.
ISSN: 2254-5972.

[2] CJEU of 15 May 1986, Johnston, Case 222/84; CJEU of 23 April 1986, The Greens v. Parliament, Case 294/83; CJEU of 22 October 1987, Foto-Frost v. Hauptzollamt Lübeck-Ost, Case 314/85.

3.2 Recognition of the Principle of Energy Justice Within Energy Law

Having defined the principle of energy justice as the guiding principle of energy law, it should now be noted that this principle, by its nature and implications, has a reciprocal relationship with the others—in particular with the principles of energy efficiency, circularity, "green first" and consumer participation.

However, before talking about the application of this principle, it is necessary to recognise the logical and inevitable consequence of having a legal science of law whose object of study and regulation is energy, from an economic, social, industrial and climatic point of view. We now face the imperative need for coherence and a sense of unity because this will undoubtedly generate a better legal system, a correct understanding of its sources and the consequent better regulation and adequate application.

In addition to the above, energy law faces an additional challenge and that is to order the urgent transition in the light of the fight against climate change with all its implications such as decarbonisation, sustainable mobility, among others, and the fulfilment of the Sustainable Development Goals. The transition requires cross-cutting principles that are valid and applicable to all energy sources, and therefore requires an effort to systematise the wide range, as atomising the different parts of energy law would lead to the irremediable loss of the vision of energy as a unitary fact.

This is how we identify a transformation that links energy law and energy justice, thus generating the triple concurrence between the following elements: energy and climate policy, regulation and principles of energy law. Energy policy is directly related to the measures, instruments and actions required for energy decarbonisation. The second element of regulation derived from legal titles and different regulatory techniques and tools and finally the third element that defines the orientation—the principles of energy law. Hence herein lies the importance of identifying energy justice as a principle with its constituent elements and its legal, technical and economic implications.

3.3 Conclusion—Transformations in Energy Law to Optimise the Principle of Energy Justice

Specifically, the application of the principle of energy justice in the field of energy law[3] has been reviewed from the perspective of the unequal distribution of the burdens and benefits associated with the supply and consumption of energy services.[4] The distribution of burdens can be unequal from two perspectives; from the demand side where there is an inability to reach a social level of household electricity service[5] and also from the energy supply chains, when there is an unequal distribution of human and environmental costs resulting from the activities that are part of the energy sector; from exploitation as a natural resource to the final provision as a public service, or of general economic interest, there is even talk of energy sacrifice zones, understood as areas that bear a disproportionate social and environmental burden so that the entire population can access energy.[6]

One of the transformations identified in the development of this principle is the configuration of sustainable or "green" financial instruments that respond to the urgency of defining and regulating finance in the framework of a low-carbon economy, and it is here where the importance of environmental, social and governance (ESG) criteria, as well as green bonds and climate bonds, can be identified.

[3] As a background to the relationship between justice and energy, we can mention the Treaty establishing the European Coal and Steel Community (ECSC) in Paris and the Treaty of Lisbon, which finally recognises a common energy policy for energy that includes elements of security of supply, supply, access to energy and circularity, all of which are elements of energy justice.

[4] Sovacool, Benjamin K. and Dworkin, Michael H. (2014). *Global Energy Justice: Problems, Principles, and Practices*. Cambridge University Press. https://doi.org/10.1017/CBO9781107323605. Cited in: Tirado-Herrero, Sergio. (2023). Energy poverty and housing: A social justice perspective. *Arbor*, *199*(807): a692. https://doi.org/10.3989/arbor.2023.807006.

[5] Bouzarovski, Stefan and Petrova, Saska (2015). A global perspective on domestic energy deprivation: Overcoming the energy poverty-fuel poverty binary. *Energy Research & Social Science*, *10*, 31–40. https://doi.org/10.1016/j.erss.2015.06.007 Cited in: Tirado-Herrero, Sergio. (2023). Op.cit.

[6] Hernández, Diana. (2015). Sacrifice along the energy continuum: A call for energy justice. *Environmental Justice*, *8*(4), 151–156. https://doi.org/10.1089/env.2015.0015Citado en: Tirado-Herrero, Sergio. (2023).

Therefore, one aspect that the principle of energy justice requires energy law to take into account is the review of the entire supply chain; the impacts and projections, from the extraction or use of raw materials, to the development of infrastructure, transformation and the provision of public services. The energy sector has both an environmental compliance role and a proactive role in combating climate change, fighting poverty, inequality and protecting health, all of which are major challenges in today's world.

Clearly, there can be no sustainable energy transition, no effective fight against climate change and even less compliance with the Sustainable Development Goals, if any of the links in the energy supply chain violate human rights or harm the environment. One issue that cannot be lost sight of is that every industrial or economic activity has impacts on society and the environment, and this is not exclusive to the energy sector; however, by the very nature of energy activities, it is true that there is an increased risk or a greater responsibility for the impacts on the economic and social life of communities, use of natural resources, landscape affectation, among others.

Good resource management by companies contributes to good governance of public revenues, and business ethics and good corporate governance programmes contribute to the incorporation of best practices. All of the above brings economic improvement where it is developed and an empowerment of users and communities. Thus, the sector becomes not only a respectful actor but a strategic ally, in recognition of a social and environmental dimension in which "injustice" must be addressed throughout the energy law cycle.

CHAPTER 4

Energy Education: A Cosmopolitan Challenge to Ensure Justice in the Transition

Luigi Maria Pepe

Abstract Nowadays, it is crucial to emphasize how energy education may be included among the energy justice challenges. It is only by spreading energy education among the future generations that the future society can gain the skills needed to identify and address the energy world injustices. For this purpose, an Energy Education Recovery Plan is needed across countries in order to spread the awareness and the importance of the energy justice principles.

Keywords Energy justice · Energy education · Cosmopolitan challenge

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R. J. Heffron and L. de Fontenelle (eds.), *The Power of Energy Justice & the Social Contract*, Just Transitions,
https://doi.org/10.1007/978-3-031-46282-5_4

4.1 Introduction—Energy Education: A Cosmopolitan Justice Challenge

Despite the issue that in energy justice literature there has never been so much space for energy education, it is important to highlight how energy education may be included among the energy justice challenges. In countries that are scarce in natural resources, the evolution of energy education may have been slower. Educational and academic advancements have taken a long time to arrive. So, in both developed and developing countries, energy education is not widespread as it should be, especially in academia.

The implementation of energy education as an energy justice problem addresses the major issue that education and knowledge are the foundation for the development of any society and any transition, particularly to a low-carbon economy.[1] We are all global citizens, and in order to comprehend the significance of our individual acts, we must investigate the origins and consequences of such actions in energy systems. Energy education must, in fact, be distributed evenly across all territories and impacted areas of a country, with no distinctions or biases. As a result, energy justice education is an application of the principle of cosmopolitan justice.

As a result, beginning with energy education, future generations will be equipped with the necessary tools to recognize and address energy world inequities. But, what exactly do we mean by energy justice education? Facing and addressing energy injustices in our society entail addressing issues such as global economic inequalities, labor-force disparities, socioeconomic injustices, climate and environmental injustices, and decolonization.[2]

[1] Heffron, R. J. (2021). Energy Law: An Introduction, Berlin: Springer, 2nd ed.

[2] Droubi, S. Galamba, A. Fernandes, F. L. De Mendoca, A. A., Heffron, R. J. (2023). Transforming education for the just transition. Energy Research & Social Science, Volume 100, 1–16.

4.2 Policy Recommendations for an Energy Education Recovery Plan

It is important for scholars to realize that energy justice takes place in two ways: first, a new law is introduced to ensure justice happens; and second when we go to the national legal courts to advance justice on a certain issue. Researchers from all the disciplines need to realize what they are seeking and how new advancements might happen, i.e., which of the two ways mentioned above will be needed or maybe they both will.[3] Therefore, energy justice development intended as the fight of the energy injustices may happen mainly through the identification of legal solution aimed at reducing or deleting the injustices from the energy world.

As the French lawyer Saleilles once said, the evolution of law takes place "*by purely blind and empirical means, depending on the circumstances—or in a conscious, thoughtful and objective manner*".[4] He himself identified law as that rigorous technique capable of fulfilling multiple purposes for the development of a society. In fact, if a first purpose of law is to examine legal phenomena, their causes and effects, a second is certainly to study the fate of those laws in concrete reality, the social reality in which those rules are born, live and die.

All of the events that have occurred since the 2015 Paris Agreement, such as the health crisis, the Russian-Ukraine war, and the subsequent increase in energy prices, are separate social and legal phenomena that must be examined in their progression using the energy justice metric. The energy sector is now at the heart of the world's economies, on which humanity's future and well-being rely, and it requires a significant and growing commitment from scholars and practitioners. As a matter of fact, the challenge of the energy education serves as a guide and compass

[3] Heffron, R. J. (2021). The Challenge for Energy Justice. Springer, 116.

[4] Sailles, R. (1910). L'enseignement du droit comparè en Italie, BSEL, IX, 271.

for contemplating, comprehending, and implementing the energy transition. Through energy education, politicians, regulators, universities, and individuals need to spread the culture of the just transition.

Only by comprehending the difficulties and dynamics of this industry, future generations will be able to embrace its relevance and provide a wind of new ideas to the globe. Countries will be able to equip researchers, jurists, legislators, and policymakers with the required knowledge tools to create a community's political, legal, and social future by implementing energy education, particularly in law curricula. For this purpose, countries should implement a proper energy education recovery plan. Some of them have already moved forward it through a *National Energy Education Development Project* (in the USA for example)[5] with the aim of promoting a broad understanding of the energy world, its causes and effects as well as the importance to address it in terms of justice.

4.3 Conclusion—Energy Justice and the Science of Law

In conclusion, as pointed out by the 2018 Nobel Prize in economics, William Nordhaus, what is urgently needed, in the face of the global warming emergency, is not so much a response in terms of technical-scientific elaboration, but rather the adoption of legal solutions that are as close as possible to the empirical evidence on the trend in greenhouse gas emissions into the atmosphere.[6] And this shift nowadays is needed in the energy sector as never before. New legal solutions and binding targets are inevitable for a sector which is undergoing (and expected to undergo) a period of profound change, driven on the one hand by sustainable policies and on the other by a technological acceleration.

[5] National Energy Education Development (NEED), available at https://www.need.org/ (last accessed 24 May 2023).

[6] Nordhaus, W. (2016). Projections and Uncertainties about Climate Change in an Era of Minimal Climate Policies. National Bureau of Economic Research Working Paper No. 22933, Cambridge (MA).

However, in terms of the climate, energy and environmental sector, law has not given society yet an established foundation or framework from which bringing justice to the next generation. As clearly outlined in the international literature, legal practitioners have also made minor improvements and advancements to the area when called to issue specific legal opinions. They have barely tried to establish concepts, theories, or methods in energy law beforehand.[7]

If concepts, theories, and methods have always inspired the foundation of a discipline by providing the directives and general aims, in the same way this should have happened to the energy law one in order to use those to contest, discuss, and to be used as a starting point for a new energy law knowledge.

It is only by now that with the rise of energy justice and of the energy justice principles, the science of law can finalize its aim of bringing justice to the next generation by weighing the unity of peoples through the unity of laws.[8] This conception must give to energy law a universal and cosmopolitan purpose. A cosmopolitan law of freedom aimed at the coexistence between individuals. A law born from the awareness of the cosmopolitan essence of our human, cultural and social evolution.[9]

[7] Heffron, R. (2023). Energy law for the next generation, towards 2030 to 2050. Journal of Energy & Natural Resources Law, Volume 41, Issue 2, 130–139.

[8] Heffron, R., Pepe, L.M. (2021). L'Energia attraverso il diritto, Naples:Editoriale Scientifica, 224.

[9] Vico, G. (2019). Principj di Scienza Nuova. Intorno alla comune natura delle Nazioni (Belle Epoque ed.).

CHAPTER 5

Energy Justice and Energy Law—An Approach to the Differences Between Both Concepts

Íñigo del Guayo

Abstract This chapter contains a brief set of reflections on the relationship between energy law and energy justice. There is the need to move towards a new energy system. This need is based on evident exigencies of energy justice. Justice is not only a driver for transition, but also an ideal future situation whereby justice rules the relation between the various agents of the energy system. In that context, law should not be an obstacle to the transition, but rather a useful instrument. This means that the energy transition needs a new law, which reflects the moral content of energy justice.

Keywords Energy justice · Energy law · Energy transition · Legal obstacles · Legal instruments

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R. J. Heffron and L. de Fontenelle (eds.), *The Power of Energy Justice & the Social Contract*, Just Transitions,
https://doi.org/10.1007/978-3-031-46282-5_5

5.1 Introduction

These brief reflections on the relationship between energy law and energy justice have their starting point in the distinction between justice as a moral virtue and justice as a value that has to be implanted in society. Roman jurists defined justice as the constant and perpetual will to live honestly, do no harm to anyone, and give each his or her due. That Roman tradition was picked up in the Middle Ages by, among others, Thomas Aquinas. This definition refers to justice as a moral virtue (will or *voluntas*), but also includes its axiological aspect (what belongs to each one or *his or her due*).

When humanity faces the enormous challenge of stopping global warming and fighting climate change, the idea of energy justice emerges in the scientific community, as a complement to or as a challenge to the current energy law. Why? The answer is simple. Energy law is the set of techniques to implement a certain idea of energy justice in society. This idea of justice is not the one held by the authorities called upon to apply the law at any time (national or local governments, or judges), but rather the idea that has been embodied in the legal rules (parliamentary acts or delegated legislation), approved by those who have the democratic representation of society.

5.2 Energy Law as a Potential Obstacle

It happens that current energy law does not adequately reflect the values, ideas and aspirations that are condensed in the ideology of the fight against climate change. From this perspective, current law becomes an obstacle to achieve these aspirations. To the extent that the current law responds to a centralized, carbonized and supply-based electricity system, it becomes a hindrance to implement the new decentralized, decarbonized and demand-based paradigm. As a summary of this idea, it can be said that current law condenses the ideas of the system born one hundred years ago, but a new law is needed to implement the new system. This is where energy justice appears, as a condensation of new ideas about a new energy system. The need to protect vulnerable consumers at a time of increasing and unaffordable electricity bills is one of the clearest examples of how energy justice pushes to the modification of existing laws: prior to

the crisis, every single consumer not paying its bills will be deprived from supply, but not any longer, in relation to some vulnerable consumers.[1]

The field of energy justice is open to debate, because there are many different ideas about what is fair and what is not fair. This debate will lead to writing the legal rules in accordance with the idea that, within the democratic processes, has prevailed. In the field of law, the debate has another meaning, because it is aimed at interpreting what the law establishes, but such a debate is premised, among the participants in the debate, that the law establishes a single just solution. The constitutionally competent bodies (the Administration, the judges…) will have the last word in the debate.

Given the urgency of climate goals, energy justice presses the law to change. In this dynamic, the idea of energy justice contains within it aspirations that go beyond the need to change regulations to decarbonise the energy system. It goes further because it also tries to influence the distribution of the burdens and benefits derived from the new energy production technologies and, above all, it tries to influence the justice of the legal relationships established under prior law. On this issue, I include some reflections below.

5.3 Conclusion—New Relationships Needed for Energy Law and Justice—Commutative Justice and Distributive Justice

Thomas Aquinas distinguishes between commutative justice (*iustitia commutativa*) and distributive justice (*iustitia distributiva*). The former governs the relationships between individuals, while distributive justice governs the relationships between the community and the individual, for an equitable distribution of burdens. Normally, when the scientific literature refers to energy justice, it is thinking of distributive justice, with its various dimensions (social, restorative, procedural, etc.[2]).

There is a certain forgetfulness of the commutative or bilateral aspect of justice in recent scientific legal literature. Commutative justice implies

[1] Guayo, I. del, Godden, L., Zillman, D.N., Montoya, M.F., and González, J.J. (editors). (2020). *Energy Justice and Energy Law*, OUP, Oxford.

[2] Heffron, Raphael J., and De Fontenelle, Louis. (2023). Implementing energy justice through a new social contract. *Journal of Energy & Natural Resources Law*, 41:2, 141–155, https://doi.org/10.1080/02646811.2023.2186626.

the equality of the parties in an agreement and requires that contracts be respected, and that individuals be bound to fulfil their obligations, the safeguarding of property rights and the freedom of trade. All these components of commutative justice can be included within a fundamental requirement of contemporary constitutionalism, which is legal certainty.

The growing call for energy justice seems to imply a direct commitment from public powers, from the State, in the form of new regulations and subsidies for the development of new technologies. Attention must be drawn to the need not to ignore or underestimate the commutative component of justice, which means as much as not underestimating the market and its efficient allocative capacity. This means that the push towards a new energy system should not eliminate the competitive component in the process. The European Union, for example, has presented a legislative package to decarbonise the gas industry and to promote hydrogen, but it is about promoting and creating a hydrogen market, where operators are invited to compete with each other, for the benefit of European citizens. In the same way, in the process of decentralization of the energy system, the energy communities must have the leading role in the future, but their appearance and development must not be done in such a way that the members of the community have competitive advantages over those who still they have not become integrated into one.

In short, as in so many other moments in history and in other energy transitions, it is important to maintain a balance between various aspects, so that the law is not an obstacle to the transition, and so that the search for justice does not generate new injustices. An inventory of emerging injustices from the transition can be drawn. For example, it is necessary to reformulate the policy in favour of renewable energies, since the current model is generating negative social and environmental impacts. A horizontal model must offset the current vertical model (large renewable plants), including the promotion of individual and/or self-generation of electricity.

CHAPTER 6

Energy Justice as a Key to Achieve Affordable Energy

Gonzalo Irrazabal Pérez Fourcade

Abstract This chapter addresses the relationship between affordable energy and energy justice. Inevitably, affordability is obtained when there is fair distribution of the energy benefits and burdens, meaning securing affordable energy to all. Additionally, this chapter explores different restrictions, limitations and barriers that nations may face when achieving affordable energy with energy justice. In order to overpass those challenges, governments, financial institutions and consumers should re-think the instruments to achieve the ultimate goal. Some new tools are proposed for all the mentioned players, including boosting energy education as a key driver to engage consumers into the energy system.

Keywords Affordable · Energy · Energy justice

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R. J. Heffron and L. de Fontenelle (eds.), *The Power of Energy Justice & the Social Contract*, Just Transitions,
https://doi.org/10.1007/978-3-031-46282-5_6

6.1 Introduction

Sustainable Development Goal No. 7 (SDG 7) of the United Nations is ensuring access to affordable, reliable, sustainable and modern energy.[1] Affordable energy means to secure reliable and sustainable energy at the best cost possible. However, this cannot be achieved without taking into consideration energy justice which means a fair distribution of both energy services' benefits and burdens.[2] Inevitably, affordability is obtained when there is fair distribution of the energy benefits and burdens. The contrary is true when only a portion of the population will obtain benefits while the others will be the ones exposed to energy burdens.

In this sense, policymakers should design and execute regulations considering the power of energy justice to achieve affordability—this in particular relates to procedural, distributive and recognition justice. For example, governments should design strong incentives for poor people to be connected to the grid, consuming safe and sustainable energy. This could be achieved by substantially reducing the energy bill, which will lead to more people connected to the grid. Additionally, it will help the distributor to reduce losses arising from unregular or sporadic consumption of energy.

6.2 Achieving Energy Affordability Though Energy Justice

A substantial reduction of the energy bill should be supported by the government by explicit subsidies and not by the rest of the consumers. Implicit subsidies are less efficient due to lack of control and will cause unjustified rises in energy prices for those consumers contributing to the subsidy.[3] Therefore, affordable energy will be different for consumers depending on their level of income, location and other criteria, but energy justice should be on the centre of the regulation to secure that all people are getting the least cost possible for reliable and sustainable energy as possible.

[1] Please visit https://www.un.org/sustainabledevelopment/energy/.

[2] Sovacool, Benjamin, et al. "New frontiers and conceptual frameworks for energy justice." *Energy Policy*. Volume 105, June 2017.

[3] OECD. "Analysing energy subsidies in the countries of Eastern Europe, Caucasus and Central Asia." Available at https://www.oecd.org/env/outreach/energy_subsidies.pdf.

The specifics of such affordable price will depend on each country and circumstances, but incorporating energy justice to the equation, as said before, should guarantee that everybody is being considered. The process of achieving this goal is not without challenges. Financial restrictions, isolated areas and poor access to renewable energy sources are those which commonly face countries when trying to achieve affordable energy with energy justice in the centre.

There are a number of issues in terms of financial restrictions or limitations related to a reformulation of energy subsidies. Although explicit subsidies imply greater potential for rapid budgetary savaging, they will be off-set with greater subsidies for the poor. On the other hand, elimination of implicit subsidies will not generally cause budget saving.[4] Clearly, there is general consensus that explicit subsidies are more efficient than implicit subsidies, but yet the question remains as to what are the secondary effects of implementing explicit subsidies.

Therefore, availability of funding for governments to implement explicit subsidies is a key challenge to overpass. In this regard, banks and financial institutions in general should re-think their loans and services related to securing affordable energy to all. There should be long periods that do not accrue interest followed by low interest rates that might be subject to complying with certain key performance indicators (KPIs).

On the other hand, isolated areas are another challenge for those countries which face this problem. In some cases, this occurs due to geographic issues and in other cases because of lack of transmission and distribution investments. This challenge could be partially tackled by incorporating distributed renewable energy (mainly solar panels, wind turbines and batteries). This could help those communities to generate their own energy. However, intermittency of any renewable energy source will lead to add other solutions to secure energy access for those isolated areas. In this regard, explicit subsidies for distributors to reach those communities might be needed to top-up energy needs.

[4] Gupta, Sanjeev, et al. "Equity and efficiency in the reform of prices subsidies." IMF (2000). Available at https://www.imf.org/external/pubs/ft/equity/index.htm.

Wind, solar, biomass and hydropower are the main renewable energy sources at the moment. Generally speaking, any location should at least have access to one source of renewable energy. However, abundancy of renewable sources at all times becomes a real challenge. This is obviously linked to the intermittency of the different type of power, but also to the specifics of the area or location that needs power. In order to overcome any difficulties, it is recommended to incentivise and promote virtual energy integration. By doing this, the different communities can implement net metering systems to provide or consume energy from other communities. This virtual integration is possible due to energy smart meters and the possibility of off-set generation and consumption, enabling the virtual integration of different power plants. This new trend for technological convergence in electricity distribution will provide consumers and producers the possibility to rely on different power plants that will not necessarily be located at their communities.[5]

Finally, affordable energy with justice also means energy education. There is a lack of general knowledge in most countries about how to pay less for the energy people consume[6] and more research is needed on this issue. In other words, what are the actions people could take to obtain the best price for their energy. Without education, there is no development, and without development, justice will not be obtained. Education should be at the centre of joint efforts of the public and the private sector as a key enabler of energy justice.

Based on the above reasons, clearly energy justice and affordable energy are interrelated concepts and cannot be achieved independently. Complying with SDG 7 of the United Nations will demand working hard on energy justice.

[5] Paternina, José, et al. "Integration of distributed energy resources through a virtual power plant as an alternative to micro grids: An approach to smart grids." IEEE (2018).

[6] UN Environment Programme. "Closing the energy efficiency knowledge gaps." (2021).

CHAPTER 7

Cross-Border Energy Investment, Energy Justice and International Economic Law

Chung-Han Yang

Abstract Cross-border energy investments are crucial for achieving a global transition to net-zero emissions. However, these investments, often involving extensive infrastructure projects, can also have significant adverse effects on the environment, human rights, and sustainable development. This brief chapter argues that the concept of energy justice, which encompasses distributive, procedural, and recognition justice, can extend its influence beyond domestic regulations and be effectively applied to cross-border transactions. By embracing a broader understanding of energy justice, it has the potential to create synergies among international economic treaties, energy laws, human rights provisions, environmental agreements, and other domestic regulations and soft law instruments. Alongside national policy reforms and bilateral agreements,

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R. J. Heffron and L. de Fontenelle (eds.), *The Power of Energy Justice & the Social Contract*, Just Transitions,
https://doi.org/10.1007/978-3-031-46282-5_7

energy treaties like the Energy Charter Treaty (ECT) and mega-regional economic integrations such as the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) and the Regional Comprehensive Economic Partnership (RECP) should consider incorporating principles of energy justice. Another potential approach is the development of an international soft law instrument dedicated specifically to energy justice and responsible investment within the context of global energy transactions. Established frameworks like the UN Guiding Principles on Business and Human Rights or the OECD's Guidelines for Multinational Enterprises can serve as valuable references in shaping this international instrument.

Keywords Energy investment · International economic law · Energy Charter Treaty · Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) · UN Guiding Principles on Business and Human Rights

7.1 Introduction—Importance of Cross-Border Energy Investment for Global Net-Zero Transition

Cross-border energy investment is crucial for achieving global net-zero transition. This investment plays a vital role in alleviating the burden on consumers, steering the world toward a net-zero future, driving economic recovery, and particularly for Europe, reducing dependence on the Russia following its invasion of Ukraine.[1] The International Energy Agency's (IEA) World Energy Investment 2022 report predicts a significant surge of over 8% in global energy investment in 2022, reaching USD 2.4 trillion.[2] These figures exceed pre-Covid-19 levels due to factors like rising prices, increased costs, economic uncertainties, energy security concerns, and climate imperatives. Global energy investment is currently in the spotlight.

[1] Giritharan, A., Stormann, J., Hamidu, A., Gordine, S., & Ako Eyo Oku. (2022). How to accelerate the green energy transition. Chatham House, Explainer, https://www.chathamhouse.org/2022/03/how-accelerate-green-energy-transition (last visited at 12 May 2023).

[2] International Energy Agency (IEA). (2022). *World Energy Investment 2022*, pp. 3–6.

However, considering the fragmented nature of the international architecture governing transnational energy investment, this paper argues that the concept of energy justice can serve as a guiding principle, holding substantial potential in the formulation of comprehensive instruments. These instruments are designed to not only safeguard environmental and human rights but also foster mutually beneficial cooperation, promoting sustainable growth across diverse international, regional, and national regulatory frameworks.

7.2 Adverse Effects of Energy Investment on Sustainability and Human Rights

Nevertheless, cross-border energy investment, often involving extensive infrastructure projects, can have significant adverse effects on environmental preservation, human rights, and international development.[3] An example is China's Belt and Road Initiative (BRI), a trillion-dollar investment and infrastructure program spanning around 70 nations.[4] The BRI aims to establish extensive land and maritime networks connecting China to Asia, Africa, and Europe. Regrettably, a London-based non-profit organization, the Business & Human Rights Resource Centre, reported 679 allegations of human rights violations by Chinese companies operating overseas between 2013 and 2020.[5] These allegations encompassed issues such as land rights, pollution, public health, and the rights of indigenous communities. However, the link between human rights, climate change, and energy justice is relatively underdeveloped in transnational law and practices.

[3] McCollum, D. L., Zhou, W., Bertram, C., De Boer, H. S., Bosetti, V., Busch, S., … & Riahi, K. (2018). Energy investment needs for fulfilling the Paris Agreement and achieving the Sustainable Development Goals. *Nature Energy*, 3(7), 589–599. See also Lyster, R., & Bradbrook, A. (2006). *Energy law and the environment*. Cambridge University Press.

[4] Huang, Y. (2016). Understanding China's Belt & Road initiative: Motivation, framework and assessment. *China Economic Review*, 40, 314–321. See also Rolland, N. (2017). China's "Belt and Road Initiative": Underwhelming or game-changer? *The Washington Quarterly*, 40(1), 127–142.

[5] Business & Human Rights Resource Centre. (2023). *China Belt and Road Initiative (BRI) Investment Report 2022*, https://www.business-humanrights.org/en/latest-news/china-belt-and-road-initiative-bri-investment-report-2022/ (last visited at 12 May 2023).

7.3 Energy Justice in Transnational Economic Context

This brief chapter argues that energy justice, encompassing distributive, procedural, and recognition justice[6] can go beyond domestic regulations and be effectively applied to cross-border transactions. By applying energy justice more broadly,[7] we gain valuable insights into addressing concerns related to human rights, sustainability, and local communities. Furthermore, the power of energy justice can enhance synergies among international economic treaties, energy law, human rights, environmental treaties, and other domestic regulations and soft law instruments. This paper aims to explore this issue by examining the three fundamental pillars of the energy justice concept below.

Firstly, distributive justice centers on ensuring the equitable distribution of energy resources and advantages. Its objective is to guarantee that affordable, reliable, and clean energy services are accessible to all individuals and communities. In the context of international energy investment, this concept guides developers and decision-makers in addressing energy (in)justice and safeguarding vulnerable populations, including marginalized communities, low-income households, and developing regions. It aims to prevent these groups from bearing a disproportionate burden of the negative consequences associated with energy production and consumption.

Secondly, procedural justice places a significant emphasis on ensuring fairness and inclusivity within decision-making processes pertaining to energy. It entails active engagement of stakeholders, communities, and affected parties in the formulation and execution of energy policies, projects, and regulations. This concept is particularly valuable in the context of a large-scale energy infrastructure project, where a robust

[6] Jenkins, K., McCauley, D., Heffron, R., Stephan, H., & Rehner, R. (2016). Energy justice: A conceptual review. *Energy Research & Social Science*, 11, 174–182.

[7] Heffron, R. J., & McCauley, D. (2017). The concept of energy justice across the disciplines. *Energy Policy*, 105, 658–667. See also Sovacool, B. K., & Dworkin, M. H. (2014). *Global Energy Justice*. Cambridge University Press.

regulatory framework is needed to facilitate public participation and well-designed monitoring mechanisms throughout the project's entire life cycle. Within the framework of reparation (or restorative) justice, effective regulation of global energy investment necessitates the enforcement of energy statutes and regulations.[8] It also entails ensuring access to appropriate remedies in cases where legal rights are infringed upon.

Thirdly, recognition justice centers on recognizing and honoring the diverse needs, values, and rights of individuals and communities regarding energy. It takes into account the cultural, social, and historical dimensions that shape people's energy preferences and behaviors. In the context of cross-border energy projects, particularly those located within the traditional territories of indigenous peoples globally, a broad range of historical, cultural, and legal jurisdictions are often implicated. Therefore, the concept of energy justice offers valuable perspectives on how we can foster respect and harmony amidst diverse values within a cross-border investment project, while also providing guidance for future legal and policy innovation.

7.4 The Challenges Ahead

Regulatory reforms have been initiated at both the international and domestic levels, although significant challenges persist. At the international level, efforts have been made by the Energy Charter Treaty (ECT) Secretariat to revise the treaty in accordance with international legal commitments pertaining to climate change and sustainable development since 2017.[9] However, the newly modernized ECT still faces skepticism from many member states regarding its potential to effectively support the climate objectives outlined in the Paris Agreement. Recently, some

[8] Hazrati, M., & Heffron, R. J. (2021). Conceptualising restorative justice in the energy transition: Changing the perspectives of fossil fuels. *Energy Research & Social Science*, 78, 102115.

[9] Energy Charter Treaty. (2023). Agreement in Principle on the modernised ECT is of systemic relevance for climate action. ECT News, https://www.energycharter.org/media/news/article/agreement-in-principle-on-the-modernised-ect-is-of-systemic-relevance-for-climate-action/ (last visited at 12 May 2023).

member states have opted to withdraw from the ECT due to their perception of it as an outdated investment treaty that has been exploited by fossil fuel investors to initiate investment arbitration cases, challenge climate-related measures, and seek substantial compensation.[10] This trend is expected to gain momentum in the upcoming years, as governments are compelled to take unprecedented actions to tackle the climate crisis.

Moreover, arbitration plays a pivotal role in resolving international energy disputes, both in the realm of commercial disputes and in investment disputes.[11] A notable example is the numerous ongoing legal arbitration cases in Europe involving governments and investors regarding the assured subsidy support for renewable energy production.[12] However, the existing literature still lacks a clear presentation of whether and how arbitrators can incorporate the principles of energy justice into energy arbitration practices.

7.5 Conclusion—Future Reform Proposals for Responsible Energy Investment

Regulating cross-border energy investment requires navigating the complexities of international economic law, human rights, environmental treaties, energy law, and domestic regulations. To address the limitations of global energy systems, transformative action is necessary. Energy justice calls for comprehensive efforts to combat social exclusion, environmental

[10] Tridimas, B. (2023). Why climate-conscious EU could exit the Energy Charter Treaty, Context, https://www.context.news/net-zero/obscure-energy-treaty-threatens-huge-state-losses-over-climate-action (last visited at 12 May 2023).

[11] Hobér, K. (2010). Investment arbitration and the energy charter treaty. *Journal of International Dispute Settlement*, 1(1), 153–190. See also Boute, A. (2011). Combating climate change through investment arbitration. *Fordham International Law Journal*, 35, 613.

[12] Heffron, R. J., McCauley, D., & de Rubens, G. Z. (2018). Balancing the energy trilemma through the Energy Justice Metric. *Applied Energy*, 229, 1197–1198.

degradation, and climate change, facilitating a holistic energy transformation.[13] According to a recent study,[14] the implementation of energy justice through a novel social contract has the potential to bring about transformative change. Indeed, the concept of a social contract between different stakeholders in society has long been an important issue, dating back to the ideas of philosopher Jean-Jacques Rousseau in the eighteenth century. However, the modern energy sector currently stands as a formidable impediment to the realization of this vision. Given the urgent global climate emergency acknowledged by the United Nations and the intricate nature of transnational energy transactions, the imperative for a fresh societal social contract becomes all the more essential.

Alongside national policy reforms and bilateral agreements, energy treaties like ECT and other mega-regional economic integrations, such as the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP)[15] and the Regional Comprehensive Economic Partnership (RECP), should consider integrating the principles of energy justice. Another potential approach is the development of an international soft law instrument that specifically focuses on energy justice and responsible investment within the context of global energy transactions.[16] Existing frameworks such as the UN Guiding Principles on Business and Human Rights or the OECD's Guidelines for Multinational Enterprises can serve as valuable references in shaping this international instrument.

[13] Del Guayo, Í., Godden, L., Zillman, D. N., Milton F. Montoya, M. F., & González, J. J., (2020). *Energy Justice and Energy Law*. Oxford University Press.

[14] Heffron, R. J., & De Fontenelle, L. (2023). Implementing energy justice through a new social contract. *Journal of Energy & Natural Resources Law*, 41(2), 141–155.

[15] Greener UK. (2021). Greener UK response to the International Trade Committee's inquiry into the UK's accession to the Comprehensive and Progressive Trans-Pacific Partnership, Written evidence submission from Greener UK (TPP0016). UK Parliament, https://committees.parliament.uk/writtenevidence/111094/pdf/ (last visited at 12 May 2023).

[16] Boyle, A. (2014). Soft law in international law-making. *International Law*, 5, 119–137.

CHAPTER 8

Enforcing Energy Justice Through the Legal System: A Cascade of Four Conditions

Maciej M. Sokołowski

Abstract Making the energy transition just, where no one is left behind, requires energy justice. This results from the usefulness of energy justice, which enables assessing of energy policies and their tools. This evokes an issue of energy justice leaving the academic realm to reach the real world, where the theory becomes the practice. In 2023, enforcing energy justice through the legal system seems to be in the near future. The literature and research offer some solutions; however, a solid legal analysis is needed, and concrete proposals should be presented to the members of governments and parliaments. This study takes a step toward enforcing energy justice in the legal system and identifies a cascade of four conditions (definition, recognition, enhancement, and supervision) which is needed in this regard.

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R. J. Heffron and L. de Fontenelle (eds.), *The Power of Energy Justice & the Social Contract*, Just Transitions,
https://doi.org/10.1007/978-3-031-46282-5_8

Keywords Energy transition · Just transition · LNOB (leave no one behind) · Enforcing energy justice

8.1 Introduction

Energy justice is a growing theory in the literature. Journal publications, special issues, chapters, books, and conferences where energy justice is discussed are concrete proof of this trend. Its popularity gives it a greater voice in the current dialogue on the energy transformation and makes it more audible in the mainstream with its key message, which is making the energy transition just, where no one is left behind.

Energy justice theory enables reaching this postulate, as it has a possibility of assessing energy policies[1] and their tools[2] within its dimensions.[3] This evokes an issue of energy justice leaving the academic realm to reach the real world where the theory becomes the practice. To make it happen, and to enforce energy justice in the legal system, meeting a cascade of the following four conditions is needed. As these are actions, let us write them as activities: (1) defining; (2) recognizing; (3) enhancing; and (4) supervising.

8.2 Exploring the Four Conditions of Energy Justice

First, before moving to recognition, we need to find a common ground for *defining* what energy justice is. The mentioned literature offers us some solutions; however, the number of available definitions does not necessarily affect their quality. In this "bird chirping", hearing the canary and not the crown is not an easy task. Moreover, we may like one definition, and dislike another, we may find one correct, another wrong,

[1] Maciej M. Sokołowski and Raphael J. Heffron, 'Defining and Conceptualising Energy Policy Failure: The When, Where, Why, and How—The Search for the Just Solutions' (2022) 161 Energy Policy 112745.

[2] Maciej M. Sokołowski, *Regulation in the European Electricity Sector* (Routledge 2016).

[3] Raphael J. Heffron and Darren McCauley, 'The Concept of Energy Justice Across the Disciplines' (2017) 105 Energy Policy 658.

and different factors like our background, experience, or even spoken language will matter.

This leads to the second point, i.e., *recognizing* energy justice in legislation. Once energy justice appears in a legal act, among the first issues that need to be legally covered, would be defining it. To do this, one should refer to expert knowledge and the already mentioned literature, reviewing it and determining a legal definition. Solutions like establishing an expert panel for the needs of legal recognition of energy justice seem to be a good idea. What matters is the power and level at which energy justice should be introduced to the legal system.

Preferably, energy justice should be covered by an item of legislation that has a binding character, such as a law that would be passed in a formal parliamentary procedure (act, bill, etc.), signed by a representative of the executive branch (head of a country, president, etc.), and then published in an official state bulletin (journal of laws, official gazette, etc.). Apart from national legislation, there is a need for an international framework and for moving the academic discussions to the level of policy talks that can result in global arrangements on energy justice, with expert panels involved in creating legal frameworks such as a Protocol on Energy Justice (being a part of existing frameworks like the Paris Agreement and the United Nations Climate Change Conference—Conferences of Parties, COP) or moving even further, by establishing a separate regime on energy justice with a Convention on Energy Justice.

The latter clearly shows what it means that energy justice will appear in legislation. In practice, this concerns energy justice having legal coverage. Apart from an international regime on energy justice, one can imagine a separate legal act at a national level, like the Act on Energy Justice, that will establish a framework for enhancing it nationally. This is, however, a maximum scenario, while experience rather teaches that step-by-step solutions are preferable, as they are easier to implement, given the difficulties in reaching needed majorities, and so acceptance for nonconventional approaches in law.

Hence, in practice, the element brought by the energy justice theory, like its five dimensions, could be observed in different legal provisions and then assessed from this theory's point of view, e.g., by evaluating if a given legal act meets the principles of distributive energy justice.[4]

[4] See Raphael J. Heffron, 'The Application of Distributive Justice to Energy Taxation Utilising Sovereign Wealth Funds' (2018) 122 Energy Policy 649.

This requires conducting an energy justice test based on a scrutiny of a specific legislation with a lead question driving this evaluation: "does this law enable reaching energy justice?". If the answer is yes, the following basic questions should be addressed: "to what extent?", "how quickly?", "how broadly?", "how deeply?", and "how costly?". The mentioned different legal provisions usually cover such fields as reduction of emissions, promotion of renewable energy, enhancing energy efficiency, or addressing energy poverty, and so on.

Third, energy justice, defined and recognized in law, would need tools for *enhancing* it—without them it would be powerless. This especially concerns the possibility of launching a legal action on its basis. Here, different ways are possible, anchored in both private and public regimes. In terms of the first, acts against energy justice, e.g., its procedural or restorative dimensions,[5] would imply a possibility of launching a legal action against those breaching energy justice, just on the basis of energy justice.

In this way, energy justice would act like a general clause in the same way as already established environmental law clauses like the polluter pay principle. In this way, courts would implement energy justice via protecting human rights.[6] Regarding the public regime, one can imagine applying a criminal regime when a breach would be noticed (like, e.g., energy frauds hurting energy consumers); however, the nature of penal law would require a more specific legal framework than just general non-compliance with energy justice. This gives rise to a fourth point—supervision.

8.3 Conclusion—Next Steps

Apart from the possibility of filing a lawsuit based on a breach of energy justice, the binding character of legislation introduced for its needs should imply the establishment of an authority responsible for monitoring and enforcing the legal framework on energy justice—*supervising*. This could be a regulatory authority of a day-watcher type, an active observer, but

[5] See Heffron and McCauley (n 3).

[6] See Raphael J. Heffron, 'Applying Energy Justice into the Energy Transition' (2022) 156 Renewable and Sustainable Energy Reviews 111936.

not an active participant, always ready to intervene when needed.[7] In this way, a general non-compliance with energy justice could go under the assessment of the established regulatory authority that could impose an administrative fine for non-compliance. Alternatively, this could be an energy ombudsman created for the needs of protecting energy justice and its stakeholders, especially those vulnerable.

In 2023, enforcing energy justice through the legal system seems to be a matter of the near future. The literature and research offer some solutions; however, a solid legal analysis is needed, and concrete proposals should be presented to the members of governments and parliaments. It may be the case that this will require a broader approach, in which a new social contract should be established, since there has been a lack of collaboration among stakeholders for a long time,[8] and the energy business has been full of "pirates", "snakes", and "profiteers".[9]

The sooner it starts, the better, as action on energy justice is needed now. This should be accompanied by legal education on energy justice, as nowadays many professionals, including lawyers, researchers, and reviewers, do not really know what energy justice is. It is also an issue that the authors address energy justice without acknowledging what has already been discussed, while covering the same problems and topics.[10] This makes the debate harder, because it erodes its foundation—but it

[7] See Maciej M. Sokołowski, 'Balancing Energy Regulation: A Day-Watchman Approach' in Robert Grzeszczak (ed), *Economic Freedom and Market Regulation: In Search of Proper Balance* (Nomos 2020).

[8] Raphael J. Heffron and Louis De Fontenelle, 'Implementing Energy Justice Through a New Social Contract' (2023) 41 Journal of Energy & Natural Resources Law 141.

[9] Maciej M. Sokołowski and Madeline Taylor, 'Just Energy Business Needed! How to Achieve a Just Energy Transition by Engaging Energy Companies in Reaching Climate Neutrality: (Re)Conceptualising Energy Law for Energy Corporations' (2023) 41 Journal of Energy & Natural Resources Law 157.

[10] See Manuela Hartwig, Seita Emori and Shinichiro Asayama, 'Normalized Injustices in the National Energy Discourse: A Critical Analysis of the Energy Policy Framework in Japan through the Three Tenets of Energy Justice' (2023) 174 Energy Policy 113431; cf. Maciej M. Sokołowski and Satoshi Kurokawa, 'Energy Justice in Japan's Energy Transition: Pillars of Just 2050 Carbon Neutrality' (2022) 15 Journal of World Energy Law & Business 183. And Maciej M. Sokołowski, Cristiana Lauri, Andrew E Okem, Beatriz Olivera, Yuichiro Tsuji and Piotr Mikusek, 'Institutional Dimensions of the Just Energy Transition: Reflecting the Role of Energy Justice in Public Administration' (2023) 4(1–2) Global Energy Law and Sustainability, 177.

reveals the importance of conducting it in such a way as to connect with the broadest possible audiences.

PART III

Clean Energy Development & Energy Justice

CHAPTER 9

An Energy Justice Exploration to the Revival of the Solar Thermal Energy in France

Elodie Annamayer

Abstract At a time when the French authorities are defining the future energy and climate programme law, the question of diversifying renewable energy sources is being raised more than ever. In this context, the revitalisation of the solar thermal sector seems to be the ideal solution. The energy justice framework should provide a useful prism through which to determine the legal restructuring of this sector, which, despite many expectations, is not yet fully operational. The means by which individuals gain access to the services offered by solar thermal technologies (e.g. financial support) should then be examined. The aim would then be to avoid a perception of social injustice for the most vulnerable households. Solutions for procedural justice (access to information) and distributive justice (subsidies to households) need to be rethought and better defined. Finally, the measures taken by the French authorities over the last ten years have probably not been sufficient to make the consumer a key actor in the production of solar thermal energy.

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R. J. Heffron and L. de Fontenelle (eds.), *The Power of Energy Justice & the Social Contract*, Just Transitions,
https://doi.org/10.1007/978-3-031-46282-5_9

Keywords Solar thermal energy · Individual production · Energy insecurity · Procedural justice

9.1 Introduction

Until recently, the French public authorities have shown little interest in the solar thermal energy sector. In the context of the energy crisis, characterised by unstable market prices and heavy dependence on gas and coal exports, there is a desire to revive a promising sector to meet the objectives of the energy transition. Solar collectors convert the sun's rays into heat. The potential of the solar thermal energy sector is very real. It has at least three major advantages. Its applications meet domestic needs (production of hot water, heating, cooling of buildings), economic needs (production of heat for industrial purposes, supply of heat networks) and sustainability needs (they produce little CO_2 and their components are made of recyclable materials). The production and consumption of this renewable energy should benefit everyone: industry, to decarbonise the production of heat in industrial processes; local authorities, wishing to invest financially in collective heat consumption projects; and individuals, for their own consumption.

Yet, the global market for solar thermal energy is uneven. It grew by 3% in 2021, but with a clear dominance of China and significant growth in some national markets.[1] So far, the French market has lagged behind. Solar thermal accounts for only 0.2% of heat consumption with the latest figures being encouraging,[2] but the market remains unstable.[3] Now, the recovery strategy is not unique to France. Some European countries have been progressing for more than a decade,[4] while the EU shows no willingness to structure this sector legally and politically. The attention of public authorities would be focused on the individual production of

[1] Solar Heat Worldwide, Global Market Development and Trends 2021 Detailed Market Figures 2020, IEA Solar Heating and Cooling Programme, May 2022, éd. 2022.

[2] *Ibid*., For example, the French national market is a leader in hybrid solar installations—photovoltaic and thermal.

[3] https://www.ecologie.gouv.fr/solaire.

[4] Solar Heat Worldwide, Global Market Development and Trends 2021 Detailed Market Figures 2020, *op. cit*., the report cites the example of Italy.

renewable heat. This sector is based on a virtuous household model. The LCOE of thermal installations in individual dwellings is 90% of the initial investment.[5] While the individual use of solar thermal energy requires an investment cost, it is rapidly offset. First, cost stability is guaranteed; for example, solar energy is a free and renewable source and the infrastructure is reliable over time. Second, solar thermal energy covers 70% of the demand for hot water and 50% of the demand for heating. Economies of scale are therefore possible.

9.2 Utilising the Energy Justice Framework in Analysing France

The energy justice framework offers a relevant prism through which to study the development of solar energy. In particular, the means by which individuals gain access to solar thermal technologies raise questions about forms of distributive and procedural justice. Reducing inequalities requires a coherent and clear national investment policy to support this sector economically and legally. These inequalities become social injustices as soon as the public authorities do not intervene to reduce them or even to guarantee the exercise of the rights of certain social categories.

But this situation is paradoxical. The public authorities were quick to try to stimulate the French solar thermal market. Among the solutions implemented was financial aid under the ADEME's "Plan Soleil" (late 1990s) for the installation of "solar water heaters" in homes and eligibility for a tax credit for these installations. In the same vein, public authorities had set themselves the ambitious target of increasing the share of renewable energy in final heat consumption to 38% by 2030. Within the framework of the future annual energy programming, a political and normative acceleration should be envisaged in order to achieve these objectives.

Besides, the current situation leads to a dependency on certain renewable energy production technologies, whereas diversification would be desirable. This is due to the fact that French public authorities have undoubtedly heavily focused on other solar energy sectors to the detriment of thermal energy. For more than ten years, the public authorities

[5] ADEME, Coûts des énergies renouvelables et de récupération en France Edition 2022, May 2022.

have been implementing public support measures and creating sophisticated legal mechanisms to safeguard the renewable energy sectors, with a clear focus on photovoltaic solar energy (self-consumption mechanisms, contractual purchase obligations or additional remuneration techniques, tax measures, financial aid, etc.). All this has led to its exponential growth.

9.3 Conclusion—Possible Solutions for France

The question is therefore not so much about how to address injustices, but rather how to restructure an existing sector which, despite many expectations, is not operant. In order to avoid the perception of social injustice by most vulnerable households, it would then be ideal to provide them with direct financing for solar thermal installations. Replacing a subsidy in the form of a loan with a premium paid by the public authorities would be a fair and just solution, as the benefits would be felt immediately. However, this system is dysfunctional[6] (lack of information, long processing times for applications) with serious consequences on most vulnerable households.

A procedural justice approach would reveal the lack of information of citizens on the possibilities offered by solar thermal energy. The debate is not, or not sufficiently, focused on renewable heat. Evidence of this is the absence of solar thermal energy from the discussions at the Convention citoyenne pour le climat in 2019. All this raises the question of recognising a right to access energy services at the highest level of normativity. The issue is not new. Many observers have argued in this direction. It would be a right of access to all energy services to meet energy needs under economic and social conditions that are favourable to individuals, including households experiencing fuel poverty. This right could be complemented by a right to be informed about the means available to produce energy at low cost, including solar thermal.

Procedural justice is essential to ensure that everyone has access to solar thermal energy services. There is one main lesson to be learned from the failure to develop solar thermal energy in France. The measures taken by the public authorities over the last ten years have not been sufficient to democratically decentralise the production of solar thermal energy.

[6] Decision of the Défenseur des droits n°2022-199, 14 October 2022.

CHAPTER 10

The Power of Procedural Justice in the Planning of Energy Projects

Nerissa Edem Lawrencia Anku

Abstract An imbalance in power relations between energy sector stakeholders and society fuels the uneven distribution of energy services, evident in the record lower electricity access rates attributed to geographically disadvantaged rural communities globally. The article alludes to the tenet of procedural energy justice, which is concerned with including all social constituencies at all energy decision-making levels and their meaningful engagements to achieve universal energy access. The need for integrating a social component into the present techno-economic approach to electrification planning and the meaningful participation of all stakeholders is emphasised. Furthermore, the article explores the relevance of due process, a social contract for transitioning to renewable energy power, and its potential to bridge the electricity access gap between urban dwellers and rural communities. Also, the paper reinforces calls to deepen the democracy of energy decision-making by establishing a social contract with end-users of energy and frontline

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R. J. Heffron and L. de Fontenelle (eds.), *The Power of Energy Justice & the Social Contract*, Just Transitions,
https://doi.org/10.1007/978-3-031-46282-5_10

communities, considering the unique features of energy technologies and their associated nuances.

Keywords Energy justice · Equity · Procedural justice · Due process · Social contract

10.1 Introduction

Considerable progress has been made toward making energy universally accessible, although not at the rate of advancement[1] as required to achieve the global sustainable energy targets. Significant geographical disparities exist in terms of access to reliable energy services by country, by region and along the rural–urban divide. By the end of 2019, sub-Saharan Africa accounted for three-quarters of the global electricity deficit and 96% of people living in urban areas had access to electricity compared to 85% of rural dwellers.[2]

The uneven distribution of energy services is fuelled by imbalance in power relations between stakeholders of the energy sector and society. The phenomenon is evident in the present techno-economic approach to electrification planning where rural voices are stifled.[3] Rural electrification is directed by a paradigm that primarily focuses on supply of electricity rather than social advancement,[4] limiting opportunities to deal with social inequalities embedded in the socio-political nature of energy.

Given the inadequacy of current planned policies[5] to address the challenges of energy equity, energy security and the transition to low-carbon economy, it is imperative to deploy energy justice as a decision-support

[1] IEA. (2020). "World Energy Outlook 2020".

[2] IEA, IRENA, UNSD, World Bank, and WHO. (2021). "Tracking SDG 7: The Energy Progress Report," Washington, DC.

[3] Tarekegne, B. (2020). Just Electrification: Imagining the Justice Dimensions of Energy Access and Addressing Energy Poverty. *Energy Research & Social Science*, 70.

[4] Boateng, E. (2016). The Potential Socio-economic and Environmental Impacts of Solar PV Mini-grid Deployment on Local Communities: A Case Study of Rural Island Communities on the Volta Lake, Ghana.

[5] IEA, IRENA, UN Statistics Division, World Bank Group, & World Health Organization (WHO). (2019). Tracking SDG 7: The Energy Progress Report.

tool[6] in accelerating the attainment of universal access to energy. Energy justice or energy equity is a field of research that is concerned with issues of justice and equity in energy systems and plays a role of identifying where, when, and how injustices occur in energy systems and how these injustices might be avoided.[7] The foundation of the energy justice framework is grounded on three justice theories: distributive, procedural and recognition justice.[8] Procedural justice is founded on fairness of process[9] and is concerned about transparency and accountability in the allocation of resources.

10.2 The Role of Procedural Justice in the Planning of Energy Infrastructure

The relevance of procedural justice to planning of energy infrastructure, and its potential in minimising the negative impacts emanating from the development and utilisation of energy resources, is explored in this paper. Procedural justice highlights the dominance of "social, industrial, and political elites" over the extraction, generation and the distribution of energy resources with a purpose to make energy decision-making more representative and inclusive.[10] Procedural energy justice seeks to amplify the voices of the most vulnerable segments of society and redistribute

[6] Heffron, R. J., & McCauley, D. (2017). The Concept of Energy Justice Across the Disciplines. *Energy Policy*, 105, 658–667.

[7] Sovacool, B. K., & Dworkin, M. H. (2015). Energy Justice: Conceptual Insights and Practical Applications. *Applied Energy*, 142, 435–444 and Heffron, R. J., Mccauley, D., & Sovacool, B. K. (2015). Resolving Society's Energy Trilemma Through the Energy Justice Metric. *Energy Policy*, 87.

[8] Sovacool, B. K., & Dworkin, M. H. (2015). Energy Justice: Conceptual Insights and Practical Applications. *Applied Energy*, 142, pp. 435–444 and Jenkins, K., McCauley, D., Heffron, R., Stephan, H., & Rehner, R. (2016). Energy Justice: A Conceptual Review. *Energy Research and Social Science*, 11, pp. 174–182.

[9] Lind, E., & Tyler, T. (1988). The Social Psychology of Procedural Justice.

[10] Sovacool, B. K., Burke, M., Baker, L., Kotikalapudi, C. K., & Wlokas, H. (2017). New Frontiers and Conceptual Frameworks for Energy Justice. *Energy Policy*, 105, pp. 677–691.

decision-making power equally to all stakeholders.[11] Public participation in the energy sector is significant in ensuring the legitimacy and quality of energy decision outcomes.[12] It is believed that active community involvement in decision-making promotes better outcomes, social innovation and greater public acceptance of energy projects.[13]

10.3 Full Disclosure of Information Is Prerequisite for Meaningful Participation

The full disclosure of information and legalisation of due process are key issues that require urgent attention in shaping procedural justice in the energy sector. Energy decision-making requires full disclosure of information on energy and the environment, objectivity in the expression of ideas and active participation of all stakeholders in a non-discriminatory manner,[14] at all levels in order to be fair and just. It is essential to share data and information in formats that can easily be appreciated by the target audience. A language needs assessment of stakeholders prior to engagement is necessary for preparing content that facilitates the understanding of issues and meaningful participation. Also to be considered in facilitating the meaningful participation of people in planning energy infrastructure is the definition and institutionalisation of "due process" for energy projects.

[11] Sovacool, B. K. (2014). What Are We Doing Here? Analyzing Fifteen Years of Energy Scholarship and Proposing a Social Science Research Agenda. *Energy Research & Social Science*, 1, pp. 1–29 and Sovacool, K., Sidortsov, R. V., & Jones, B. R. (2013). Energy Security, Equality, and Justice.

[12] Setyowati, A. B., & Quist, J. (2022). Contested Transition? Exploring the Politics and Process of Regional Energy Planning in Indonesia. *Energy Policy*, 165, 112980.

[13] Duan, X., Xu, T., Duan, C., Liu, L., Perlaviciute, G., & Squintani, L. (2022). Opposing Out Loud Versus Supporting in Silence: Who Wants to Participate in Decision-Making About Energy Projects? *Environmental Research Letters*, 17(11); and Setyowati, A. B., & Quist, J. (2022). Contested Transition? Exploring the Politics and Process of Regional Energy Planning in Indonesia. *Energy Policy*, 165, 112980.

[14] Prehoda, E. (2016). Energy Justice and U.S. Energy Policy: Case Study Applications Exploring U.S. Energy Policy Through an Energy Justice Framework.

10.3.1 What Does Due Process Entail?

The relevance of due process to every level of energy decision-making at local, provincial, national, and global levels has been extremely emphasised in energy justice literature. The challenge, however, is the ability to determine what due process in energy decision-making entails as energy injustice can be influenced by the demographics of a population, the type of technology involved, the source of energy, the mode of delivery of energy culture and traditions and many other factors. There is a need to further deepen the democracy[15] of energy decision-making by establishing a social contract[16] in the energy sector with the unique features of energy technologies and affected communities in mind.

10.4 Conclusion

The imperative of energy justice framework to fairly engage stakeholders in energy decision-making is useful in unmasking the injustices of current energy systems to ensure desirable outcomes in the future. The writer is of the view that the choice of technology in energy systems should be led by independent citizen advisory groups with representation from social constituencies rather than political office holders in view of the long-term implications of energy systems on society and the environment.

[15] Movement Generation. (2017). From Banks and Tanks to Caring and Cooperation.

[16] Heffron, R. J., & De Fontenelle, L. (2023). Implementing Energy Justice through a New Social Contract. *Journal of Energy and Natural Resources Law*, 41(2), pp. 141–155.

CHAPTER 11

International Investor-State Disputes Arbitration Through Energy Justice Lenses: Opening the Case for "Greening Through Free Trade" Narratives

Emmanuelle Santoire

Abstract This chapter focuses on international investment arbitration through the lens of energy justice. It unfolds against the backdrop of a growing intersection between international trade, investments, and the urgent need for climate action. Recently, trade and investment agreements have included environmental provisions, but their effectiveness remains controversial. Concurrently, the energy and mining sectors account for a significant 40–50% of the disputes brought before the International Centre for Settlement of Investment Disputes each year. In this context, investor-state dispute settlement (ISDS) is a particularly controversial instrument and raises strong questions related to its influence on energy governance. The chapter underscores how energy justice can offer a

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https://doi.org/10.1007/978-3-031-46282-5_11

powerful vantage point for evaluating the functioning of ISDS. Then, it argues for the urgent need to reform the architecture of ISDS to bring it into line with the principles of energy justice, in view of considering international investments as an appropriate lever for global energy-climate transitions. This includes a call for improved transparency and active engagement with local actors to redress the procedural, distributive, and restorative imbalances that currently characterise ISDS awards.

Keywords International arbitration · ISDS · Investment law · Comprehensive trade · Territory

11.1 Introduction—Investor-State Dispute Settlement Read Through Energy Justice Lenses: Why It Matters, and Why Now

While trade and environment are tightly linked,[1] the question of institutionalising this link and operationalising it for climate action remains an open arena if not a battleground amongst legal practitioners, academics, and wider society. The issue is acute for energy, where fundamental and systemic transformations towards a zero-carbon transition affect market distances, material flows, and investment regimes, in the hope of building a new, sustainable, and just system. Could international investment law be a platform to diffuse and improve environmental standards? Or are comprehensive trade agendas practically incompatible with net-zero transformations?

Recent years have shown a mounting number of environmental provisions in trade agreements.[2] Yet, seminal research on large datasets has

[1] Hughes, V. in Bethlehem, D. et al. (ed.). 2009. *The Oxford Handbook of International Trade Law*. Oxford University Press, pp. 290–297.

[2] Laurens, N. et al. 2021. "Climate and Trade Policies: From Silos to Integration". *Climate Policy*, vol. 22, pp. 248–253.

shown that their promotion answers a range of offensive and defensive narratives, largely expanding environmental protection.[3] Entering such enquiry thus reveals that, while such legal mechanisms could help escaping an international "carbon entanglement",[4] they also manifest a "legal entanglement" as they refrain from proposing path-breaking regulatory innovations, and partake in a fossil *status quo* lock-in. This is one clear reason why it is high time to convene energy justice analyses.[5] This chapter links with the growing literature considering concrete pathways to implement energy justice tenants across society and disciplines,[6] building on a whole systems approach of energy matters.[7] It investigates the Investor-State Dispute Settlement (ISDS) system, as found in bilateral and multilateral treaties. ISDS raises sharply contrasting views: considered either a potential solution to prompt sustainable investment,[8] or an environmental threatening bargain.[9] Highly controversial, it poses a major conundrum: are dispute-settlements just, and if yes, to whom?

[3] Blümer, D. et al. 2019. "Environmental Provisions in Trade Agreements: Defending Regulatory Space or Pursuing Offensive Interests?". *Environmental Politics*, vol. 29:5, pp. 866–889.

[4] Piggot, G. et al. 2020. "Curbing Fossil Fuel Supply to Achieve Climate Goals". *Climate Policy*, vol. 20:8, pp. 881–887.

[5] Tienhaara, K. et al. 2022. "Investor-State Dispute Settlement: Obstructing a Just Energy Transition". *Climate Policy*.

[6] Heffron, R. & McCauley D. 2017. "The Concept of Energy Justice Across the Disciplines". *Energy Policy*, vol. 105, pp. 658–667.

[7] Jenkins, K. E. H., McCauley, D., Heffron, R., & Stephan, H. (2014). "Energy Justice: A Whole Systems Approach". *Queens Political Review*, vol. 2:2, pp. 74–87.

[8] Sussman, E. 2008. "Energy Charter Treaty's Investor Protection Provisions: Potential to Foster Solutions to Global Warming and Promote Sustainable Development". *ILSA Journal of International & Comparative Law*, vol. 14, 12p.; Tirado, J.M. 2015. "Renewable Energy Claims under the Energy Charter Treaty: An Overview". *OGEL*, vol. 3.

[9] Tienhaara, *op.cit*; Corporate Europe Observatory. 2012. "Profiting from Injustice" report, 76p.; Van Harten, G. 2016. "Investment Treaties and the Internal Vetting of Regulatory Proposals: A Case Study from Canada". *Osgoode Legal Studies Research Paper*, no 26.

ISDS originated from a demand for legal protection of foreign investors when entering agreements with less developed countries. Its initial purpose was to secure investors' rights by enabling them to seek legal protection outside national courts, in the event of impetuous State actions jeopardising previous investments. The first agreement with ISDS was the Energy Charter Treaty (ECT) in 1994.[10] However, gradually, these mechanisms entered into agreements between equally developed countries, companies claiming financial compensation for stranded assets, even before the start of projects.[11] Consequently, investors have filed under NAFTA, the ECT or bilateral treaties to oppose environmental impact assessments (Clayton/Bilcon v. Canada; Gabriel Resources v. Romania) or new environmental legislations (Lone Pine Resources Inc. v. Canada, Vattenfall v. Germany). Mining infrastructures have caused many lawsuits, 20% of which were fossil related in 2022. Moreover, while more renewable-related cases[12] could lead to ISDS being seen as an effective countermeasure to political risk, prompting sustainable acceleration, there is little evidence of such uptake. Whether ISDS money would be reinvested in renewable energy is also "not guaranteed to occur.[13]"

Underpinning (re)production of injustices in energy decisions, ISDS marks asymmetries amongst State and non-State actors and outlines a questionable upscaling of energy governance through external arbitration, and the use of international law as a tool for energy transition. The energy justice angle thus provides a powerful framework for critical assessment and to propose necessary directions for change, just as the European Commission discusses the modernisation of the ECT, criticised for its climate inadequacy and tacit inducement of extractive investments.

[10] Defilla, S. 2003. "Energy Trade under the ECT and Accession to the WTO". *Journal of Energy & Natural Resources Law*, vol. 21:4, pp. 428–446.

[11] Tienhaara, *op.cit.*

[12] As of writing this chapter, 81 cases of investor-State disputes registered on the ECT repository relate to renewable energy developments.

[13] Tienhaara, K. in Miles, K. (ed.). 2019. "Does the Green Economy Need Investor-State Dispute Settlement". *Research Handbook on Environmental and Investment Law*, Edward Elgar, pp. 292–311.

11.2 How Can the Power of Energy Justice Transform Investor-State Dispute Settlement Issues? Outlining Current Injustices in the Arbitration System

Energy justice provides a powerful kaleidoscope for examining ISDS workings. Three main dimensions are mapped here.

Firstly, it calls for a holistic understanding of ISDS effects, across sectors, time, and space. Injustices can be termed under a "lower-delay-abandon" triptych, inducing environmental regulatory chills. Although not formally defined, regulatory chill refers to the threat of financial sanctions and the lengthy process that investors impose on states, as intimidating. Accordingly, States tend to postpone legislation to avoid trials and fees. Such finding is significant, as it suggests that arbitration mechanisms practically affect domestic legislation, whereas trade law should guarantee the States' right to regulate. Furthermore, countries are not equally vulnerable to financial risk, particularly in the Global South, also more dependent on foreign investments to develop renewable energy.

Secondly, ISDS challenges procedural justice through embedded power and regulatory asymmetries, and tangled access to justice. While ISDS offers protection to investors, it does not impose obligations on them nor allow States to prosecute. Moreover, cases revolve around an elite, limited number of arbitrators also allowed to represent claimants in other cases. Furthermore, while dealing with localised energy projects, ISDS mechanisms belittle the voice of local and regional entities by standardising procedures at a higher administrative level. For instance, in Canada, the Clayton/Bilcon case revealed that because local and provincial environmental assessments were not conducted according to a standard procedure validated by the federal government, their information could not be used in ISDS arbitration, thus challenging democratic values of participation, transparency, and accountability. Campaigning against CETA, several Canadian municipalities passed anti-ISDS motions, but without binding force, such were not considered. Finally, by removing disputes from national jurisdictions, ISDS questions the rationale of bringing energy governance to deterritorialised jurisdictions.

Thirdly, ISDS undermines distributive justice through investment allocation, territorial siting of projects, and disproportionate bearing of social and environmental costs, particularly associated with energy production infrastructures. Still, the cases are decided without a multi-scalar

and territorial perspective, and the sanctions could lead to divert public funds away from climate action. Subsequently, ISDS judgements question the recognition, cosmopolitan, and restorative dimensions of justice, whether in terms of communities' access to advocacy during litigation, or compensation after harmful decisions.

11.3 Conclusion—Ensuring Energy Justice in Investor-State Dispute Settlement System

While changes are needed, several challenges need to be addressed to transform these injustices. It is essential to clarify the normative links between trade and environment to avoid vagueness and labile interpretations of treaties. For example, in CETA, the same investment chapter was used to defend oil trade with Europe and to advance Canada's green economy by favouring European assets over provincial anti-windfarm decisions.[14] There should be no creeping uncertainty about the climate allegiance of these mechanisms, which means repoliticising and respatialising their operation.

Then, better transparency and reporting are needed as ISDS remains a largely behind-closed-doors process making it difficult to know cases or their content.[15] Alternatively, in the view of taking ISDS as effective sustainable solutions, social acceptability is key,[16] and one way for

[14] See the White Pine windmill project case, in Santoire, E. 2022. «Fédéralisme et nouveaux instruments d'action: l'exemple de l'AECG au Canada dans le domaine de la régulation énergétique». *Etudes Canadiennes*, vol. 92, pp. 125–150; and Santoire, E. in Finbow, R. (ed.). 2022. "The Implications of CETA on Energy Systems in Canada: An Integrated Geographical View". *CETA Implementation and Implications. Unravelling the Puzzle*, McGill-Queen's University Press, pp. 265–288.

[15] Under art. 26 ECT, parties are not obliged to notify the Secretariat of the existence and substance of their disputes, thus keeping certain awards and proceedings confidential. In C-616/18 ClientEarth v. European Commission, the environmental NGO was refused access to a judicial decision on ISDS in TTIP and CETA.

[16] Thieffry, P. in Torre-Schaub M. et al. (dir.). 2022. "Arbitrage", *Dictionnaire juridique du changement climatique*, Mare & Martin, pp. 53–54.

that is to strengthen citizens' role and access to information.[17] For critical scholars, the question yet remains whether ISDS should be the primary tool and international arenas the right scale for governing foreign investments with significant territorial implications.

Finally, drastic innovation claims are expressed as to move away from old visions of State overreach through ISDS and out of a system inducing "implicit [fossil] subsidies[18]", such as a multilateral termination agreement.[19] Building an energy justice vision into this system would be crucial for the overall evolution of society towards a just transition to a low carbon economy. It points out to regulating investments while in free trade systems and challenging all existing legal mechanisms to effectively participate into curbing extractive economic routines. This is why ISDS reform must contribute to building a new social contract around energy, involving fundamental economic and governance issues,[20] starting with disclosure of information and fair access to justice.

[17] Michallet, I. 2023. *Faire face à l'Anthropocène: les voies du droit*, Ed. deux-cent-cinq, p. 101.

[18] Aisbett, E. & Bonnitcha, J. 2010. "Against Balancing: Revisiting the Use/Regulation Distinction to Reform Liability and Compensation under Investment Treaties". *Michigan Journal of International Law*, vol. 42:2, pp. 231–290.

[19] Tienhaara, K. 2022. *Op.cit.*

[20] Heffron R. J. & De Fontenelle L. 2023. "Implementing Energy Justice Through a New Social Contract". *Journal of Energy & Natural Resources Law*, vol. 41:2, pp. 141–155; Heffron. R. J. et al. 2023. "Pathways of Scholarship for Energy Justice and the Social Contract". *Journal of Energy & Natural Resources Law*, vol. 41:2, pp. 211–232.

CHAPTER 12

Energy Justice Concerns of Nuclear Power in the 2025 Energy Transition Vision of Taiwan and Net Zero Roadmap of 2050

Anton Ming-Zhi Gao

Abstract Energy justice emerged as a crosscutting social science research agenda aiming to apply justice to energy policy, energy production and systems, energy consumption, energy activism, energy security, and climate change. The scope is suitable for analyzing the efforts of the Taiwan government (TG) when designing the 2025 Energy Transition and nuclear-free Vision planned since 2016 and the 2050 Net Zero Roadmap since 2021. This perspective on a nuclear-free country without any exception presents concerns related to energy justice and will be explored in this chapter.

This chapter was completed with funding from the National Science Council: project number: 112-NU-E-007-002-NU.

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R. J. Heffron and L. de Fontenelle (eds.), *The Power of Energy Justice & the Social Contract*, Just Transitions,
https://doi.org/10.1007/978-3-031-46282-5_12

Keywords Nuclear-free homeland · Energy transition · Taiwan · 2050 Net Zero Roadmap · Just transition

12.1 The Energy Transition and Net Zero Pathway of Taiwan: Unjust Issues

Energy justice emerged as a crosscutting social science research agenda aiming to apply justice to energy policy, energy production and systems, energy consumption, energy activism, energy security, and climate change.[1] The scope is suitable for analyzing the efforts of the Taiwan government (TG) when designing the 2025 Energy Transition Vision planned since 2016[2] and the 2050 Net Zero Roadmap since 2021.[3] Compared to nuclear power benefits in climate and energy policies of primary countries (UK, US, France, Japan, South Korea, etc.), the TG insists on being nuclear-free by 2025 and decommissioning its second nuclear power plant (NPP) in March 2023.

This perspective on a nuclear-free country without any exception presents concerns related to energy justice. The *electricity price increase* from April 2023 would be the first issue.[4] Despite extending existing NPP lifetimes to remediate high fuel costs during the Ukraine-Russia War and information regarding nuclear power life extension from Germany,[5] no public consultations regarding nuclear power were launched by the TG. Furthermore, the price increase may present further repercussions. No price increase for more than 90% of electricity users (such as households

[1] Jenkins, K., McCauley, D., Heffron, R., Stephan, H., & Rehner, R. (2016). Energy Justice: A Conceptual Review. *Energy Research & Social Science*, *11*, 174–182.

[2] Ministry of Economic Affairs. (2016). Energy Transition: Expanding Green, Increasing gas-Fired, Reducing Coal-Fired. Nuclear-Free (推動能源轉型「展綠、增氣、減煤、非核」). https://www.moea.gov.tw/MNS/populace/Policy/Policy.aspx?menu_id=32800&policy_id=9.

[3] National Development Council. (2022). Taiwan's Pathway to Net-Zero Emissions in 2050. https://www.ndc.gov.tw/en/Content_List.aspx?n=B154724D802DC488.

[4] Focus Taiwan, COST OF LIVING/Taiwan set to raise electricity rate by 11% on average: Official, 03/17/2023. https://focustaiwan.tw/business/202303170001.

[5] German parliament approves nuclear plants life extension, November 11, 2022. https://www.dw.com/en/german-parliament-approves-nuclear-plants-life-extension/a-63721032.

and small businesses) would make this rising unjust. Why should high electricity users be responsible for most of the rising costs?

Intergenerational justice presents an additional issue. Despite the price increase, considering the recent unchanged and insufficient electricity price increase, the state-owned electricity company, Tai-power, experienced a loss of NT$267.5 billion (US$8.74 billion) in 2022 and presumably over NT$500 billion in 2023.[6] Excluding lacking information regarding the finances spent (US$9.4 billion) on the fourth NPP, which was nearly successfully constructed, the government arbitrarily decided to not operate the power plant. If these cost issues are not addressed, they will be reflected in the mid- and long-term and affect future generations.

12.2 How Can the Power of Energy Justice Transform the Issue?

A nuclear-free country by 2025 is the central ideology of the current president, its ruling, and the majority of the parliament party. This policy is non-discussable and not a publicly debatable agenda under all following energy transition and net zero plans. The ruling party could even have used its parliamentary majority to pass this 2025 nuclear-free target in the Electricity Act of 2017.[7] This condition was revoked by the referendum in November 2018.[8] Nevertheless, the government proceeded with the nuclear-free policy agenda and ignored these results. Therefore, adopting *procedural justice*,[9] such as public consultation on the role of nuclear power under the recent Net Zero Roadmap of 2050, would be crucial to correct the presumption of the no-nuclear option on the views of policymakers. Contrarily, Taiwan would be presented with more than 85% of

[6] Taiwan's electricity prices to increase 11% in April. 2023/03/18. https://www.taiwannews.com.tw/en/news/4839443.

[7] Article 95 Paragraph 1 of the Electricity Act: "Should Nuclear-Energy-Based Power Generating Facilities Stop Running by 2025".

[8] Taiwanese vote to keep nuclear in energy mix. November 26, 2018. https://world-nuclear-news.org/Articles/Taiwanese-vote-to-keep-nuclear-in-energy-mix.

[9] McCauley, D., & Heffron, R. (2018). Just Transition: Integrating Climate, Energy and Environmental Justice. *Energy Policy*, *119*, 1–7.

its electricity obtained from fossil fuels after 2025, presenting substantial challenges to the Net Zero 2050 goal.[10]

12.3 Overcoming the Energy Injustices

The TG selected its no-nuclear option on May 25, 2016, five days after the presidential inauguration. It was a political decision without any cautious or nationwide debate. Despite the continuing urge to consider the role of nuclear power in the current Taiwan energy and climate policy by the leading industry union, i.e., the Chinese National Association of Industries,[11] and several energy experts, including myself, the government did not consider the 2018 referendum results, where the referendum proposal inquired voters on their agreement with abolishing Paragraph 1 of Article 95 of the Electricity Act, which stipulates that "all nuclear energy-based power-generating facilities shall completely cease operations by 2025," and 5,895,560 voted in favor of abolishing and retaining the clause, respectively.

Theoretically, additional referendums could correct this governmental unawareness of the votes of its citizens. However, the government sought to increase the stringency of the referendum rules by observing the referendum proposal regarding extending the lifetimes of the existing three NPPs and rejecting this proposal provided by pro-nuclear experts, primarily from the National Tsing Hua University. The final opportunity for this discussion would be the discussion regarding the fourth NPP. The referendum was initiated by nuclear power advocates and alumni of our university. The referendum Huang Shih-hsiu asked voters: "Do you agree that the fourth NPP should be activated for commercial operations?" This referendum was scheduled for voting on August 28, 2021, a date unfavorable to the governmental stance due to the following: 1. nationwide blackouts on May 13 and 17, 2021; 2. untrust regarding governmental COVID-19 measures due to the outbreak in May 2021. Therefore, the government used COVID-19 to postpone the vote to December 18 and successfully made all four referendums against their

[10] Gao, A. M. Z., Kuang, Y. T., & Jong-Shun, C. (2022). An Unjust and Failed Energy Transition Strategy? Taiwan's Goal of Becoming Nuclear-Free by 2025. *Energy Strategy Reviews*, *44*, 100991.

[11] Chinese National Association of Industries, Introduction. http://www.cnfi.org.tw/front/bin/ptlist.phtml?Category=100078.

policy position by unsuccessfully reaching the approximately five million (4,956,367) decisive vote threshold.

Considering the issues faced by Taiwan, the primary challenge for energy injustice is *manipulation of the majority and ruling party of the decision-making scheme*. The government can select a no-nuclear option in its 2025 energy and 2050 climate policy and actively manipulate the referendum. *Direct democracy must succumb to representative democracy, including the energy justice doctrine*. The TG uses unjust methods for promoting the 2025 energy and 2050 just transition agendas!

12.4 Conclusion

Considering the issues faced by Taiwan, the vulnerability of energy justice is prominent. Among the five forms of energy justice implemented through the social contract, procedural justice (due process needs to be followed in the design of the system, i.e., this is about ensuring not just public participation but also transparency in decision-making on energy policy, energy taxation policy) would be very useful in rectifying current Taiwan's problem.[12]

Particularly, the citizens of Taiwan used the unique way of referendum to veto nuclear-free legislation, but the TG remains ignoring such results. In addition, in 2022, the government publicly admitted to failing the 2025 (low-carbon electricity) renewable target from the planned 20% to 15.1%,[13] whereas a net zero target was guaranteed by 2050 (from the original target of a 50% emission reduction by 2050) in 2021. The perspective of the government toward nuclear power remains unchanged, contrasting the softened status of the government of Germany toward the remaining NPPs. Therefore, relying on *citizen votes* to change the government regime is necessary. Without this, the isolation status of Taiwan from the world would degrade by deviating from just transition to a low-carbon economy!

[12] Heffron, R. J., & De Fontenelle, L. (2023). Implementing Energy Justice through a new Social Contract. *Journal of Energy & Natural Resources Law*, *41*:2, 145. https://doi.org/10.1080/02646811.2023.2186626.

[13] Renewables to reach 15.1% in 2025, missing 20% target: MOEA. 07/22/2022. https://focustaiwan.tw/business/202207220028.

CHAPTER 13

Social Acceptance for Renewable Energy Technologies: The Role of the Energy Justice Framework

Mohammad Hazrati

Abstract Moving from fossil fuels to renewable energy is a key part of creating sustainable energy systems for the future. Governments worldwide are implementing policies and frameworks to facilitate this transition, albeit at different levels. The public also recognizes the importance of this shift and the need to address climate change by adopting renewable energy sources. However, despite such public acceptance, there are still local communities that resist the deployment of renewable energy technologies. As renewable energy projects become more prevalent, they are increasingly facing resistance from local communities. This challenges the earlier assumption that the construction of new renewable energy facilities would only accelerate when renewable energy costs became more competitive with fossil fuels. Surprisingly, many renewable energy projects still face resistance, even when they are cost-effective. This highlights the

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R. J. Heffron and L. de Fontenelle (eds.), *The Power of Energy Justice & the Social Contract*, Just Transitions,
https://doi.org/10.1007/978-3-031-46282-5_13

need for a holistic approach to policy design during the energy transition. In addition to technical and economic considerations, it is crucial to understand social acceptance initiatives for renewable energy technologies within the context of the energy justice framework. To fully comprehend the issue of social acceptance in the light of the energy justice framework, it is essential to consider all principles of energy justice simultaneously, without sacrificing one for another.

Keywords Social acceptance · Renewable energy · Just transition · Energy justice · Community benefits

13.1 Introduction

Moving from fossil fuels to renewable energy is a key part of creating sustainable energy systems for the future. Governments worldwide are implementing policies and frameworks to facilitate this transition, albeit at different levels. The public also recognizes the importance of this shift and the need to address climate change by adopting renewable energy sources.[1] However, despite such general public acceptance, there are still local communities that resist the deployment of renewable energy technologies (RET hereafter).[2]

As renewable energy projects become more prevalent, they are increasingly facing resistance from local communities.[3] It reveals that the previous belief that the construction of new renewable energy facilities would accelerate only when the cost of renewable energy became cheaper than that of fossil fuels was mistaken, as many renewable energy projects

[1] UNDP. (2023). People's Climate Vote. Accessed 5 May 2023. https://www.undp.org/publications/peoples-climate-vote.

[2] Segreto, M., Principe, L., Desormeaux, A., Torre, M., Tomassetti, L., Tratzi, P., Paolini, V., & Petracchini, F. (2022). Trends in Social Acceptance of Renewable Energy Across Europe—A Literature Review. *International Journal of Environmental Research and Public Health*, 17(24), 9161. https://doi.org/10.3390/ijerph17249161.

[3] Kaeding, M., Schmidt, P., & Pollak, J. (2023). *Climate Change and the Future of Europe Views from the Capitals*. Springer, xiii.

are still facing opposition despite cost-effectiveness.[4] It means that at the policy designing stage for the energy transition besides considering technical and economic factors, it is crucial to take into account also the social aspects around the adoption of RET.[5]

13.2 Renewable Energy Technology and Energy Justice: Understanding Local Resistance

With this background, there is a growing trend of research in the field of social acceptance of RET, with a primary aim of comprehending this apparent contradiction (general public acceptance against local resistance).[6] There have been so many qualitative[7] and quantitative[8] studies conducted to identify drivers and barriers to social acceptance. Various

[4] Susskind, L., Chun, J., Gant, A., Hodgkins, C., Cohen, J., & Lohmar, S. (2022). Sources of Opposition to Renewable Energy Projects in the United States. *Energy Policy*, 165. https://doi.org/10.1016/j.enpol.2022.112922.

[5] International Atomic Energy Agency (IAEA). (2022). *Climate Change and Nuclear Power 2022 Securing Clean Energy for Climate Resilience*. https://www.iaea.org/sites/default/files/iaea-ccnp2022-body-web.pdf. Accessed 5 May 2023.

[6] Battel, S., & Rudolph, D. (2021). A Critical Approach to the Social Acceptance of Renewable Energy Infrastructures. In S. Battel & D. Rudolph (Eds.), *A Critical Approach to the Social Acceptance of Renewable Energy Infrastructures: Going Beyond Green Growth and Sustainability*. Palgrave, 1–18.

[7] Segreto, M., Principe, L., Desormeaux, A., Torre, M., Tomassetti, L., Tratzi, P., Paolini, V., & Petracchini, F. (2020). Trends in Social Acceptance of Renewable Energy Across Europe—A Literature Review. *International Journal of Environmental Research and Public Health*, 17(24), 9161. https://doi.org/10.3390/ijerph17249161; Scheer, D., Konrad, W., & Wassermann, S. (2017). The Good, the Bad, and the Ambivalent: A Qualitative Study of Public Perceptions Towards Energy Technologies and Portfolios in Germany. *Energy Policy*, 100, 89–100 and Susskind, L., Chun, J., Gant, A., Hodgkins, C., Cohen, J., & Lohmar, S. (2022). Sources of Opposition to Renewable Energy Projects in the United States. *Energy Policy*, 165, 112922. https://doi.org/10.1016/j.enpol.2022.112922.

[8] Rodríguez-Segura, L., Osorio-Araven, J. C., Frolova, M., Terrados-Cepeda, J., & Muñoz-Ceron, E. (2023). Social Acceptance of Renewable Energy Development in Southern Spain: Exploring Tendencies, Locations, Criteria and Situations. *Energy Policy*, 173, 113356. https://doi.org/10.1016/j.enpol.2022.113356; Moula, M. M. E., Maula, J., Hamdy, M., Fang, T., Jung, N., & Lahdelma, R. 2013. Researching Social Acceptability of Renewable Energy Technologies in Finland. *International Journal of Sustainable Built Environment*, 2(1), 89–98.

forms of opposition have been identified, which depend on the type of RET implemented, the geographical location, and historical context.

Reviewing the data from various studies reveals that some of the most important and frequently cited sources of local opposition include, but are not limited to, property devaluation, environmental impact, health concerns, inadequate public participation, disregard for tribal rights,[9] loss of livelihood,[10] visual and aesthetic impacts,[11] and distrust in industrial and governmental actors and/or responsible agents.[12]

The majority of these oppositions are closely associated with energy (in) justice. The energy justice framework breaks down justice into four fundamental components: distributional, procedural, recognitional, and restorative.[13] It is both evaluative and normative, with the aim of identifying and reducing injustices in society by asking where they occur, how benefits and drawbacks of energy activities are distributed, which demographics are disregarded, and which procedures can be implemented to rectify them. Distributive justice relates to the fair distribution of both benefits and drawbacks associated with energy-related activities.[14] The unequal distribution of socio-economic benefits from RET results in distributive injustices. For instance, despite some communities lacking access to high-quality energy services or experiencing property devaluation, which are common issues in some renewable energy projects, a

[9] Susskind, L., Chun, J., Gant, A., Hodgkins, C., Cohen, J., & Lohmar, S. (2022). Sources of Opposition to Renewable Energy Projects in the United States. *Energy Policy*, 165, 112922. https://doi.org/10.1016/j.enpol.2022.112922.

[10] Roddis, P., Roelich, K., Tran, K., Carver, S., Dallimer, M., & Ziv, G. (2020). What Shapes Community Acceptance of Large-scale Solar Farms? A Case Study of the UK's First 'Nationally Significant' Solar Farm. *Solar Energy*, 209, 235–244.

[11] Enserink, M., Van Etteger, R., Van den Brink, A., & Stremke, S. (2022). To Support or Oppose Renewable Energy Projects? A Systematic Literature Review on the Factors Influencing Landscape Design and Social Acceptance. *Energy Research and Social Science*, 91, 102740. https://doi.org/10.1016/j.erss.2022.102740.

[12] Liu, L., Bouman, T., Perlaviciute, G., & Steg, L. (2019). Effects of Trust and Public Participation on Acceptability of Renewable Energy Projects in the Netherlands and China. *Energy Research & Social Science*, 53, 137–144.

[13] Heffron, R. J., & McCauley, D. (2014). Achieving Sustainable Supply Chains Through Energy Justice. *Applied Energy*, 123, 435–437.

[14] Mose, T. M., & Hazrati, M. (2020). Is Energy Justice in the Fossil Fuel Industry a Paradox? In G. Wood & K. Baker (Eds.), *The Palgrave Handbook of Managing Fossil Fuels and Energy Transitions*. Palgrave, 529–544.

majority of the electricity generated by wind farms in certain areas is consumed by large private companies outside the region.[15]

Generally, renewable energy is often seen as a spatial and temporal disjuncture. While it may provide advantages such as clean energy, energy security, and investment, it is perceived as having immediate and more tangible negative effects in local communities.[16] In this context, procedural justice emphasizes the inclusive engagement of communities in decision-making process.[17] It has been frequently reported that series of procedural injustices linked to the absence of formal consultation processes based on the principles of Free, Prior and Informed Consent has led to a local opposition.[18] Several studies have highlighted the importance of citizens' trust in project planners, operators, or local authorities in the renewable energy sector, emphasizing their competence, impartiality, and fairness.[19] It is important to note that procedural justice plays a vital role in establishing trust as it encourages cooperation and participation and provision of adequate information ultimately leading to the development of trustworthy relationships.

[15] Van der Horst, D., Grant, R., Montero, A. M., & Garneviciene, A. (2021). Energy Justice and Social Acceptance of Renewable Energy Projects in the Global South. In S. Batel & D. Rudolph (Eds.), *A Critical Approach to the Social Acceptance of Renewable Energy Infrastructures: Going Beyond Green Growth and Sustainability*. Palgrave, 217–234.

[16] Rudolph, D., Haggett, C., & Quiroz-Aitken, M. (2018). Community Benefits From Offshore Renewables: The Relationship Between Different Understandings of Impact, Community, and Benefit. *Environment and Planning C: Politics and Space*, 36(1), 92–117.

[17] Jenkins, K., McCauley, D., Heffron, R., Stephan, H., & Rehner, R. (2016). Energy justice: A Conceptual Review. *Energy Research & Social Science*, 11, 174–182.

[18] Business & Human Rights Resource Centre. 2016. 'Towards Responsible Renewable Energy: With Rising Allegations of Abuse, Are 50 Wind & Hydropower Companies' Human Rights Policies Fit for Purpose?', Briefing. [online] Available at: https://media.business-humanrights.org/media/documents/files/Towards_Responsible_Renewable_Energy_Briefing_-_Final_1.pdf. Accessed 7 May 2023.

[19] Schumacher, K. (2019). *Public Acceptance of Renewable Energies: An Empirical Investigation Across Countries and Technology*. Scientific Publication, 27.

13.3 Community Benefits as a Solution or a Part of the Problem

The idea of community benefits has emerged as one that encompasses some elements of distributive justice, in which collaboration with community stakeholders is promoted to create a plan for community benefits that outlines the specific ways in which the project will provide measurable advantages to the communities involved at each stage of the project.[20] However, one criticism of this idea describes it as a way to bribe or 'buy' planning permission.[21] One reason for calling it 'bribery' could be that by providing benefits to potentially affected communities, the responsible party (either a company or individual(s)) can easily circumvent other energy justice principles, including recognition, procedural, and restorative justice.

It is worth mentioning that recognition and restorative justice can be easily sacrificed when the majority of a community becomes satisfied with the project either through receiving benefits from the project or by participating in the decision-making process.[22] It means there is always a possibility that voiceless minority groups or no-humans in the same community are not involved in the process or some harms remain unrestored only because the majority get benefit from it.

However, some more developed ideas like energy community have been introduced to promote both procedural and distributive justice issues to those potentially affected citizens and their communities and subsequently increase local acceptance of RETs.[23] Energy communities

[20] Herrera Anchustegui, I. (2020). Distributive Justice, Community Benefits and Renewable Energy: The Case of Offshore Wind Projects. In R. Fleming, K. Huhta, & L. Reins (Eds.), *Sustainable Energy Democracy and the Law*. Brill Publishers, 215–236.

[21] Aitken, M. (2010). Wind Power and Community Benefits: Challenges and Opportunities. *Energy Policy*, 38, 6066–6075.

[22] Neuman, G. (2022). Protecting Human Rights from Exclusionary Populism. In C. Sabatini (Ed.), *Reclaiming Human Rights in Changing World Order*. Brookings Institution Press, 123–148.

[23] European Commission, Energy communities: Citizen-driven Energy Actions that Contribute to the Clean Energy Transition, Advancing Energy Efficiency Within Local Communities. Accessed 9 May 2023. https://energy.ec.europa.eu/topics/markets-and-consumers/energy-communities_en.

come in various forms such as 'Renewable Energy Community'[24] or 'Citizen Energy Community'.[25] They are typically legal entities that prioritize open and voluntary participation, effective citizen control, and primarily provide environmental, economic, or social benefits for members and shareholders located near renewable energy projects instead of financial gains.[26] Clearly, it is a more elaborated idea with a higher degree of local involvement and a more diverse approach in terms of distributive justice. However, there is still a risk to restorative justice and recognition justice can be either overlooked or understood in a narrow term.

However, it seems that the current political and economic system, which prioritizes (green) economic growth and (renewable) technological advancements, perceives people and local oppositions as an obstacle for adoption RETs and fostering the energy transition. In this view, any initiative that can satisfy the majority of local communities to accept RETs and not make delay on 'transition programmes' is welcomed. This reductionist approach in local acceptability can reduce everything (including intentions for persistence) to egoistic values, and simply overlook other source of persistence.[27]

13.4 Conclusion

In conclusion, energy transition in the midst of the climate crisis is not just an option among others, but the only way forward for humankind. However, we must not forget that the current crises are a result of either a lack of attention to human rights and ecological limits or have been worsened by such neglect. The energy transition should not solely be

[24] EU Recast Renewable Energy Directive, 2018/2001/EU, OJ L 328/44 (Directive), art 2(16).

[25] European Commission, Proposal for a Directive of the European Parliament and of the Council on Common Rules for the Internal Market in Natural Gas (recast), COM(2017) 660 final (Brussels, 8.11.2017), 2017/0291 (COD), art 2(70), and Directive (EU) 2019/944 of the European Parliament and of the Council of 5 June 2019 on Common Rules for the Internal Market for Electricity and Amending Directive 2012/27/EU, OJ L 158/125, art 2(11).

[26] European Commission, Rural Energy Community Advisory Hub, 'What Is Energy Community?' https://rural-energy-community-hub.ec.europa.eu/energy-communities/what-energy-community_en. Accessed 9 May 2023.

[27] Kant, I. (1785). *Groundwork of the Metaphysics of Morals*. Translated and edited by Mary Gregor. Cambridge University Press, 2012, 39.

driven by an acceleration of the (green) growth paradigm, where local opposition is seen as a hindrance to the adoption of RETs and a source of increased project costs.

If 'just transition' is to become more than just rhetoric, RETs social acceptance initiatives must be understood in line with the energy justice framework. To full comprehend the issue of social acceptance of RETs in the light of energy justice framework,[28] it is essential to see all principles of energy justice including distributive, procedural, recognition cosmopolitan and restorative justice at the same time and not sacrifice each of them for another, as 'the rights secured by justice are not subject to political bargaining or to the calculus of social interests'.[29] In addition, to achieve just transition, it is crucial to move beyond achieving local acceptance at any cost and must take a more holistic approach that considers social, gender, economic, ecological, historical, material, and structural injustices through the energy justice framework. This holistic approach to social acceptance is aligned with the emerging trend of calls for a new social contract among energy stakeholders in which energy justice has been placed at the centre.[30]

[28] Van der Horst, D., Grant, R., Montero, A. M., & Garneviciene, A. (2021). Energy Justice and Social Acceptance of Renewable Energy Projects in the Global South. In S. Batel & D. Rudolph (Eds.), *A Critical Approach to the Social Acceptance of Renewable Energy Infrastructures: Going Beyond Green Growth and Sustainability*. Palgrave, 217–234.

[29] Rawls, J. (1971). *A Theory of Justice*. Belknap Press of Harvard University Press, 11.

[30] Heffron, R. J., De Fontenelle, L., Basil, C., Del Guayo Castiella, I., Droubi, S., Hazrati, M., Hussein, H. I., Kraal, D., McCauley, D., Phillips, A., Santoire, E., & Arnauld de Sartre, X. (2023). Pathways of Scholarship for Energy Justice and the Social Contract. *Journal of Energy & Natural Resources Law*, 41(2), 211–232 and Heffron, R. J. & De Fontenelle, L. (2023). Implementing Energy Justice Through a New Social Contract. *Journal of Energy & Natural Resources Law*, 41(2), 141–155.

CHAPTER 14

Breaking Barriers: Integrating Energy Justice to Overcome Investor-State Dispute Settlement (ISDS) Roadblocks to Climate Change Mitigation Efforts

Demilade Isioma Elemo

Abstract This chapter examines the relationship between investment, energy security, and the investor-state dispute settlement (ISDS) regime, an area often overlooked in energy justice conversation. The ISDS regime, designed to safeguard foreign investments, faces a legitimacy crisis exacerbated by its perceived misalignment with climate change mitigation efforts. Through the lens of energy justice, this chapter explores the criticisms against the ISDS regime by framing them as "energy injustices". Distributive injustices manifest in unfair cost allocation, favouring investors over just transition efforts and placing a disproportionate burden on developing nations. Restorative injustices arise from the potential for opportunistic claims and excessive compensation claims, hindering

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https://doi.org/10.1007/978-3-031-46282-5_14

the just transition. Cosmopolitan injustices occur when tribunals fail to address human and environmental rights issues in investment disputes. The chapter proposes that the ongoing reforms of the ISDS regime be guided by energy justice principles, emphasising equitable cost-sharing, clear criteria for damages, and integrating human and environmental rights into investment agreements. Aligning reforms with energy justice principles can help legitimise the regime, ensuring it plays an effective role the transition to a low-carbon economy and contributing to global energy justice.

Keywords Investor-state dispute settlement · Energy justice · Climate change · Distributive justice

14.1 Introduction

Investment is essential to obtaining energy security, addressing energy poverty, putting the world on a path to net-zero emissions, stimulating post-COVID-19 economic recovery, and ensuring sustainable development in developing nations.[1] As such, the investor-state dispute settlement (ISDS) regime, a contract or (but mostly) treaty-based regime of rights, principles, and standards that imposes obligations on host states to foreign investments in their territories, is a vital aspect of the energy sector. Though often overlooked in the energy justice discourse, the ISDS regime is particularly relevant to the energy sector as it mitigates political risks associated with energy projects.[2]

[1] IEA. (2022). World Energy Investment 2022, IEA, Paris. https://www.iea.org/reports/world-energy-investment-2022, License: CC BY 4.0.

[2] Moehlecke, C., & Wellhausen, R.L. (2022). Political Risk and International Investment Law. *Annual Review of Political Science*, *25*, pp. 485–507. For more on political risk, see Yackee, J.W. (2014). Political Risk and International Investment Law. *Duke Journal of Comparative & International Law*, *24*, pp. 477–500.

However, the regime is currently facing a legitimacy crisis.[3] The criticisms of the ISDS regime are myriad, but most relevant to the energy justice conversation is the claim that the regime is at odds with climate efforts.[4] Considering the symbiotic relationship between the ISDS regime and the energy sector,[5] this chapter analyses the criticisms of the ISDS regime through an energy justice lens and examines how justice principles may legitimise the regime.

14.2 Legitimacy Criticisms of the ISDS Regime as "Energy Injustices"

Energy justice comprises central tenets, including distribution, procedural, recognition, restorative, and cosmopolitan justice.[6] Many criticisms of the ISDS regime can be represented as energy injustices within these tenets.

[3] See generally, Waibel, M., Kaushal, A., Chung, K., & Balchin, C. (2010). *The Backlash Against Investment Arbitration: Perceptions and Reality*. Wolters Kluwer Law & Business.

[4] Tienhaara, K. (2018). Regulatory Chill in a Warming World: The Threat to Climate Policy Posed by Investor-State Dispute Settlement. *Transnational Environmental Law*, *7*, p. 229.

[5] Whitsitt, E., & Bankes, N. (2013). The Evolution of International Investment Law and Its Application to the Energy Sector. *Alberta Law Review*, *51*, p. 207.

[6] Jenkins, K.E.H., McCauley, D., Heffron, R., Stephan, H., & Rehner, R.W.M. (2016). Energy Justice: A Conceptual Review. *Energy Research and Social Science*, *11*, pp. 174–182. https://doi.org/10.1016/j.erss.2015.10.004; Sovacool, B.K., & Dworkin, M.H. (2021). *Global Energy Justice: Problems, Principles, and Practices*. Cambridge University Press; Heffron, R.J., & McCauley, D. (2017). The Concept of Energy Justice Across The Disciplines. *Energy Policy*, *105*, pp. 658–667; Sovacool, B.K., Martiskainen, M., Hook, A., & Baker, L. (2019). Decarbonization and Its Discontents: A Critical Energy Justice Perspective on Four Low-Carbon Transitions. *Climatic Change*, *155*, pp. 581–619.

14.2.1 *Distributive Injustice in ISDS*

Distributive justice is concerned with the fair and equitable distribution of the costs and benefits in the energy system.[7] Within the ISDS regime, distributive justice concerns are raised in two dimensions. First, distributive injustice arises from unfair cost allocation between host states and foreign investors,[8] benefiting investors at the expense of just transition efforts. The implication of this is that states can be and have been challenged for actions taken in furtherance of the just transition to a low-carbon economy.[9] The other dimension is the disproportionate burden developing nations bear within the regime.[10] Regulatory chill, for instance, is more likely to occur in developing nations[11] and even more so for climate-related policies.[12] Furthermore, the criticism of high litigation and liability costs[13] imposes a more significant burden on developing nations. While substantial damages have been granted against both developed and developing countries, the amounts awarded constitute a

[7] Van Bommel, N., & Höffken, J.I. (2021). Energy Justice Within, Between and Beyond European Community Energy Initiatives: A Review. *Energy Research and Social Science*, *79*, 102157.

[8] Bonnitcha, J. (2014). *Substantive Protection Under Investment Treaties: A Legal and Economic Analysis*. Cambridge University Press. Chapter 3, pp. 83–102.

[9] In *RWE v. Netherlands*, ICSID Case No. ARB/21/4, 20 January 2021 and *Uniper v. Netherlands*, ICSID Case No. ARB/21/22, Order of Discontinuance, 17 March 2023, the investors sued the Dutch government on the grounds that coal phase-out legislation interfered with their property rights. In Westmoreland v. Canada ICSID Case No. UNCT/20/3, and Lone Pine v. Canada ICSID Case No. UNCT/15/2, the government was sued for placing a moratorium on hydrocarbon exploration in Alberta and Quebec.

[10] Bonnitcha, J., Poulsen, L., & Waibel, M. (2017). *The Political Economy of the Investment Treaty Regime*. Oxford: Oxford University Press.

[11] Wälde, T. (2010). The Regulatory Chill in International Investment Law: A Threat to Development? *Journal of World Investment & Trade, 11*(1), pp. 131–158.

[12] Tienhaara, K. (2019). Regulatory Chill in a Warming World: The Threat to Climate Policy Posed by Investor-State Dispute Settlement. *Journal of International Economic Law, 22*(2), pp. 341–374.

[13] Johnson, L., & Sachs, L. (2016). The Outsized Costs of Investor-State Dispute Settlement. 16 AIB Insights https://scholarship.law.columbia.edu/sustainable_investment_staffpubs/114. Accessed 28 May 2023.

larger percentage of the income of poorer nations. Two of the most widely criticised awards in terms of the quantum of damages are in relation to energy-related disputes in developing nations. Recently, Pakistan and Nigeria had US$4 billion and US$6 billion awarded against them, respectively.[14] Compared to the €1.4 billion claimed by RWE against Netherlands, the 17th largest economy in the world, it appears that developing nations get the shorter end of the stick. Concerningly, the Pakistani award was comparable to the value of International Monetary Fund's (IMF) bailout that had only recently been negotiated to prevent the collapse of the Pakistani economy.[15] Also, a recent study which anticipated financial risk from possible ISDS claims found that more than two-thirds of the risk is borne by nations in the Global South.[16]

14.2.2 Restorative Injustice in ISDS

Restorative justice is concerned with rectifying injustices arising from energy decision-making.[17] It seeks to restore claimants to their original position prior to a damaging activity.[18] In the ISDS regime, this is what happens when tribunals instruct states to pay investors for their wrongful interference with investments. However, the regime is vulnerable to exploitation by unscrupulous investors seeking financial gains

[14] Tethyan Copper Company Pty Limited v Islamic Republic of Pakistan, ICSID Case No ARB/12/1, Award, 12 July 2019, para 278; Process and Industrial Developments Limited v Nigeria, 2018 WL 2080765, Ad Hoc Arbitration, Final Award, 31 January 2017.

[15] Masood, S. (2019, May 12). Pakistan to Accept $6 Billion Bailout from I.M.F. *The New York Times*. https://www.nytimes.com/2019/05/12/world/asia/pakistan-imf-bailout.html.

[16] Tienhaara, K., Thrasher, R., Alexander Simmons, B., & Gallagher, K.P. (2022). Investor-State Dispute Settlement: Obstructing a Just Energy Transition. *Climate Policy*. https://doi.org/10.1080/14693062.2022.2153102.

[17] Sovacool, B.K., Heffron, R.J., McCauley, D., & Goldthau, A. (2016). Energy Decisions Reframed as Justice and Ethical Concerns. *Nature Energy*, *1*(5), pp. 1–6.

[18] Hazrati, M., & Heffron, R.J. (2021). Conceptualising Restorative Justice in the Energy Transition: Changing the Perspectives of Fossil Fuels. *Energy Research & Social Science*, *78*, 102115.

rather than engaging in legitimate business activities. In fact, the awards against Nigeria and Pakistan were in relation to projects that never got off the ground, highlighting the potential for opportunistic claims within the ISDS system. This exploitation has led to ISDS awards being treated as speculative financial assets, with financial speculators purchasing corporations with potential winnable ISDS claims, and even hedge funds financing ISDS cases.[19] A study has shown that a majority of the claimants in the Spanish renewable energy investments disputes saga were portfolio investors,[20] some of whom profited both from an increase in value of their stake and from the ISDS awards.[21] Restorative injustice also occurs with respect to liability costs. Damages claimed by investors have increasingly become higher over the years with more incidents of claims in excess of US$ 1 billion.[22] These "mega claims" are a consequence of the structural bias in the ISDS regime in favour of claimants,[23] the huge discretion wielded by tribunals,[24] and the underdeveloped body of rules pertaining to valuation of damages.[25] The challenge this poses with respect to the just transition is that the exorbitant amount of compensation that investors receive serve to raise the cost of the transition and reduce the public funding available for green investments.[26]

[19] Sundaram, J.K. (2017). Investor-State Dispute Settlement Becomes Speculative Financial Asset. *Third World Economics*, Issue No. 637, p. 15. https://twn.my/title2/twe/2017/637/8(Opinion).htm.

[20] Bárcena, L., & Flues, F. 2020. From Solar Dream to Legal Nightmare. How Financial Investors, Law Firms, and Arbitrators Are Profiting from the Investment Arbitration Boom in Spain. *Policy*.

[21] See Watkins Holdings S.à r.l. and others v. Kingdom of Spain, ICSID Case no. ARB/15/44, Award (21 Jan 2020), at para. 16.

[22] Hart, T.H., & Vélez, R. (2021). Study of Damages Awards in Investor-State Cases. *Transnational Dispute Management (TDM)*, *18*(3).

[23] Kahale, G. (2021). It's quantum! Columbia FDI Perspectives. No. 314.

[24] Marzal, T. (2021). Quantum (In) Justice: Rethinking the Calculation of Compensation and Damages in ISDS. *The Journal of World Investment & Trade*, *22*(2), pp. 249–312.

[25] Tschanz, P.Y., & Viñuales, J.E. (2009). Compensation for Non-expropriatory Breaches of International Investment Law—The Contribution of the Argentine Awards. *Journal of International Arbitration*, *26*(5).

[26] Tienhaara, K., Thrasher, R., Simmons, B.A., & Gallagher, K.P. (2022). Investor-State Dispute Settlement: Obstructing a Just Energy Transition. *Climate Policy*, pp. 1–16.

14.2.3 Cosmopolitan Injustice in ISDS

The cosmopolitan view considers injustice to be a universal problem that applies to all human beings in all nations[27] and necessitates the adherence to universal principles.[28] It is particularly concerned with the protection of global human rights,[29] an idea at the core of Heffron's energy justice circle.[30] In ISDS, cosmopolitan injustice manifests when tribunals decline to address human and environmental rights issues in investment disputes. Increasingly, national courts have been instrumental in upholding energy justice by safeguarding human rights in response to diverse energy activities throughout the energy life cycle.[31] Unfortunately, the ISDS regime has lagged in this regard, facing criticism for its failure to align with the protection of human and environmental rights.[32]

Although it has been argued that Article 31(3)(c) of the Vienna Convention on the Law of Treaties[33] could be invoked to incorporate international human rights law in investment arbitration, tribunals

[27] McCauley, D., Ramasar, V., Heffron, R.J., Sovacool, B.K., Mebratu, D., & Mundaca, L. (2019). Energy Justice in the Transition to Low Carbon Energy Systems: Exploring Key Themes in Interdisciplinary Research. *Applied Energy, 233*, 916–921.

[28] Moellendorf, D. (2018). Cosmopolitan Justice. Routledge, p. 171.

[29] Sovacool, B.K., Martiskainen, M., Hook, A., & Baker, L. (2019). Decarbonization and Its Discontents: A Critical Energy Justice Perspective on Four Low-Carbon Transitions. *Climatic Change*, *155*, pp. 581–619.

[30] Heffron, R.J. (2021). Human Rights at the Heart of Energy Justice. *Global Energy Law and Sustainability*, *2*(2), pp. v–ix. Heffron, R.J. (2021). Editorial: Human Rights at the Heart of Energy Justice. *Global Energy Law and Sustainability*, 2, v.; Wewerinke-Singh, M. (2022). A Human Rights Approach to Energy: Realizing the Rights of Billions Within Ecological Limits. *Review of European, Comparative & International Environmental Law*, *31*(1), 16–26.

[31] In an analysis of over 100 energy-related cases across the world, Heffron finds that through energy justice, national courts have protected the right to life , health, minimum subsistence, freedom, human dignity, water, healthy environment, air, culture, property, adequate housing, security and a fair trial. Heffron, R.J. (2022). Applying Energy Justice into the Energy Transition. *Renewable and Sustainable Energy Reviews*, *156*, 111936.

[32] Behn, D., & Langford, M. (2017). Trumping the Environment? An Empirical Perspective on the Legitimacy of Investment Treaty Arbitration. *The Journal of World Investment & Trade*, *18*(1), pp. 14–61; Bodea, C., & Ye, F. (2017). Bilateral Investment Treaties (BITs): The Global Investment Regime and Human Rights. *British Journal of Political Science*.

[33] The article states that "any relevant rules of international law applicable in the relations between the parties" must be taken into account when interpreting treaties".

have been hesitant to venture beyond the specific investment treaty at hand in addressing human rights issues.[34] Even when they do consider such matters, tribunals have typically concluded that corporations bear the obligation to refrain from actions that infringe upon human rights, but they are not obliged to take affirmative actions to promote human rights.[35] This represents a missed opportunity for the ISDS regime to advance energy justice, particularly as the foreign investor tends to be cosmopolitan, having business interests in several states.[36] If ISDS can hold multinational corporations accountable and responsible for human rights violations and protections in one host state, it will influence corporate behaviour in other host states.

14.3 Retooling Energy Justice Principles for ISDS Reform

Recognising the shortcomings of the ISDS regime, various reform proposals have been put forward.[37] To ensure meaningful reform, energy justice principles should guide these efforts.

Proposed amendments to underlying investment treaties should adopt firstly a distributive justice approach. This will ensure that costs and responsibilities are equitably allocated under the regime by imposing reciprocal obligations on investors, such as the inclusion of human rights and environmental issues in IIAs such as in the Nigeria-Morocco BIT. Secondly, restorative justice principles can help strike a balance between protecting investments and preventing opportunistic behaviour. Establishing clear criteria and guidelines for determining damages can prevent

[34] For example, in *Bear Creek Mining Corporation v. Republic of Peru*, ICSID Case No. ARB/14/2.

[35] *Urbaser S.A. and Consorcio de Aguas Bilbao Biskaia, Bilbao Biskaia Ur Partzuergoa v. Argentine Republic* (ICSID Case No. ARB/07/26) para. 1210.

[36] Sloane, R.D. (2009). Breaking the Genuine Link: The Contemporary International Legal Regulation of Nationality. *Harvard International Law Journal, 50*, p. 54.

[37] See Brewin, S., & Schaugg, L. (2022). Uncertain Climate Impact and Several Open Questions: An Analysis of the Proposed Reform of the Energy Charter Treaty. IISD. https://www.iisd.org/publications/report/energy-charter-treaty-agreement-analysis; UNCITRAL Working group III on ISDS Reform.

inflated compensation claims that hamper the just transition.[38] Another valid suggestion that aligns with restorative justice is a gain-based calculation which suggests that compensation be limited to the investor's actual expenditure, taking into account whether the host state benefitted from the investment before breaching its obligations. The approach aims to discourage opportunistic conduct while allowing host states to adapt to changing circumstances.[39] Lastly, cosmopolitan justice entails a collective moral obligation and responsibility towards others, thereby encompassing ethical responsibilities that apply to all actors capable of comprehending, facilitating, and acting upon them.[40] This should include arbitrators on ISDS tribunals. Human rights and investment concerns are not mutually exclusive and should not be compartmentalised, particularly considering the track record of energy investors in violating human and environmental rights, especially in the Global South.

14.4 Conclusion

The shortcomings of the ISDS regime present a real threat to the just transition agenda and the pursuit of energy justice. Distributive injustices pose a challenge by allowing claims against climate policy and set back energy access goals in developing nations. Restorative injustice can circumvent climate finance and cosmopolitan injustices undermine environmental efforts.

[38] Bekker and Bello have suggested a three-stage contextualised approach to adopt some structure in the valuation of damages in Bekker, P., & Bello, F. (2021). Reimagining the Damages Valuation Framework Underlying Fair and Equitable Treatment Standard Violations through a Three-Stage Contextualized Approach. *ICSID Review-Foreign Investment Law Journal*, *36*(2), pp. 339–365.

[39] Bonnitcha, J., & Aisbett, E. (2020). Against Balancing: Revisiting the Use/Regulation Distinction to Reform Liability and Compensation Under Investment Treaties. *Michigan Journal of International Law*, *42*, p. 231.

[40] Sovacool, B.K., Martiskainen, M., Hook, A., & Baker, L. (2019). Decarbonization and Its Discontents: A Critical Energy Justice Perspective on Four Low-Carbon Transitions. *Climatic Change*, *155*, pp. 581–619.

Following the backlash against ISDS, states have been withdrawing or exiting from the regime.[41] This is not a particularly welcome development as investments remain a key part of achieving net-zero targets. Studies have shown that foreign investors value access to non-state dispute resolution methods as it depoliticises disputes. In the absence of the ISDS regime, investors might seek alternatives in political risk insurance with the high cost of premiums being transferred to the final consumer. This may make clean energy less affordable and further exacerbate energy poverty and lower living standards, especially in poorer nations and amongst the less privileged in developed countries. ISDS thus plays an important role in balancing the interests between states and foreign investors, thus achieving global energy justice.

Yet, it can lose its effectiveness without legitimacy and energy justice can help to legitimise the regime. This is important because rules that align with a general sense of justice are more likely to be respected.[42] Energy justice is proving increasingly useful as a means of bringing together disparate but clearly linked causes under a shared discourse.[43] Overall, reforming the ISDS regime in alignment with energy justice principles positions it as an effective tool in the just transition to a low-carbon economy.

[41] For instance, South Africa terminated its BITs. France, Spain and other EU countries have withdrawn from the Energy Charter Treaty. https://www.euractiv.com/section/energy/news/exit-from-energy-charter-treaty-unavoidable-eu-commission-says/.

[42] Ratner, S.R. (2017). International Investment Law Through the Lens of Global Justice. *Journal of International Economic Law*, *20*(4), pp. 747–775.

[43] Jenkins, K. (2018). Setting Energy Justice Apart From the Crowd: Lessons from Environmental and Climate Justice. *Energy Research & Social Science*, *39*, pp. 117–121.

PART IV

Energy Justice for Local Communities

CHAPTER 15

Energy Justice, Prior Consultation and Energy Supply for Communities in Colombia

Luis Fernando Bastidas Reyes and Luis Bustos

Abstract Under the Colombian prior consultation experience, it is normal for agreements with ethnic communities to deal with labor relations and capital contributions to strengthen communities' self-government and to carry out productive projects. On the other hand, it is less common for these protected groups to obtain benefits from services or products that involve the development of measures subject to consultation. Here, the importance of considering the adaptation of the current Colombian energy regulation is raised by applying energy justice theory to situations where communities coexist with the energy projects and are disaggregated from the energy supply. Noting that these types of actions will be essential to accomplish the purposes of the energy transition and support the transformation to carbon–neutral economies, we will be aiming to respond to highly complex scenarios, typical of regions that accumulate a prominent social debt, mainly related to poverty reduction.

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R. J. Heffron and L. de Fontenelle (eds.), *The Power of Energy Justice & the Social Contract*, Just Transitions,
https://doi.org/10.1007/978-3-031-46282-5_15

Keywords Energy justice · Colombia · prior consultation · Energy supply · Ethnic communities

15.1 Introduction

The countries that face the challenges of adapting their criteria of energy justice in their public policies, regulations, and standards must evaluate the concept of the energy trilemma and its three pillars: energy security, energy equity, and sustainable development in their different scenarios.[1] It is easy to perceive that the issues linked to the implementation of energy justice at the legal regulation will bring together aspects close to ideas like justice and social equity that lead to social challenges and, therefore, will recognize the importance of the communities that cohabitate with energy generation projects, energy transportation projects, energy distribution projects, or energy storage activities which are essentials to accomplish the objectives of the energy transition and will support the transformation to carbon–neutral economies.

For the Colombian case, it is urgent to implement the energy justice concept that will aim to respond to highly complex scenarios, typical of countries that accumulate a prominent social debt, mainly related to poverty reduction. These regions will have a different challenge compared to others in which better social indicators have been accomplished.[2] In the Colombian case, we must create an energy transition model that responds to our economic, environmental, and social specificities.[3]

[1] Neira, J. F., 2020. The energy trilemma: conceptual Development and practical implementation into energy policy, Student thesis: Doctoral Thesis, University of Dundee. See Also, Heffron, R. J., McCauley, D., y De Rubens, G. Z., 2018. Balancing the energy trilemma through the Energy Justice Metric, Applied Energy, 229, 1191–1201, https://doi.org/10.1016/j.apenergy.2018.08.073.

[2] World Bank, Gini index, https://datos.bancomundial.org/indicator/SI.POV.GINI.

[3] Bustos, L., 2023. ¿Justicia Energética?, Revista EXPERTO, 14, https://www.uexternado.edu.co/revista-experto/justicia-energetica/.

15.2 An Energy Justice Framework for Colombia

In the scenarios of countries with limited economic resources, energy justice acquires relevance by bringing together the application of human rights to the entire chain, cycle, or phase of energy activities, from generation to the end consumer.[4] In this sense, we cannot afford to make a simple copy of policies or economic models from other world regions, in which the social reality is substantially different and asymmetrically distant.

As a consequence of the struggle from ethnic groups in Colombia that aim for the conservation of their ethnic and cultural diversity and the protection of their territories, under their occupation, the Colombian Government adopts ILO Convention 169, which establishes in Article 6 the right to prior consultation of ethnic groups when a measure may directly affect them and its purposes. In Colombia, this measure can be a state or a private decision. The right to prior consultation implies the prior, free, and informed participation of these groups through an administrative procedure to influence the decision-making process. It corresponds to the National Authority for Prior Consultation to determine its properness.

Since then, this entity has carried out more than 10,000 prior consultation processes throughout the entire national geography on all types of measures, such as the construction of roads, ports, mining and oil exploration and exploitation, construction of wind and solar farms and their transmission lines, and even the creation of new municipalities. The Colombian greatest challenge in energy transition terms will be at the Department of La Guajira. Currently, this Department is the Colombian renewable energy nucleus.[5]

Colombia is a democratic, participatory, and pluralistic republic that defines an essential purpose of the state to facilitate the participation of all in the decisions that affect them in the economic, political, administrative,

[4] Heffron, R. J., McCauley, D., 2018. What is the 'just transition'? Geoforum, 88, 74–77, https://doi.org/10.1016/j.geoforum.2017.11.016.

[5] In prior consultation terms, the most challenging project has been the energy transmission line named Colectora—Cuestecitas, which will run 110 km thru La Guajira, today 204 prior consultation processes are undergoing with the Wayuu indigenous communities, and there are 27 indigenous reservations of the Wayuu people, also the largest Indigenous Reservation is the *"Resguardo Indigena de la Alta y Media Guajira"* with an extension of 1,200,000 hectares.

and cultural life of the nation. In that sense, since 1991, the constitutional jurisdiction,[6] has ordered several processes. Thus, through the study of cases, the constitutional jurisdiction has built applicable rules regarding prior consultation that provide relative legal certainty.

Many of these rules are substantiated by the fact that ethnic communities suffer negative environmental consequences more intensely than other social groups, due to the connection that they preserve with their territory. For instance, the rule that defines the situations that directly affect ethnic groups is attached to the imperatives of environmental justice, which seeks an equitable and participatory distribution of the costs and benefits of projects with differentiated environmental impacts.

Therefore, we will find a point between recognition, distributive, and procedural energy justice, since within the framework of those projects at La Guajira, duties and rights from the ethnic communities will be outlined, it will also contribute to improving the balance of distribution between benefits and unfavorable effects in the entire Colombian society, and finally, it will be essential to observe the procedures that will be following close to the Colombian prior consultation processes and possible adaptation.

On the other hand, there has never been a law that specifies and delimits the scope and content of prior consultation as a right and its application procedure, that situation will lead to legal uncertainty, especially regarding the responsibilities and obligations of those involved in the procedure. Bear in mind that environmental justice is closely related to Article 15 of ILO Convention 169, which establishes that ethnic groups must participate whenever possible in the benefits derived from the prospecting or exploitation of natural resources existing on the lands under their occupation and receive equitable compensation for any harm they may suffer as a result of those activities.

[6] According to the Colombian Constitution, it must be in charge of protecting fundamental rights, such as prior consultation.

15.3 Searching for a Social Contract for the Energy Sector in Colombia

Under the Colombian prior consultation experience, it is normal for agreements with ethnic communities to deal with labor relations and capital contributions to strengthen communities' self-government and to carry out productive projects for the communities. However, it is less common for communities to benefit from products or services that involve the development of measures subject to consultation. The case of energy generation projects at La Guajira is not the exception; many of the ethnic communities do not have access to electric service. This situation is not adapted to the concept of energy justice, since it is not a good sign that the communities that settle next to the energy sector operations do not have a solution to ensure the energy supply for their consumption.

Some regulatory and market barriers must be accomplished to ensure this community energy supply. However, some instruments come from corporate social responsibility, prior consultation agreements, or through a regulatory modification that offers practical solutions that could be linked to figures such as energy communities and energy self-generation systems that will ensure the supply of energy to communities.

Taking into account that the strength of the energy justice concept can lead us to an adaptation of the social contract,[7] which ends up being expressed in practical cases,[8] we consider relevant the adaptation of the current Colombian energy regulation to apply energy justice to situations where communities coexist with the energy projects and are disaggregated from the energy supply.

[7] Heffron, R. J., y De Fontenelle, L., 2023. Implementing energy justice through a new social contract, Journal of Energy & Natural Resources Law, 41(2), 141–155, https://doi.org/10.1080/02646811.2023.2186626. *See Also,* Heffron, R. J., y De Fontenelle, L., Basil, C., Del Guayo, I., Droubi, S, Hazrati, M., Hussein, H., Kraal, D., McCauley, D., Phillips, A., Santoire, E. y Arnauld de Sartre, X., 2023. Pathways of scholarship for energy justice and the social contract, Journal of Energy & Natural Resources Law, 41(2), 211–232, https://doi.org/10.1080/02646811.2023.2190689.

[8] Garnica, S., 2021. ¿Hacia dónde vamos con la justicia energética? Energía Debate, https://energiaadebate.com/hacia-donde-vamos-con-la-justicia-energetica/.

CHAPTER 16

Land for Clean Energy Projects: For Community Energy

Halima I. Hussein

Abstract We must increase our share of renewables from today's 29% to 60% by 2030, if we have any hope of keeping global temperatures at 1.5 degrees Celsius and achieving Sustainable Development Goal 7—affordable modern energy access to all by 2030. To do this, we must streamline the approval process of renewable energy projects and eliminate barriers hindering faster approvals. Community opposition, which is one barrier, as per a US study on delayed or cancelled renewable projects between 2008 and 2021 is driven by two main concerns—land and environmental impacts. This conceptual article calls for implementation of the theory of energy justice in its five forms—distributive, procedural, restorative, recognition and cosmopolitanism—as a solution in engaging energy communities and addressing their concerns. Once community engagement is explored through the lens of energy justice, solutions emerge to solve this barrier by including communities in the energy planning process as opposed to further down the pipeline in project implementation;

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R. J. Heffron and L. de Fontenelle (eds.), *The Power of Energy Justice & the Social Contract*, Just Transitions,
https://doi.org/10.1007/978-3-031-46282-5_16

restoring and rehabilitating affected community lands and environments impacted by renewable energy projects, through recognising indigenous community connections to their lands; and funding the UNFCCC loss and damage fund to bring up renewable energy projects.

Keywords Energy communities · Nimby · Public participation · Energy justice · SDG7

16.1 Introduction

Communities are slowing down the pace of the energy transition.[1] Their opposition of renewable energy projects in Europe is a paradox, given that almost 80% of people across the European continent are in favour of renewable energy resources such as wind energy.[2] In the Netherlands, one-fifth of Dutch municipalities have had dozens of projects cancelled, delayed or postponed owing to local opposition.[3] In Norway, environmental activist Greta Thunberg joined indigenous Sami groups and environmental activists two months ago in the country to block wind turbines from reindeer pastures.[4] The term "nimbyism" (Not In My Backyard—NIMBY) has been used to explain opposition to some of

[1] See Gross S, (2020), 'Renewables, land use and local opposition in the United States' (Brookings Institution) < https://www.brookings.edu/wp-content/uploads/2020/01/FP_20200113_renewables_land_use_local_opposition_gross.pdf > accessed on May 30, 2023; Nir SM, (2020), 'He set up a big solar farm. His neighbours hated it' (The New York Times) < https://www.nytimes.com/2020/03/18/nyregion/solar-energy-farms-ny.html > accessed on May 30, 2023; and Kavilu S, (2021), 'Land conflicts are slowing Kenya's transition to clean energy' (Energy Monitor) < https://www.energymonitor.ai/policy/just-transition/land-conflicts-are-slowing-kenyas-transition-to-clean-energy/ > accessed on 30 May 2023.

[2] Wind Europe, (2023), 'Wind delivers the energy society wants' (Wind Europe) < https://windeurope.org/about-wind/wind-energy-today/ > accessed on May 10, 2023.

[3] Van Halm I, (2022), 'Weekly data: onshore wind plans in one-fifth of Dutch municipalities affected by protests' (Energy Monitor) < https://www.energymonitor.ai/tech/renewables/weekly-data-onshore-wind-plans-in-one-fifth-of-dutch-municipalities-affected-by-protests/ > accessed on May 10, 2023.

[4] Ables K & Noack R, (2023), 'Why Greta Thunberg is protesting wind farms in Norway' (Washington Post) < https://www.washingtonpost.com/climate-environment/2023/03/01/greta-thunberg-wind-turbines-reindeer/ > accessed on May 12, 2023.

these renewable energy projects.[5] This reason is outdated in the light of recent studies which have found that a multitude of reasons drive local opposition to clean energy projects.[6]

A 2021 US study on 53 utility-scale wind, solar and geothermal energy projects that were delayed or blocked between 2008 and 2021 in 28 US states found seven sources of opposition.[7] These seven reasons which led to significant delays or outright cancellation of 83% of the projects revolved around two main issues—land and environmental impacts. Further, the study found that almost 80% of existing controversies involved more than one type of opposition.

In Kenya, Nigeria, Ghana, Tanzania and Morocco, the situation is different. Displacement of local communities has stopped, severely delayed or affected export of power from wind, solar and geothermal energy projects solely on the basis of the land issue, land compensation and indigenous community land rights.[8]

[5] Nimbyism posits that there would be no local opposition if the project were situated elsewhere, and that people are inherently selfish and against change, which is incorrect in the light of current studies evidencing projects' opposition. See Susskind L, Chun J, Gant A, Hodgkins C, Cohen J, Lohmar S, (2022), 'Sources of opposition to renewable energy projects in the United States', Energy Policy, Volume 165, 2022, 112922, ISSN 0301-4215, https://doi.org/10.1016/j.enpol.2022.112922.

[6] Susskind L, Chun J, Gant A, Hodgkins C, Cohen J, Lohmar S, (2022), 'Sources of opposition to renewable energy projects in the United States', Energy Policy, Volume 165, 2022, 112922, ISSN 0301-4215, https://doi.org/10.1016/j.enpol.2022.112922.

[7] These seven sources of opposition include possible environmental impacts; issues with respect to locking down project financing as well as revenue generation; what the public perceive to be unfair participation in the project; lack of respect to indigenous community tribes; health and safety; intergovernmental disputes; and possible impacts on property value and land. Susskind L, Chun J, Gant A, Hodgkins C, Cohen J, Lohmar S, (2022), 'Sources of opposition to renewable energy projects in the United States', Energy Policy, Volume 165, 2022, 112922, ISSN 0301-4215, https://doi.org/10.1016/j.enpol.2022.112922.

[8] Lomax J, Mirumachi N, Hautsch M, (2023), 'Does renewable energy affect violent conflict? Exploring social opposition and injustice in the struggle over the Lake Turkana Wind Farm, Kenya', Energy Research & Social Science, Volume 100, 2023,103089, ISSN 2214-6296, https://doi.org/10.1016/j.erss.2023.103089. See also, Asiegbu AD, (2012), 'Major reason for failure of most solar street lighting projects in Nigeria,' International Journal of Current Research (2012), 141–143. See further, Bawakyillenuo S, (2009), 'Policy and institutional failures: photovoltaic solar household system (PV/SHS) dissemination in Ghana', Energy & Environment, Volume 20, issue 6, 927–947, https://doi.org/10.1260/095830509789625383; and Gregory J, Sovacool BK, (2019), 'The financial risks and barriers to electricity infrastructure in Kenya, Tanzania, and Mozambique:

This is all very concerning. To keep global temperature at 1.5 degrees Celsius and avoid the most catastrophic effects of climate change, we must increase the share of renewables, from today's 29% to 60% by 2030.[9]

16.2 How Can the Power of Energy Justice Transform the Issue?

It is not enough to conduct dialogue with host communities early on to communicate local benefits, such as job and investment opportunities, or reduced energy bills, as it has been suggested.[10] The process of decision making right from government formulation of policy, call out for tenders and a joint public participation process between the project developer and the government in obtaining permits is key to building this community support.

Energy justice,[11] an established theory for the past decade, provides recommendations to solve opposition, by addressing process human rights as well as substantive land, culture and indigenous community rights. Its five forms—distributive justice which concerns equitable distribution of benefits and burdens from the energy sector; procedural justice which concerns whether the legal processes have been observed and that there is access to justice; recognition justice—which concerns recognition of the rights of different groups, in particular local and indigenous communities; restorative justice—which concerns restoration of any injustices caused by the energy sector; and cosmopolitan justice—which concerns the view that we are all citizens of the same world and negative cross-border effects from energy activities need to be considered provides solutions.

a critical and systematic review of the academic literature', Energy Policy, Volume 125, 2019, 145–153, https://doi.org/10.1016/j.enpol.2018.10.026.

[9] IEA, (2022), Renewable Electricity (IEA) < https://www.iea.org/reports/renewable-electricity > accessed on May 11, 2023.

[10] Howe C & Greene N, (2022), 'A way forward toward reducing local opposition to renewables' (NRDC) < https://www.nrdc.org/bio/cullen-howe/way-forward-toward-reducing-local-opposition-renewables > accessed on May 12, 2023.

[11] The consideration of human rights in the energy life cycle. See Heffron RJ, (2021), 'The challenge for energy justice: correcting human rights abuses' (Palgrave Macmillan) 3.

In implementing distributive justice, it is important that local communities have the capacity to take up job opportunities in energy projects through skills transfer. Further, other opportunities could be presented like the possibility of earning a 5–10% share of government revenue from the energy project given the burden of hosting the project in their lands. In implementing procedural justice, transparency, due process and disclosure of project information well in advance are crucial to gaining meaningful support from the community. If information is shared at the strategic environmental assessment stage, as opposed to project stage, it will enable communities to provide feedback on the relevance of committing to the specific energy plan, programme or policy anchoring the project in the first place, as opposed to at the end of the pipeline project stage, during the environmental impact assessment process, when the decision has already been made to commit to the project.[12]

In implementing recognition justice, recognition of indigenous communities such as the Maasai community in Olkaria Geothermal projects in Kenya and their relationship with the land and customs related to it will facilitate community acceptance of such projects in their territories.

In implementing restorative justice, it is important that security deposits are a mandatory regulatory requirement for all projects—clean or fossil fuel, to rehabilitate inevitable damage to the environment, as well as resettle communities to property of equal to or above the previous one to sustain their socio-economic livelihood activities. This will mitigate community opposition. For instance, the Olkaria geothermal plants in Kenya produce hydrogen sulphide as a by-product besides water vapour as waste; thus, an alternative location far from the plants would be ideal in reducing ongoing pollution complaints from nearby communities.[13]

In implementing cosmopolitan justice, as citizens of the world, we must keep politicians accountable in ramping up energy commitments before COP 28. For instance, committing to finance the loss and damage

[12] An Environmental Impact Assessment (EIA) is limited to projects while a Strategic Environmental Assessment (SEA) evaluates not just the projects but also plans, policies and programmes before the project is decided upon. Thus, an EIA is reactive while an SEA on the other hand is a proactive policy planning approach. See Glazewski J, (2005) 'Environmental law in South Africa' (LexisNexis South Africa) 231.

[13] Accountability Counsel, (2018), "Olkaria B" (Accountability Counsel) < https://accountabilityconsole.com/complaints/olkaria-b/ > accessed on May 30, 2023.

fund will mean that clean energy projects have enough financial support to engage community stakeholders beforehand, to reduce opposition at the project stage.

16.3 The Challenges to Overcome for Land

Public participation from the onset must always be accompanied by symmetry and accessibility of information. However, developers are wary to do so to avoid the challenge of artificial inflation of property prices where there are multiple land owners in the project area.[14] Developers who are competing with others in the field may want to keep their projects private so as to avoid wrangles with competitors in maintaining their positions in the transmission queue of eventually distributing electricity. Further, small developers might be hesitant to engage the community before obtaining signed agreements on the projects from government.[15]

Another challenge is the failure of some African governments to recognise and register communal lands, as well as indigeneity, in a bid to maintain colonial-era borders (recognition justice).[16] These perspectives may lead to communities hardening their resolve on opposition as historical injustices, as well as their participation on the project impacts at the tail end of the implementation of the planning process as opposed to why even undertaking the project in the first place at the onset of the planning process appears to disregard their views on land use. A balance between these conflicting considerations and a compromise between the developer, government and host community are required to ensure the much-needed clean energy transition is conducted in an equitable, respectful and responsible way—is this where there should be a new social contract?

[14] Howe C & Greene N, (2022), 'A way forward toward reducing local opposition to renewables' (NRDC) < https://www.nrdc.org/bio/cullen-howe/way-forward-toward-reducing-local-opposition-renewables > accessed on May 12, 2023.

[15] Howe C & Greene N, (2022), 'A way forward toward reducing local opposition to renewables' (NRDC) < https://www.nrdc.org/bio/cullen-howe/way-forward-toward-reducing-local-opposition-renewables > accessed on May 12, 2023.

[16] IWJIA (The International Work Group for Indigenous Affairs) (2019), 'Kenya: the impact of renewable energy projects on indigenous communities in Kenya. The cases of the Lake Turkana Wind Power project and the Olkaria Geothermal Power Plants' IWGIA Report 28 < https://www.iwgia.org/images/publications/new-publications/IWGIA_report_28_The_impact_of_renewable_energy_projects_on_Indigenous_communities_in_Kenya_Dec_2019.pdf > accessed on May 13, 2023.

16.4 Conclusion

An energy system that runs on 100% renewable energy sources is key to mitigating climate change. Renewable project delays and cancellations contribute to lost potential generating capacity, for example, almost 4600 MW in the US.[17] In Africa, 600 million, almost half of the continent lack access to electricity.[18] Without faster approvals of these clean energy projects, the continent will fail to attain the UN Sustainable Development Goal of achieving universal access to affordable electricity by 2030.[19]

Community opposition to renewable energy projects is an unnecessary obstacle. If we are just in engaging communities, at the energy planning process as opposed to project implementation; just in recognising that we need to restore and rehabilitate affected community lands and environments impacted by clean energy projects; just in recognising indigenous community connections to their lands; and just in financial contributions to the UNFCCC loss and damage fund to mitigate climate change through renewable energy projects, we would solve urgent energy and developmental concerns for the energy poor in the world, and promote the well-being of society.

[17] Susskind L, Chun J, Gant A, Hodgkins C, Cohen J, Lohmar S, (2022), 'Sources of opposition to renewable energy projects in the United States', Energy Policy, Volume 165, 2022, 112922, ISSN 0301-4215, https://doi.org/10.1016/j.enpol.2022.112922.

[18] IEA, (2023), 'SDG7: data and projections access to electricity' (IEA) < https://www.iea.org/reports/sdg7-data-and-projections/access-to-electricity > accessed on May 12, 2023.

[19] Ben Payton, (2022), 'African wind power struggles to gain momentum' (African Business) < https://african.business/2022/06/energy-resources/african-wind-power-struggles-to-gain-momentum > accessed on May 12, 2023.

CHAPTER 17

Deploying Energy Justice for a Meaningful Inclusion of Indigenous Peoples in Energy Decision-Making

Mathilde Stephanie Ngo Pouhe

Abstract The Permanent Forum on Indigenous Issues' assessment of the rights of indigenous peoples within the global energy mix found that First Nations peoples are negatively impacted by the energy transition value chain on a variety of levels, including their access to lands and resources, their right to participate in decision-making processes, and their ability to maintain cultural practices. According to experts, 69% of the lands used for energy transition mining projects are situated on or close to the territory of indigenous people. They live in rural and remote areas where 84% of people do not have access to electricity. Consequently, indigenous peoples are drastically subject to energy poverty, among the other injustices they face. The confluence of these facts prompts consideration of the function that the procedural justice and recognition justice framework

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https://doi.org/10.1007/978-3-031-46282-5_17

can play in resolving, minimising, and addressing the grievances of indigenous people. From the analysis of Community-Based Renewable Energy Systems (CBRES) and co-equity mechanisms examples, the article argues the necessity to build stronger connection with minorities, especially First Nations to achieve a just and equitable transition.

Keywords Energy justice · Indigenous peoples · Procedural justice · Recognition justice

17.1 Introduction

The urgent need to respond to climate change and global temperature increase, coupled with the gradual depletion of fossil fuels, has left no other room for global political and industry leaders to plan for a transition to cleaner sources of energy to maintain life on the planet. As a result of the recovery from the Covid-19 pandemic and the response to the global energy crisis, investments in renewable energy have seen a significant increase since 2021, promising news towards the fulfilment of SDG7.[1]

Paradoxically, the Permanent Forum on Indigenous Issues' assessment of the rights of indigenous peoples within the global energy mix found that First Nations peoples are negatively impacted by the energy transition value chain on a variety of levels, including their access to lands and resources, their right to participate in decision-making processes, and their ability to maintain cultural practices.[2] According to experts, 69% of the lands used for energy transition mining projects are situated on or close to the territory of indigenous people.[3] The mining of six key energy transition minerals—cobalt, copper, lithium, manganese, nickel, and zinc—has been the subject of 495 human rights claims between 2010 and 2021,

[1] World Energy Investment. (2023). World Energy Investment 2023 (windows.net) (Accessed 28 May 2023).

[2] UN Permanent Forum on Indigenous Peoples. (2022). *The rights of indigenous peoples in relation to the global energy mix*. E/C,19/2022/9.

[3] Owen, J. R., Kemp, D., Harris, J., Lechner, A. M., & Lèbre, É. (2022). Fast track to failure? Energy transition minerals and the future of consultation and consent. *Energy Research & Social Science*, *89*, 102665.

according to the Business and Human Resources Centre.[4] Most allegations involving indigenous communities were related to free prior and informed consent (FPIC), lack of consultation and access to information, land issues, and attacks on indigenous human rights defenders. In the same vein, the land intensiveness of large-scale renewable energy projects fuelled protests and frustration, sometimes leading to project nullification and suspension.

The rate of indigenous peoples' access to electricity is another critical aspect raised by researchers. They are located in rural and remote areas where 84% of people who do not have access to electricity live.[5] In other terms, indigenous peoples, among other injustices, are drastically subject to energy poverty. The confluence of these facts prompts consideration of the function that the procedural justice and recognition justice framework can play in resolving, minimising, and addressing the grievances of indigenous people.

As a starter, we will briefly define the concept of indigeneity to unveil any ambiguity that could exist in determining the right people. The main discussion will demonstrate how procedural and recognition justice pillars can effectively enable indigenous peoples' empowerment in energy decision-making. The dessert will conclude the discussion by emphasising the need to go beyond a business-as-usual approach in energy transition planning and discussions to avoid the aggravation of historical injustices and the further marginalisation of indigenous peoples.

[4] BHRRC. (2023). Transition_Minerals_Tracker_Global_analysis (Accessed 27 May 2023).

[5] Indigenous Peoples Major Group. (2018). DOING IT RIGHT! Sustainable energy and indigenous peoples, 1. (Accessed 27 May 2023).

17.2 Indigeneity and Indigenous Peoples

Communities are classified as indigenous considering their ancestral ties with the lands they have historically lived and relied on for subsistence.[6] In simple terms, these people's existence depends on their lands and cultural systems.[7] The fight to recognise their exclusive rights has not always been well received within the national and international jurisdictions.[8] Indeed, in many nations, the problem of recognising indigenous peoples' status and rights is still blatant.[9] They are found in the Artic, Australia, New Zealand, Hawaii and Pacific Islands, the European Far North, Asia, and Africa.[10]

17.3 Procedural and Recognition Justice: The Weapons for Indigenous Energy Justice

Indigenous energy justice has been covered in case studies across different regions and countries.[11] From a procedural justice perspective, the most recurring grievances in renewable energy projects are related to ineffective implementation of FPIC, lack of information, and insufficient consultation for projects on or near indigenous communities' cultural lands.[12] In line with the UN Declaration on the Rights of Indigenous Peoples

[6] The Torres Strait Islander peoples in Australia for example have been dispossessed from lands they had lived for more than 60,000 years during the British Crown colonisation in the late 1780s. Crawford, J. (Ed.). (1988). *The rights of peoples* (Vol. 59). Oxford: Clarendon Press, 31.

[7] Hannum, H., Anaya, S. J., Shelton, D. L., & Celorio, R. (2023). *International human rights: problems of law, policy, and practice*. Aspen Publishing, 149.

[8] Crawford, J. (Ed.). (1988). Supra 6, 31–38.

[9] The Expert Mechanism on the Rights of Indigenous Peoples (2019) talks about the absolute denial of the existence of these groups in most African countries. UN Human Rights Council. (2019). *Report of the expert mechanism on the rights of indigenous peoples*. A/HRC/EMRIP/2019/3/Rev.1.

[10] Hannum, H., Anaya, S. J., Shelton, D. L., & Celorio, R. (2023). Supra 7.

[11] Sovacool, B. K., Bell, S. E., Daggett, C., Labuski, C., Lennon, M., Naylor, L., … & Firestone, J. (2023). Pluralizing energy justice: incorporating feminist, anti-racist, Indigenous, and postcolonial perspectives. *Energy Research & Social Science*, *97*, 102996, 3.

[12] Cases have been documented in Brazil, Canada, and Kenya. Jaichand, V., & Sampaio, A. A. (2013). Dam and be damned: the adverse impacts of Belo Monte on indigenous peoples in Brazil. *Human Rights Quarterly, 35*, 408. Hoicka, C. E., Savic, K., & Campney,

(UNDRIPS), these complaints can lead to the nullification, stoppage, or suspension of energy projects.[13] The Bolo Monte Dam and Kinangop Wind Park projects are two lived experiences.[14] Resolving community engagement concerns, therefore, requires government and industry initiatives for equitable participation with consideration of indigenous people's perceptions. We argue these initiatives would be better fitted if aligned with energy justice.

Energy justice goes beyond the simple involvement in any energy projects and advocates for the development of inclusive and decentralised environmentally friendly energy systems.[15] In that sense, indigenous communities-led renewable energy projects and consideration of indigenous knowledge gleaned through oral narratives and lived experiences are crucial for a just energy transition.[16] Good practices of indigenous Community-Based Renewable Energy Systems (CBRES) in the Cordillera region in the Philippines, the community-based solar project initiated by the Manungurra Aboriginal Corporation in Australia, and the micro-hydro systems designed by Communities in Sabah and Sarawak in Malaysia achieved integrative management of micro-energy projects through indigenous communities' empowerment.[17]

A. (2021). Reconciliation through renewable energy? A survey of Indigenous communities, involvement, and peoples in Canada. *Energy Research & Social Science*, *74*, 101897. Renkens, I. (2019). The impact of renewable energy projects on indigenous communities in Kenya. *The cases of the Lake Turkana Wind Power project and the Olkaria Geothermal Power plants* (28).

[13] Eichler, J. (2019). *Reconciling indigenous peoples' individual and collective rights: participation, prior consultation and self-determination in Latin America*. Routledge.

[14] Jaichand, V., & Sampaio, A. A. (2013) and Renkens, I. (2019). Supra 11.

[15] Tornel, C. (2023). Decolonizing energy justice from the ground up: political ecology, ontology, and energy landscapes. *Progress in Human Geography*, *47*(1), 43–65.

[16] Jara, E. C., & Bruns, A. (2022). Contested notions of energy justice and energy futures in struggles over tar sands development in British Columbia, Canada. *Futures*, *138*, 102921. Mazzone, A., Fulkaxò Cruz, D. K., Tumwebaze, S., Ushigua, M., Trotter, P. A., Carvajal, A. E., … & Khosla, R. (2023). Indigenous cosmologies of energy for a sustainable energy future. *Nature Energy*, *8*(1), 19–29. O'Neill, L., Thorburn, K., Riley, B., Maynard, G., Shirlow, E., & Hunt, J. (2021). Renewable energy development on the Indigenous Estate: free, prior and informed consent and best practice in agreement-making in Australia. *Energy Research & Social Science*, *81*, 102252.

[17] Indigenous Peoples Major Group. (2018). Supra 5. 10. Jerez, M. M. (2021). Challenges and opportunities for Indigenous Peoples' sustainability. Serafica, E. C. Community-based Renewable Energy Systems. *Tech Monitor*, 30.

Procedural justice and recognition justice in this specific area are intertwined. In effect, the energy justice debate goes further in conceptualising recognition justice. Whereby usual claims for indigenous people's recognition solely refer to political and statutory concerns, energy justice appeals for their respect and their consideration as victims of energy systems.[18] States are not only invited to plan and implement a set of values and norms to constitute a regulatory basis for the recognition of indigenous peoples' status and rights, but they are also advised to provide for specific energy-related policies addressing their special needs.[19] This dual role of recognition justice has achieved interesting results, especially in fulfilling procedural rights. For example, the Indian Tribal Energy Development and Self-Determination Act (ITEDSA) passed in 2005 allows Indian tribes to enter into "tribal energy resource agreements (TERAs) with the Department of the Interior", decentralising energy management and promoting greater self-determination.[20] A further example of a co-equity mechanism, this time emerging from corporate sustainability management, has been observed in Kenya with the Kipeto Wind Power project. In fact, project operators agreed to grant five per cent equity shares to communities, integrating them into the company consortium as shareholders of the Kipeto Energy Wind Park alongside the African Infrastructure Energy Investment Fund, Craftskills Wind Energy International Ltd and the International Finance Corporation.[21]

[18] Jenkins, K., McCauley, D., Heffron, R., Stephan, H., & Rehner, R. (2016). Energy justice: a conceptual review. *Energy Research & Social Science*, *11*, 174–175.

[19] Hurlbert, M., & Rayner, J. (2018). Reconciling power, relations, and processes: the role of recognition in the achievement of energy justice for Aboriginal people. *Applied Energy*, *228*, 1320–1327.

[20] Royster, J. V. (2008). Practical sovereignty, political sovereignty, and the Indian tribal energy development and self-determination act. *Lewis & Clark Law Review*, *12*, 1080. Bronin, S. C. (2013). The promise and perils of renewable energy on tribal lands. *Tulane Environmental Law Journal*, 222.

[21] Gregersen, C. T. T. (2022). Building innovation capabilities through renewable electrification: a study of learning and capability building in wind power megaprojects in Kenya and Ethiopia, 70. Heinrich Boll Stiftung. (2022). Pastoralism and large scale renewable energy and green hydrogen projects, 21. https://www.boell.de/sites/default/files/2022-05/Pastoralism-and-large-scale-REnewable-energy-and-green-hydrogen-projects.pdf (Accessed 26 May 2023).

17.4 Conclusion and Future Issues

The energy justice framework offers pathways for deviating from the hegemonic business-centred energy systems to human and community-centred models. However, key challenges must be overcome to allow a cosmopolitan and systemic instrumentalisation of procedural justice to avoid the repetition of past injustices. These challenges entail indigenous peoples' access to financial and technical support for community-led energy projects, robust legal frameworks for participation procedures, political, legal and infrastructural recognition, the extraterritorial ruling of business impacts on indigenous peoples, a strong and consistent governance and businesses' recognition of their diversity.

Historically marginalised indigenous peoples are now recalling for more consideration in the energy systems.[22] In a new "World order", energy dominant actors need to connect with minorities to achieve a fair and just transition. As presented by Heffron and De Fontenelle, addressing this concern requires the establishment of a "new social contract"[23]—a contract that emphasises on communities' perception, values, needs and well-being.

[22] Mazzone, A., Fulkaxò Cruz, D. K., Tumwebaze, S., Ushigua, M., Trotter, P. A., Carvajal, A. E., … & Khosla, R. (2023). Supra 16.

[23] Heffron, R. J., & De Fontenelle, L. (2023). Implementing energy justice through a new social contract. *Journal of Energy & Natural Resources Law*, *41*(2), 141–155.

CHAPTER 18

The Power of Energy Justice for Rural Communities

Madeline Taylor

Abstract Rural communities hold a critical role in progressing the energy transformation agenda to reach net-zero emissions. Yet, to date, global energy policies have tended to focus on energy security, availability, affordability, and sustainability in urban regions. This chapter surveys rural communities, which are often in proximity to or host energy developments, as a crucial conduit in the renewed social contract paradigm. A growing scholarly and commercial consensus confirms without energy justice principles, rural community contestation and conflicts over net-zero energy developments are likely to arise. Such conflict may lead to withdrawal from the Social Licence to Operate (SLO) process and create risks and uncertainty for net-zero energy projects. It examines challenges and opportunities for energy justice in rural communities highlighting the need for rural community engagement roadmaps and a more nuanced

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https://doi.org/10.1007/978-3-031-46282-5_18

understanding and mitigation of community-level needs to ensure a sustainable energy future.

Keywords Energy justice · Rural energy justice · Rural communities · Social contract · Participation

18.1 Introduction

Rural communities hold a critical role in progressing the energy transformation agenda to reach net-zero emissions. Yet, to date, global energy policies have tended to focus on energy security, availability, affordability, and sustainability in urban regions. The power of energy justice lies in embedding energy justice principles specifically in rural communities. These communities are "inextricably tied"[1] to sustainable energy systems by hosting renewable energy infrastructure, transmission grids, storage technologies, and critical minerals development. These principles encompass distributive, procedural, recognition, restorative, and cosmopolitan justice,[2] which coalesce to safeguard rural communities by embedding equity, fairness, and direct participation in net-zero energy development. A growing consensus in the literature confirms without energy justice principles, rural community contestation and conflicts over net-zero energy developments are likely to arise. Such conflict may lead to withdrawal from the Social Licence to Operate (SLO) process and create risks and uncertainty for net-zero energy projects.

18.2 Energy Justice Principles for Rural Communities

Energy justice comprises tools to mitigate the benefits and burdens of the energy system for rural communities. In so doing, energy justice is a roadmap for law and policymakers to harness and enshrine rural community justice. Energy justice encompasses three primary tenants of

[1] Naumann, M, Rudolph, D. 2020. Conceptualizing Rural Energy Transitions: Energizing Rural Studies, Ruralizing Energy Research. Journal of Rural Studies, 73, 97–104.

[2] Jenkins, K, Heffron, RJ et al. 2016. Energy Justice: A Conceptual Review. Energy Research & Social Science, 11, 174–182.

energy justice comprise procedural, distributive, and recognition justice.[3] Distributive and procedural justices are "negotiated and contested at community-scale"[4] to disseminate financial and non-financial benefits and provide certainty for host rural communities through transparent benefit-sharing and SIA processes. Recognition justice provides opportunities for rural communities to contribute to energy development design, siting, and ongoing acceptability by recognising differing perspectives. Cosmopolitan and restorative justices are also crucial elements of energy justice. Cosmopolitan justice recognises the global effect of energy development decisions and restorative justice can prevent injustices in the energy sector and identify where risks may occur. Combining all elements of energy justice creates early and ongoing opportunities for rural local community engagement, identification of collective benefits, and risk mitigation. The central tenet of energy justice is the fair allocation of benefits and burdens in the development of energy.

In some cases, the renewable energy transition has created conflict and tension within rural communities.[5] Regulators and courts have refused or placed significant conditions on net-zero energy development in rural communities based on community contestation. For example, litigation refusing the development of onshore and offshore wind is evident in the US and UK due to community concerns. Without recognising the challenges and burdens some rural communities may face or perceive, commercial risks for energy development may also be heightened.[6] This commercial perspective is exemplified in the "energy quadrilemma", an extension of the traditional "energy trilemma", encompassing: energy security, energy equity, environmental sustainability, and social acceptability or energy justice. The energy quadrilemma highlights the role of energy justice as crucial to achieving net-zero energy systems.

[3] Heffron, RJ. 2022. Energy Law in Crisis: An Energy Justice Revolution Is Needed. Journal of World Energy Law & Business, 15(3), 167.

[4] Forman, A. 2017. Energy Justice at the End of the Wire: Enacting Community Energy and Equity in Wales. Energy Policy, 107, 650.

[5] Taylor, M. 2022. Planning the Energy Transition: A Comparative Examination of Large-Scale Solar Energy Siting on Agricultural Land in Australia. Utrecht Law Review, 18(2), 70–86.

[6] Taylor, M, Taylor, S. 2022. Applying Energy Justice Principles: A Case Study of Solar Energy in Vanuatu. The Journal of World Energy Law & Business, 15(3), 193.

18.3 Rural Communities, Energy Justice, and the Social Contract Nexus

Nations are increasingly seeking to regulate and produce policy tools to involve rural communities in the energy transition spanning from the Pacific Islands to the EU. However, these policy developments often do not expressly acknowledge or apply the power of energy justice. According to Heffron and De Fontenelle,[7] there is a nexus between energy justice and the "new social contract", embodying citizen participation and communities in proximity to energy development as central to achieving "transformative societal change, protecting rights and ensuring well-being for all, and hence delivering a just transition to a low-carbon economy".[8]

Rural communities, which are often in proximity to energy developments, form part of this renewed social contract, cementing the need for "new paradigms" whereby "flexible policy framework[s], [take] into account the characteristics and specific needs of hosting economies [and communities]".[9] The spectrum of legal and policy approaches to energy justice varies markedly across sectors and jurisdictions. However, two legal and policy tools are often applied to achieve energy justice, particularly the three central pillars of energy justice, as previously highlighted: Social Impact Assessments (SIAs) and specific benefit-sharing arrangements.

SIAs were initially developed alongside Environmental Impact Assessments in the 1970s to regulate, address, map, and mitigate "everything associated with managing social issues throughout the project lifecycle (pre-conception to post-closure)". With the development of novel net-zero energy technologies, SIAs have now evolved to a process of managing social impacts and benefits against the backdrop of increasing pressure to adhere to SLO terms and distributive and procedural justice.[10]

[7] Heffron, RJ, De Fontenelle, L. 2023. Implementing Energy Justice through a New Social Contract. Journal of Energy & Natural Resources Law, 41(2), 141–155.

[8] Heffron, RJ, De Fontenelle, L. 2023. Implementing Energy Justice through a New Social Contract. Journal of Energy & Natural Resources Law, 41(2), 131–139, 131.

[9] OECD. 2012. Linking Renewable Energy to Rural Development < https://www.oecd.org/regional/regional-policy/Renewable-rural-energy-summary.pdf > accessed 21 May 2023, 3.

[10] Vanclay, F. 2017. Principles to Gain a Social Licence to Operate for Green Initiatives and Biodiversity Projects. Current Opinion in Environmental Sustainability, 29, 48–56.

Benefit-sharing arrangements have also evolved in regulatory regimes to require or encourage energy developers to provide financial or non-financial benefits to rural communities. Queensland, New South Wales, and Victoria in Australia are recent examples where rural landholders hosting transmission line infrastructure receive increased financial benefits. Non-financial benefit-sharing mechanisms include local content provisions, local training in renewable energy development, compensation, environmental protection, cultural protection, and co-decision-making in energy projects. Several countries[11] require local content provisions for offshore wind and solar energy as an element of financing, tendering, and/or feed-in tariff eligibility to de-risk commercial and social contracts in rural communities. Benefit-sharing mechanisms can create recognition, restorative, and cosmopolitan justice in elevating and assuring a wide spectrum of community and wider regional benefits throughout the lifecycle of net-zero energy development.

18.4 Challenges and Opportunities for Energy Justice in Rural Communities

The challenges for net-zero energy development lies in the need to support and provide access to energy justice for rural communities commencing with the energy development siting decision-making process. Conflicts and contestations in energy transition projects highlight that "[t]he social barriers to renewable energy have been underappreciated and underexamined"[12] in policymaking. For example, community objections to wind energy development have arisen due to an absence of local decision-making and participation during project siting and operation. To mitigate community concerns, decision-making processes must adopt energy justice principles to ensure community benefits, participation, and ownership, thus enhancing the success of renewable energy projects.

[11] Including, but not limited to, Germany, France, Greece, India, Indonesia, China, Italy, Japan, Jordan, Malaysia, Morocco, Saudi Arabia, South Africa, some states in Australia, the UK, some states in the US, Brazil, Argentina, and Canada.

[12] Pasqualetti, M. 2011. Social Barriers to Renewable Energy Landscapes. Geographical Review, 101, 219.

Secondly, demand for land use for renewable energy or critical minerals and potential conflicts can be mitigated by employing energy justice principles. For example, communities hosting critical minerals mines should be afforded energy justice to mitigate the burden of effective mine rehabilitation through progressive rehabilitation. The progressive rehabilitation process requires early rural community engagement and progressive lifecycle rehabilitation through ongoing reporting and monitoring to mitigate potential community and environmental impacts. This process provides certainty and benefits to rural communities through distributing benefits, providing a transparent process, and recognising and restoring community land uses.

18.5 Conclusion—Achieving Energy Justice for Rural Communities

As highlighted by Marsden, "[r]ural areas [have] become central sites for the development of the post-carbon transition".[13] The importance of rural community participation in the energy transformation should not be underestimated. Achieving energy justice for rural communities can ensure sustainable benefits through engagement in decision-making processes and enabling collaborative participation in the energy transformation. Applying energy justice principles to actively engage rural communities through SIA and benefit-sharing tools is thus a fundamental precondition to a just energy transition. The power of energy justice lies in its underlying principles to create policymaking roadmaps for rural community engagement and a more nuanced understanding and mitigation of community-level needs to ensure a sustainable energy future.

[13] Marsden, T. 2016. Exploring the Rural Eco-Economy: Beyond Neoliberalism. Rural Sociology, 56, 597–615.

CHAPTER 19

A Pivotal Moment for Energy Community Cooperation in Chile

Elizabeth Stephani

Abstract Chile is undergoing the energy transition similar to many countries. However, there are key problems and in particular in the context of recognition and restorative justice. There are issues in relation to the Mapuche indigenous communities and their land in the context of clean energy development. Foreign investors need to realize the true cost of such investment which needs to be more 'just.' Reform in law and even potentially in the constitution would support the indigenous communities and ensure that development happens with energy justice at its core.

Keywords Energy community · Chile · Energy policy failure · Recognition justice · Indigenous community · Restorative justice · Energy justice

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R. J. Heffron and L. de Fontenelle (eds.), *The Power of Energy Justice & the Social Contract*, Just Transitions,
https://doi.org/10.1007/978-3-031-46282-5_19

19.1 Introduction

Throughout much of the twentieth century, energy policy failures were ubiquitous in Chile.[1] Indigenous groups have long been denied recognition and just outcomes were not delivered across the energy life cycle.[2] Even as Chile's democracy reawakened in 1990, multi-national corporations usurped indigenous land and resources without the meaningful consent of affected groups.[3] Multi-national mining companies easily obtained mining permits or concessions on Chilean land.[4] The construction of hydroelectric dams along the Bio-Bio River disrupted and flooded Mapuche ancestral lands.[5] All the while, the richest 20 percent in Chile

[1] *"[E]nergy policy failure: Energy policy failure is any energy policy which does not meet local, national, and international energy and climate goals across the activities of the energy life-cycle and where just outcomes are not delivered."* R.J. Heffron, M.M. Sokołowski. 2022. Defining and conceptualising energy policy failure: The when, where, why, and how. Energy Policy, 161, 4.

[2] 'Chile installs new constitutional assembly after delay caused by protests' (France 24, 4 July 2021) <https://www.france24.com/en/americas/20210704-demonstrations-delay-launch-of-chile-s-new-constitutional-assembly> accessed 12 May 2023; Jane Chambers, 'Chile's Mapuche indigenous group fights for rights' (BBC, 26 November 2020) <https://www.bbc.com/news/world-latin-america-55042838> accessed 12 May 2023; Patricia Rodriguez, 'Chilean protesters are waving the Mapuche flag. What's the Mapuche flag, and who's hoisting it?' (The Washington Post, 11 November, 2019) <https://www.washingtonpost.com/politics/2019/11/11/chilean-protesters-are-waving-mapucho-flag-whats-mapucho-flag-whos-hoisting-it/> accessed 12 May 2023.

[3] Jane Chambers, 'Chile's Mapuche indigenous group fights for rights' (BBC, 26 November 2020) <https://www.bbc.com/news/world-latin-america-55042838> accessed 12 May 2023; Patricia Rodriguez, 'Chilean protesters are waving the Mapuche flag. What's the Mapuche flag, and who's hoisting it?' (The Washington Post, 11 November, 2019) <https://www.washingtonpost.com/politics/2019/11/11/chilean-protesters-are-waving-mapucho-flag-whats-mapucho-flag-whos-hoisting-it/> accessed 12 May 2023.

[4] L. B. Masters. 2012. Free market environmentalism: Desalination of a solution to limited water resources in northern Chile's mining industry. Colorado Journal of International Environmental Law and Policy, 23, 268.

[5] R. Ranjan et al., Mapuche cosmovision and territorial rights: An interdisciplinary approach to understand the conflict of Wallmapu, Chile, 2021. Rupkatha Journal on Interdisciplinary Studies in Humanities, 13, 9; H. Brady, 'Native community fights to defend their sacred river from Dam' (National Geographic, 27 July 2018) <https://www.nationalgeographic.com/culture/article/sacred-san-pedro-river-dam-mapuche-chile> accessed 12 May 2023.

earn ten times more than the country's poorest 20 percent.[6] Lacking recognitional and restorative justice, Mapuche's ancestral ties to the land continue to go unrecognized and their harms unrestored.[7]

Finally, after a rise in subway fares, and a number of other economic issues driven by Chile's broader economic model, many Chileans took to the streets.[8] Protests and unrest came to a head in 2019 leading to the current redrafting of the constitution.[9] Violence and arson in the 2019 protests lead to a military deployment, where 1000 people were injured and 20 dead.[10] Months of instability ensued, until formal efforts to craft a constitution were made.[11] President Sebastian Pinera agreed to hold a referendum, wherein the people voted overwhelmingly to draft a new constitution, and to have a body elected by popular vote draft the document.[12]

Chile elected 155 delegates to a Constitutional Convention tasked to draft a new constitution for the country with social equity and inclusion in mind.[13] Of the 155 seats, 17 were expressly reserved for indigenous

[6] 'Chile protests: Is inequality becoming worse?' (BBC, July 31, 2021) <https://www.bbc.com/news/world-latin-america-50123494> accessed 12 May 2023.

[7] Benedict Mander, 'A new dawn in Mapuche fight for equality' (Financial Times, 27 April 2021) <https://www.ft.com/content/a42a3ae7-9603-4e9a-b8de-39b322702333> accessed 25 May 2023.

[8] Salome Garnier, 'From dictatorship to democracy: Chile's outdated constitution' (Harvard International Review, 15 February 2020) <https://hir.harvard.edu/from-dictatorship-to-democracy/> accessed 13 May 2023.

[9] Alex Ward, 'Chileans want a more equal society. They're about the rewrite their constitution to have it' (Vox, 26 October 2020) <https://www.vox.com/21534338/chile-constitution-plebiscite-vote-pinochet> accessed 13 May 2023.

[10] Salome Garnier, 'From dictatorship to democracy: Chile's outdated constitution' (Harvard International Review, 15 February 2020) <https://hir.harvard.edu/from-dictatorship-to-democracy/> accessed 13 May 2023.

[11] *Id.*

[12] 'Jubilation as Chile votes to rewrite constitution' (BBC, 26 October 2020) <https://www.bbc.co.uk/news/world-latin-america-54687090> accessed 13 May 2023.

[13] Alex Ward, 'Chileans want a more equal society. They're about the rewrite their constitution to have it' (Vox, 26 October 2020) <https://www.vox.com/21534338/chile-constitution-plebiscite-vote-pinochet> accessed 13 May 2023; Daniel Zovatto, 'Analysis of the elections in Chile' (International Institute for Democracy and Electoral Assistance, 31 July 2021) <https://www.idea.int/news-media/news/analysis-elections-chile> accessed 13 May 2023.

groups.[14] A key feature of the rejected constitution involved a guarantee that Chile's land, water, and air resources would be protected and accessible to the people.[15] The Mapuche's long-standing resistance to the Chilean state flared even more violent toward mining and logging crews as the country contemplated the draft.[16] In the end, the new, progressive proposal was rejected by 68 percent of the voters.[17]

Chile finds itself at a crossroads, hungry for a more equitable future, and the Mapuche still without formal recognition.[18] Comes now the just transition framework to achieve recognition and restorative justice in Chile.[19] Despite the harm of energy development in Chile, so often shouldered by indigenous groups, Chile has the opportunity to include diverse Mapuche opinions on an even playing field and make right the past wrongs.[20]

[14] *Id.*

[15] Chase Harrison, 'A look at what is—and isn't—in Chile's constitutional draft' (AS/COA, 30 May 2022) <https://www.as-coa.org/articles/look-what-and-isnt-chiles-constitutional-draft> accessed 13 May 2023.

[16] 'Chile: Government extends state of emergency in La Araucania and bio-bio regions through Nov. 27./ update 6' (Crisis 24, 10 November 2022) <https://crisis24.garda.com/alerts/2022/11/chile-government-extends-state-of-emergency-in-la-araucania-and-bio-bio-regions-through-nov-27-update-6> accessed 13 May 2023.

[17] Vanessa Buschschlüter, 'Chile constitution: Voters overwhelmingly reject radical change' (BBC News, 5 September 2022) <https://www.bbc.com/news/world-latin-america-62792025> accessed May 13, 2023.

[18] *See* Eloise Barry, 'Why Chileans rejected a new, progressive constitution' (TIME, 5 September 2022) <https://time.com/6210924/chile-rejects-new-constitution-referendum/> accessed 25 May 2023; 'Chile protests: Is inequality becoming worse?' (BBC, 21 October 2019) <https://www.bbc.com/news/world-latin-america-50123494> accessed 31 May 2023.

[19] R.J. Heffron, A. Rønne, J.P. Tomain, A. Bradbrook, and K. Talus. 2018. A treatise for energy law. Journal of World Energy Law and Business, 11, 42.

[20] R.J. Heffron, A. Rønne, J.P. Tomain, A. Bradbrook, and K. Talus. 2018. A treatise for energy law. Journal of World Energy Law and Business, 11, 42; M. Hazratia, R.J. Heffron. 2021. Conceptualising restorative justice in the energy transition: Changing the perspectives of fossil fuels. Energy Research and Social Science, 78, 2.

19.2 Chile is Ripe for Change

The failed constitutional convention last year comes after decades of failed energy policy in the Bio-Bio region.[21] The Mapuche insist 'water for us is the veins of Mother Earth. We cannot cut our body's veins just like we cannot cut or intervene in the veins of Mother Earth to build hydroelectric plants.'[22] And yet, the threats of climate change are more pervasive than ever.[23] The need for efficient and reliable low-carbon energy sources, like hydropower, is mounting, and Chile is ripe for a change that will offer a balance and just way forward.[24]

Energy justice provides a way to transform and improve clean energy development in the Bio-Bio region. Recognitional justice forges a path to include the Mapuche in the development of renewable energy and possibly even integrate indigenous wisdom into the energy life cycle.[25] Likewise, restorative justice could engender goodwill between the Mapuche and developers, encouraging more cooperative clean energy for year to come.[26]

[21] Valentine Hilaire and Natalia Ramos, 'Chile starts second attempt to draft new constitution' (Reuters, 6 March 2023) <https://www.reuters.com/world/americas/chile-starts-second-attempt-draft-new-constitution-2023-03-06/#:~:text=SANTIAGO%2C%20March%206%20(Reuters),draft%20was%20installed%20on%20Monday> accessed 13 May 2023; *See* R.J. Heffron, M.M. Sokołowski. 2022. Defining and conceptualising energy policy failure: The when, where, why, and how. Energy Policy, 161, 4.

[22] Heather Brady, 'Native community fights to defend their sacred river from dam' (National Geographic, 27 July 2018) <https://www.nationalgeographic.com/culture/article/sacred-san-pedro-river-dam-mapuche-chile> accessed 13 May 2023.

[23] Kieran Mulvaney, 'The world is falling short of meeting its climate goals' (National Geographic, 21 October 2021) <https://www.nationalgeographic.com/environment/article/the-world-is-still-falling-short-of-meeting-its-climate-goals> accessed 13 May 2023; John Bartlett, ''We need politicians and experts': How Chile is putting the climate crisis first' (The Guardian, 5 February 2022) <https://www.theguardian.com/world/2022/feb/05/we-need-politicians-and-experts-maisa-rojas-how-chile-putting-climate-crisis-first#:~:text=Elsewhere%2C%20Chile%20has%20committed%20to,plants%20from%202040%20to%202025> accessed 13 May 2023.

[24] Government of Chile, Chile's Nationally Determined Contribution 26 (2020); R.J. Heffron, 'Energy law: An introduction' (2nd Edition, Springer, 2021), 54.

[25] R.J. Heffron, L. De Fontenelle. 2023. Implementing energy justice through a new social contract. Journal of Energy & Natural Resources Law, 41, 145.

[26] "To achieve and maintain an [Social Licence to Operate], the company must be committed not only to restoring the community's environment and ecosystem to the condition prior to the project, but also make it a better place to live. In addition,

To start, a new constitution infused with energy justice principles could facilitate historic cooperation between indigenous groups and foreign investors. Here, Chile has an opportunity to implement just, unambiguous procedures to facilitate the cooperation of indigenous groups, the Chilean government, and foreign investors.[27] And, by weaving in principles of recognitional and restorative justice, Chile's second attempt to move a new constitution forward could garner more support from indigenous communities.[28] A new, collaborative modus operandi can and must be established between the Mapuche, the Chilean government, and clean energy developers to promote environmental justice for all people and a sustainable future for the world.

19.3 Challenges in Defining Indigenous Ancestral Lands within Chile

A critical first step in pursuing recognitional and restorative justice, however, involves overcoming challenges to define Mapuche ancestral land. Put simply, recognition justice ensures that no one is left behind and that the rights of affected groups are not ignored as energy developers blaze forward toward ever-increasing profits.[29] Once a group has been

if a company leaves a community with various harms and without restoring them, it will negatively affect its SLO for further projects in the same area." M. Hazratia, R.J. Heffron. 2021. Conceptualising restorative justice in the energy Transition: Changing the perspectives of fossil fuels. Energy Research and Social Science, 78, 11.

[27] *See* Alex Ward, 'Chileans want a more equal society. They're about the rewrite their constitution to have it' (Vox, 26 October 2020) <https://www.vox.com/21534338/chile-constitution-plebiscite-vote-pinochet> accessed 13 May 2023.

[28] *See generally* Veronica Figueroa Huencho, 'Mapuche movements in Chile: From resistance to political recognition' (Georgetown Journal of International Affairs, 21 May 2021) <https://gjia.georgetown.edu/2021/05/21/mapuche-movements-in-chile-from-resistance-to-political-recognition/#:~:text=Most%20of%20the%20lands%20claimed,thousand%20hectares%20in%20this%20region> accessed 13 May 2023.

[29] R.J. Heffron, M.M. Sokołowski. 2022. Defining and conceptualising energy policy failure: The when, where, why, and how. Energy Policy, 161, 4; R.J. Heffron, L. De Fontenelle. 2023. Implementing energy justice through a new social contract. Journal of Energy & Natural Resources Law, 41, 144.

left behind, another aspect of energy justice comes into focus: restorative justice.[30] This involves rectifying harms done and taking preventative action to mitigate future harms.[31] To recognize an indigenous right to land in Chile and restore land losses, however, the bounds of that land must be known.

As we have seen throughout the twentieth century, the Mapuche's legal relationship to their ancestral land changed in tandem with political regimes.[32] In 1972, the Chilean people elected Salvador Allende from the Popular Unity party.[33] Allende overturned the expropriation of the Mapuche lands and restored much of the Mapuche's ancestral land to the tribes.[34] Almost immediately after the Chilean government reestablished Mapuche possession of their lands, though, Augusto Pinochet led a violent coup that overtook the government.[35] Once in power, Pinochet divided the Mapuche's communal 'reducciones,' which means 'reductions' in English, into individual plots of land that would be reappropriated to wealthy Chilean farmers.[36]

While some law exists to provide recourse for the dispossessed Mapuche, recognitional justice is necessary to articulate a clear legal standing for the Mapuche to lay claim to their ancestral land.[37] Passed in 1993, the Indigenous Peoples Law established protections for indigenous land and water.[38] While this law provided an institutional and legal

[30] M. Hazrati, R.J. Heffron. 2021. Conceptualising restorative justice in the energy Transition: Changing the perspectives of fossil fuels. Energy Research and Social Science, 78, 1.

[31] *Id.* at 2.

[32] Z. Akhtar. 2013. Mapuche land claims: Environmental protest, legal discrimination and customary rights. 20 International Journal on Minority Group Rights, 20, 554.

[33] *Id.*

[34] *Id.*

[35] 'Chile country profile' (BBC) <https://www.bbc.com/news/world-latin-america-19357497> accessed 13 May 2023.

[36] Z. Akhtar. 2013. Mapuche land claims: Environmental protest, legal discrimination and customary rights. 20 International Journal on Minority Group Rights, 20, 554.

[37] R. Ranjan, et al. 2021. Mapuche cosmovision and territorial rights: An interdisciplinary approach to understand the conflict of Wallmapu, Chile. Rupkatha Journal on Interdisciplinary Studies in Humanities, 13, 11.

[38] Z. Akhtar. 2013. Mapuche land claims: Environmental protest, legal discrimination and customary rights. 20 International Journal on Minority Group Rights, 20, 557.

framework for indigenous groups to assert their rights, it came with limitations to Mapuche self-determination and required the consent of each family prior to transferring their land rights, as well as approval from the Comision Nacional de Desarrollo Indigena.[39]

Aligned with the energy justice framework, the International Labour Organization (ILO) Convention 169 provided a basis to include indigenous people in the management, use, and conservation of their land's natural resources.[40] Still, these laws are insufficient to resolve disputes regarding indigenous sovereignty, land claims, and disputes surrounding natural resource development in disputed lands.[41] In at least one hydroelectric dispute, the Court of Appeal of Temuco and the Supreme Court of Chile found the government liable for beaching the Mapuche right to consultation.[42] But, other disputes surrounding Mapuche land claims have yielded different results in the courts.[43] Therefore, there is no established legal precedence to determine what claim, if any, the Mapuche have over their ancestral lands.[44] Year in and year out, the Mapuche raise their voices in protest of the disturbance of their land.[45] Those voices muted by the lack of recognitional and restorative justice in Chile.

[39] Z. Akhtar. 2013. Mapuche land claims: Environmental protest, legal discrimination and customary rights. 20 International Journal on Minority Group Rights, 20, 557; M.A. Orellana. 2005. Indigenous peoples, energy and environmental justice—The Pangue/Ralco hydroelectric project in Chile's Alto BioBio. Journal of Energy & Natural Resources Law, 23, 521.

[40] R. Ranjan, et al. 2021. Mapuche cosmovision and territorial rights: An interdisciplinary approach to understand the conflict of Wallmapu, Chile. Rupkatha Journal on Interdisciplinary Studies in Humanities, 13, 10.

[41] *Id.* at 11.

[42] Z. Akhtar. 2013. Mapuche land claims: Environmental protest, legal discrimination and customary rights. 20 International Journal on Minority Group Rights, 20, 561.

[43] *Id.*

[44] *Id.*

[45] *E.g.,* Jane Chambers, 'Chile's Mapuche indigenous group fights for rights' (BBC, 26 November 2020) <https://www.bbc.com/news/world-latin-america-55042838> accessed 31 May 2023.

19.4 Conclusion

Despite challenges in defining Mapuche land, just outcomes for clean energy development in Chile are possible within an energy justice framework, and specifically by pursuing recognitional and restorative justice. To meet global decarbonization goals, new investment in hydropower, wind, and solar will require the use of indigenous ancestral land.[46] Thus, there is no better time to heed the energy justice call for fairness, inclusion, restitution, and acknowledgment of rights in the global transition to a low-carbon economy.[47] To start, foreign investors should consider the true cost of developing indigenous ancestral land and adequately compensate the Mapuche for their losses.[48] Next, consent and mutual respect must feature as common practice for clean energy developers.[49] And finally, Chile's next constitutional convention would be wise to incorporate principles of energy justice principles in its next draft to the benefit of all.

[46] *See* 'Chile' (International Energy Agency) <https://www.iea.org/countries/chile> 13 May 2023; Dave Merrill, 'The U.S. will need a lot of land from zero-carbon economy' (Bloomberg, June 3, 2021) https://www.bloomberg.com/graphics/2021-energy-land-use-economy/.

[47] R.J. Heffron, 'The challenge for energy justice: Correcting human rights abuses' (Palgrave Macmillan, 2021), 20; '5 natural disasters that beg for climate action' (OXFAM International) <https://www.oxfam.org/en/5-natural-disasters-beg-climate-action> accessed 13 May 2023.

[48] *See* R.J. Heffron, 'The challenge for energy justice: Correcting human rights abuses' (Palgrave Macmillan, 2021), 20.

[49] *See* 'How-to-guide: Hydropower and indigenous peoples' (IHA, 2021), 80. https://www.hydropower.org/publications/how-to-guide-on-hydropower-and-indigenous-peoples.

CHAPTER 20

The Power of Energy Justice for Attaining and Maintaining Acceptance for Renewable Energy Projects

José Vega-Araújo

Abstract The renewable energy (RE) industry faces a significant challenge globally: gaining and maintaining social acceptance. Social acceptance of RE projects, including associated infrastructure such as transmission lines, is deeply rooted in justice and equity concerns regarding environmental and social impacts, cultural implications, land use conflicts, and the legitimacy of consultation processes, among others. This paper argues that if addressing injustices is a condition for securing social acceptance, energy justice can serve as both a goal and roadmap to unfold acceptability towards RE projects while serving to identify critical elements that must be addressed. It does so by outlining considerations for achieving energy justice in RE projects and presenting an example on the role, potentialities, and challenges of the figure of community advisors as critical actors for ensuring energy justice.

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R. J. Heffron and L. de Fontenelle (eds.), *The Power of Energy Justice & the Social Contract*, Just Transitions,
https://doi.org/10.1007/978-3-031-46282-5_20

Keywords Social acceptance · Renewable energy · Community advisors

20.1 Introduction

Social acceptance is among the most significant challenges faced by the renewable energy (RE) industry worldwide.[1] The energy transition is not merely a question of technical or economic feasibility, but also a question of social acceptance framed on the interplay between landscape changes in energy policy and on-the-ground support. Social acceptance for RE and associated infrastructure (e.g. transmission lines) is heavily underpinned by justice and equity concerns around environmental and social harms, cultural impacts, land use conflicts, and legitimacy of consultation processes, among others.[2] After all, RE projects are not inherently (un)fair and must include proactive community-focused strategies rather than assuming that societies will accept all new developments per se.[3] Hence, a rapid upscaling of RE generation inherently depends on the support of those people whose perspectives of justice can delay or halt project development.[4]

If addressing injustices is a condition for securing social acceptance,[5] energy justice can serve as an enabler. Energy justice has emerged as a powerful analytical tool to engage with social expectations while managing and potentially measuring acceptance throughout a project or activity life cycle. A feature that adds more value to energy justice is that

[1] Sovacool et al. (2022). Conflicted transitions: Exploring the actors, tactics, and outcomes of social opposition against energy infrastructure. Global Environmental Change. 73. 102473.

[2] See for example Vega-Araújo, J. and Heffron, R. J. (2022). Assessing elements of energy justice in Colombia: A case study on transmission infrastructure in La Guajira. Energy Research & Social Science. 91. 102688.

[3] Muñoz Cabré, M., and Vega Araújo, J. (2022). Considerations for a just and equitable energy transition. Stockholm + 50 background paper series. Stockholm Environment Institute.

[4] Colton et al. (2016). Energy projects, social licence, public acceptance and regulatory systems in Canada: A white paper. SPP Research Papers. 9.

[5] McHarg, A. (2020) Energy justice: Understanding the 'Ethical Turn' in energy law and policy. Energy justice and energy law. Oxford University Press.

it intends to address inequalities before the project or activity happens,[6] i.e. in an early stage of planning through identifying and dealing with questions of justice across time and geographies.

20.2 The Key Energy Justice Considerations

The energy justice framework consists of five forms of justice that should be addressed in a systematic and complementary way[7]: distributional, procedural, recognition, restorative, and cosmopolitan justice. The literature has highlighted considerations to ensure each form of justice with an especial focus on the first three known as "triumvirate of tenets".[8] These considerations serve as drivers for guiding the achievement of procedural, distributional, and recognition justice.

Considerations for ensuring procedural justice (as the idea of due process, public engagement, and the rule of law at different levels) include at least[9]: (i) full participation in the project life cycle, (ii) ability to be heard and express opinions freely, (iii) adequate and timely information, (iv) impartiality of the decision-maker, (v) being treated with respect, and (vi) decisions that are correctable in the face of new information. Strategies for effectively tackling these include establishing formal and informal information channels, ensuring communities legitimate representation, early notification, and full disclosure of information and mobilising local knowledge, among many others that would closely depend on the specific context.

In terms of distributive justice, considerations relate to making sure the costs of project development are born evenly while clear benefits are provided. A fair allocation of costs includes discussing infrastructure location, landscape impacts, and negative effects on flora and fauna. On the

[6] Heffron, R. and McCauley, D. (2018). What is the 'Just Transition'? Geoforum. 88. 74–77.

[7] Heffron, R. (2020). The role of justice in developing critical minerals. The Extractive Industries and Society. 7. 855–863.

[8] Mc Cauley et al. (2013). Advancing energy justice: The triumvirate of tenets. International Energy Law Review. 32. 107–110.

[9] Maguire, L. and Lind, E. (2003). Public participation in environmental decisions: Stakeholders, authorities, and procedural justice. International Journal of Global Environmental Issues. 3. 133–148; Allan, L. and Tyler, T. (1988). The social psychology of procedural justice. Springer Science & Business Media.

other hand, a fair allocation of benefits includes employment opportunities, providing energy access and lower electricity costs, enabling co-ownership opportunities and local compensation schemes, among others. The role of the government is key in ensuring that local communities can reap the benefits of the energy transition by establishing appropriate institutional and regulatory frameworks that promote benefit sharing.

Recognition justice has a more holistic approach based on the protection and recognition of rights and identities of the different actors involved. There are many ways to articulate the linkages between human rights and clean energy. For example, the Business & Human Rights Resource Centre defines 11 indicators to assess RE companies' human rights performance.[10] Hence, recognition justice requires ensuring voluntarily standards and legal concepts legally incorporated in certain jurisdictions are applied, such as the Free Prior and Informed Consent (FPIC).[11] It underpins distributional and procedural justice since the idea of due process and impacts' allocation are firmly grounded in recognising disadvantaged populations rights and their needs.[12] Governments and clean energy advocates have a role to play in respectively regulating and holding accountable those companies and investors on their human rights practices.

20.3 Conclusions

Energy policies will have to be designed in such a way as to reduce emissions rapidly while capturing the subjectivity of justice. Through utilising the energy justice framework of analysis and taking into account the key considerations outlined above, energy justice becomes both a goal and a

[10] Business & Human Rights Resource Centre. (2020). Renewable energy & human rights benchmark: Key findings from the wind & solar sectors.

[11] International Labor Organisation. (2013). Understanding the indigenous and tribal peoples convention, 1989 (No.169). Handbook for tripartite constituents.

[12] Lacey-Barnacle, M. et al. (2020) Energy justice in the developing world: A review of theoretical frameworks, key research themes and policy implications. Energy for Sustainable Development. 55. 122–138.

roadmap for contextualising justice while helping to determine actions, steps, and resources needed to attain acceptance.

For example, applying the energy justice framework in the case of upscaling renewable energy in indigenous peoples' territories within the region of La Guajira, Colombia, has allowed to identify both fairness concerns affecting the strength and quality of community acceptance, and potential solutions.[13] This includes relevant aspects that have received scarce attention such as the role and scope of community advisors as actors with the knowledge and expertise that communities often lack for balanced consultation process. Their role is expected to focus on, for instance, helping the local community to identify project impacts, manage the unawareness of rights and due diligence compliance, and guarantee fair compensations and benefit sharing, all related to the tenets of energy justice. However, advisors are normally paid by the project developer often without guaranteeing impartiality or technical expertise, with limited knowledge of the local indigenous culture and holding an economic interest not necessarily aligned with those of the community(s) represented. Hence, although highly influential actors for the achievement of energy justice, if not closely monitored and regulated they can undermine the achievement of justice and acceptance. Building capacities in local communities would serve to adequately represent their own interests instead of relying on external actors.

This experience shows that overall using the energy justice lens allows policymakers to examine what is needed to unfold acceptability in areas of high importance for any country's energy transition and electricity expansion plans.

[13] Vega-Araújo, J. and Heffron, R. J. (2022). Assessing elements of energy justice in Colombia: A case study on transmission infrastructure in La Guajira. Energy Research & Social Science. 91. 102688.

PART V

Energy Justice National & International Perspectives

CHAPTER 21

The Quest for Cosmopolitan Justice in the Energy Transition in Caribbean Small Island Developing States

Alicia Phillips

Abstract The challenges we face now with climate change are universal and are inextricably linked to the call for cosmopolitan justice in the energy transition to renewables. The theory of cosmopolitan justice is based on the outlook that we are all citizens of the world and our moral obligations do not just halt at our borders but extend beyond. As oil-dependent Caribbean Small Island Developing States (SIDS) attempt to make the change to renewables they grapple with their umbilical dependence on the oil and gas economy. In some, it has been their sole source of revenue to fund national development and economic independence. In others, newfound discoveries of oil have occurred just as the world is weaning itself from fossil fuels, providing them with the economic-climate justice dilemma. This concept of cosmopolitan justice is therefore a two-edged sword for Caribbean SIDS. On one end, it serves as a

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R. J. Heffron and L. de Fontenelle (eds.), *The Power of Energy Justice & the Social Contract*, Just Transitions,
https://doi.org/10.1007/978-3-031-46282-5_21

benefit as their climate change vulnerabilities are now starkly recognised with funding being channelled into mitigation, adaptation and as we look towards COP28, loss and damage funding. In contrast, net zero emission targets and the shift to renewables prove difficult due to the sole economic dependence placed on this industry. The careful balance of abiding by their international commitments to reduce emissions and incorporating renewables into their economies is at the heart of the new social contract which is also based on future accountability.

Keywords Energy justice · Cosmopolitan justice · Energy transition · Caribbean small island developing states · Climate change

21.1 Introduction

It is no secret that Caribbean SIDS ('SIDS') are experiencing the realities of climate change based on their location, geographical nature, limited economic base and dependency on natural resources.[1] They have contributed least to the problem but this does not negate their need to commit to global decarbonisation and the shift towards renewables. When the energy justice lens is applied to the energy transition, it compliments "… society's aim to achieve its environmental and climate change goals".[2] While the various forms of energy justice are present as oil-dependent SIDS make the shift to renewable energy ('RE'), the focus of this chapter will be to apply the lens of cosmopolitan justice. This form of justice suggests that we have a wider responsibility to ensure the well-being of not just ourselves but everyone else.

My focus on this form of justice was chosen particularly since humanity was urged to cooperate or perish[3] in November 2022 and again in March

[1] United Nations Conference on Trade and Development-Climate Change Impacts on Coastal Transport Infrastructure in the Caribbean: Enhancing the adaptive capacity of Small Island Developing States (SIDS): Jamaica: A case study. 2018. Available at: https://www.preventionweb.net/files/77843_enhancingtheadaptivecapacityofsmall.pdf. Accessed on: 14 May 2023.

[2] Heffron, R. 2022. Applying energy justice into the energy transition. Renewable and Sustainable Energy Reviews, 156.

[3] United Nations-Climate and Environment. 7 November 2022. Cooperate or perish: At COP27 UN chief calls for Climate Solidarity Pact, urges tax on oil companies

2023[4] when a climate change time bomb was declared by the UN. Section Two examines the historical economic challenge of dependency SIDs have towards the oil and gas industry and the progress some SIDS have made thus far in making the change to renewables. In Section Three, by highlighting the need for cosmopolitan justice in these societies, if they are to collectively strengthen their capacity towards the transition as well as a brief mention of the key policies they have in place. Finally, in my conclusion, I note that though SIDS are making climate change efforts as their commitment to cosmopolitan justice, more can be done swiftly at the policy level to introduce renewables, especially in light of the obvious climate change catastrophes they face.

21.2 The Challenge in the Shift Towards Renewable Energy

Is it a blessing to be oil rich or a curse? This is now the quandary some SIDS face as they must now balance equity and justice with economic well-being while developing their natural resources amidst the push to switch to renewables.[5] For instance, the historical economic reliance on the oil and gas industry is deeply rooted in the development of Trinidad and Tobago (T&T), a country which has been involved in the petroleum sector for over 100 years. As one of the largest oil and natural gas producers in the Caribbean, the energy sector accounts for around 34.9% of the country's GDP and contributes significantly to Government's revenue.[6]

to finance loss and damage. Available at: https://news.un.org/en/story/2022/11/1130247. Accessed on: 8 May 2023.

[4] United Nations-Press Release. 20 March 2023. Secretary-General calls on States to tackle Climate change 'Time Bomb' through New Solidarity Pact, Acceleration Agenda, at launch of Intergovernmental Panel Report. Available at: https://press.un.org/en/2023/sgsm21730.doc.htm. Accessed on: 8 May 2023.

[5] The Guyana Chronicle. Caribbean leaders highlight continued role for oil and gas in regional economies. 27 February 2022. Available at: https://guyanachronicle.com/2022/02/27/caribbean-leaders-highlight-continued-role-for-oil-and-gas-in-regional-economies/. Accessed on: 14 May 2023.

[6] The Government of the Republic of Trinidad and Tobago-The Ministry of Energy & Energy Industries-Oil and Gas industry. Available at: https://www.energy.gov.tt/our-business/oil-and-gas-industry/ Accessed on: 14 May 2023.

Hence, while Trinidad and Tobago is a signatory to the Paris Agreement, and is committed to a 15% reduction of emissions by 2030 whereby they have started some RE projects,[7] concerns still exist that they continue to be umbilically attached to the oil and gas sector.[8] Further, in contrast to Trinidad and Tobago, Guyana and Suriname (G&S) have emerged as potential new oil powers with lucrative recent discoveries[9] just when the world is trying to shift away from fossil fuels. To manage this dilemma as a tool to economic development, G&S both possess relatively untouched forests which they intend to use for carbon credits and carbon sinks.[10]

[7] BP Trinidad and Tobago. bp and Shell break ground on Solar plant. 12 April 2023. Available at: https://www.bp.com/en_tt/trinidad-and-tobago/home/news/press-releases/solar-brechin-castle-sod.html Accessed on: 14 May 2023. | Williams, C. The Trinidad Express. 'PTSC to buy 240 electric buses.' 4 April 2023. Available at: https://trinidadexpress.com/business/local/ptsc-to-buy-240-electric-buses/article_0a0a6e58-d349-11ed-b45a-0b0458abe1db.html. Accessed on: 14 May 2023.

[8] Doodnath, A. Loop TT News. Young: 'don't listen to old talk on stopping oil and gas in T&T.' 23 November 2022. Available at: https://tt.loopnews.com/content/young-dont-listen-old-talk-stopping-tt-oil-and-gas. Accessed on: 14 May 2023. | Spetalnick, M. Reuters. 'Exclusive: U.S. issues license to Trinidad and Tobago to develop Venezuela offshore gas field.' 25 January 2023. Available at: https://www.reuters.com/business/energy/us-grants-license-trinidad-tobago-develop-venezuela-offshore-gas-field-2023-01-24/#:~:text=WASHINGTON%2FPORT%20OF%20SPAIN%2C%20Jan,of%20some%20sanctions%20on%20Venezuela. Accessed on: 14 May 2023.

[9] France 24. 'Black gold' for Guyana and Suriname, a blessing or curse? 17 October 2022. Available at: https://www.france24.com/en/live-news/20221017-black-gold-for-guyana-and-suriname-a-blessing-or-curse Accessed on: 14 May 2023.

[10] Loonely, R. World Politics Review. 'Guyana and Suriname Might be able to balance oil revenues and climate goals.' 19 January 2022. Available at: https://www.worldpoliticsreview.com/to-develop-oil-guyana-and-suriname-could-set-back-climate-goals/?one-time-read-code=54604168407718776676. Accessed on: 14 May 2023.

21.3 The Importance and the Role of Cosmopolitan Justice and the Policies of Small Island Developing States

At the very crux of cosmopolitan justice is that "… our duties to others do not cease at borders".[11] A view epitomised by the Chair of a Special Meeting of the Council for Trade and Economic Development (COTED) on Energy,[12] urging that the attainment of these (RE) milestones can only happen if we are resilient collectively, not separately. Of course, the same concept applies to net zero emission target commitments at the global stage which can be found in their Nationally Determined Contributions.[13] Further, despite the slow distribution of climate finance aid, SIDS stamped their commitment, through agreements[14] and the creation of centres to name a few.[15] In essence these are linked to the concepts of applying energy justice through a new social contract and future proofing. At the heart of these three concepts are delivering just outcomes through improved accountability,[16] especially for possible future effects.

[11] Doğan, A. Cosmopolitan principles of distributive justice 2010. Available at: https://hrcak.srce.hr/file/91381. Accessed on: 15 May 2023.

[12] CARICOM Today. 25 April 2023. CARICOM SIDS must further intensify drive towards energy security. Available at: https://today.caricom.org/2023/04/20/caricom-sids-must-further-intensify-drive-towards-energy-security-coted-chair/. Accessed on: 15 May 2023.

[13] United Nations Framework Convention on Climate Change-Nationally Determined Contributions Registry. Available at: https://unfccc.int/NDCREG. Accessed on: 15 May 2023.

[14] Dominica News Online. 27 April 2023. 'Dominica signs Framework Agreement for Caribbean's first industrial scale green hydrogen geothermal development'. Available at: https://dominicanewsonline.com/news/governance/dominica-signs-framework-agreement-for-caribbeans-first-industrial-scale-green-hydrogen-geothermal-development/. Accessed on: 15 May 2023.

[15] Caribbean Centre for Renewable Energy & Energy Efficiency-History of the CCREEE. Available at: https://www.ccreee.org/about-us/. Accessed on: 15 May 2023.

[16] Heffron, Raphael & De Fontenelle, Louis. (2023) Implementing energy justice through a new social contract, Journal of Energy & Natural Resources Law, Vol 41, No 2, 141–155.

21.4 Conclusion and the Way Forward

While SIDS have contributed to climate change efforts by attempting to meet their obligations under the UNFCCC, arguably, more can be done swiftly at the policy level while balancing energy security through the full commitment and introduction of renewables. Furthermore, SIDS are indeed aptly placed to theoretically shift to or incorporate a complete renewable energy mix, whether it be solar, water or wind given their geographical location, but these are currently underexploited. Overall, there continues to be a dependency on a diminishing resource for so much of economic growth and livelihood which beckons a change in focus, especially when the future of these countries is at stake from this reliance.

Now, in essence, while the issues facing SIDS around the world are global challenges and deemed 'our collective responsibility',[17] the acceptance of this collective responsibility is also needed at the national levels of SIDS, as part of this push to cosmopolitan justice. This collective responsibility indeed heralds all SIDS doing their part as SIDS, and not just placing dependence on developed nations solely to do theirs. Cosmopolitan energy justice accountability is indeed needed, even at the SIDS level. While the establishment of the Caribbean Community Climate Change Centre in 2002,[18] the Caribbean Centre for Renewable

[17] Pasifika Environews. 'Its our collective responsibility'-Pacific Researchers urge world leaders to help the islands fight climate change. 8 March 2022. Available at: https://pasifika.news/2022/03/its-our-collective-responsibility-pacific-researchers-urge-world-leaders-to-help-the-islands-fight-climate-change/. Accessed on: 29 May 2023.

[18] CARICOM Caribbean Community: Caribbean Community Climate Change Centre. Available at: https://caricom.org/institutions/caribbean-community-climate-change-centre-ccccc/. Accessed on: 30 May 2023.

Energy and Energy Efficiency (CCREE)[19] in 2018 and the Commonwealth Sustainable Energy Transition Agenda in 2009,[20] epitomise or manifest the functioning and push of cosmopolitan justice in SIDS, many appear divided on the commitment.

It appears that the full commitment to renewable energy is still being balanced with the need for fossil fuel to be used in adaptation and mitigation efforts.[21] Sadly, among Caribbean SIDS, the general consensus is that Caribbean countries should be allowed to produce these resources because they have long practised environmental stewardship,[22] in comparison with developed nations. Energy policies change societies and this fundamentally should be based on a cosmopolitan energy justice perspective of collective responsibility and accountability even at the SIDS level. The hope remains, that this global perspective will be captured or infused with collective accountability soon in SIDS.

[19] Caribbean Centre for Renewable Energy and Energy Efficiency. Available at: https://www.ccreee.org/about-us/objectives-and-mandate/. Accessed on: 30 May 2023.

[20] The Commonwealth- Commonwealth Sustainable Energy Transition Agenda. Available at: https://thecommonwealth.org/our-work/commonwealth-sustainable-energy-transition-agenda. Accessed on: 30 May 2023.

[21] Sobers, L. 'Transforming Guyana Episode X: Unlocking the potential of Guyana's Oil and Gas Economy'. Caribbean Policy Consortium. 6 March 2023. Available at: https://cpccaribbean.org/transforming-guyana-episode-x-unlocking-the-potential-of-guyanas-oil-and-gas-economy/. Accessed on: 31 May 2023.

[22] Ragoobeer, V. 'The Caribbean supporting regional oil production?' The Guyana Chronicle. 10 July 2022. Available at: https://guyanachronicle.com/2022/07/10/the-caribbean-supporting-regional-oil-production/. Accessed on: 31 May 2023.

CHAPTER 22

Righting the Injustices Within the Nigerian Energy Industry

Ayodele Morocco-Clarke

Abstract The Niger-Delta of Nigeria is the predominant base for Nigeria's thriving petroleum industry and provides the bulk of the country's foreign earnings. Due to the relevance of the petroleum industry to the Nigerian economy, the Nigerian government, in a continuous show of weak political will, fails to adequately regulate the industry. The lax enforcement of laws and regulations has resulted in a situation in which there are numerous oil spills yearly, and the flaring of gas is routinely carried out. Consequently, the Niger-Delta region is one of the most polluted areas globally, and the people living within the region bear a disproportionate burden from petroleum production when compared to other areas in the country. On the other hand, the oil-producing areas of the Niger-Delta suffer from energy poverty generally. The thrust of

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R. J. Heffron and L. de Fontenelle (eds.), *The Power of Energy Justice & the Social Contract*, Just Transitions,
https://doi.org/10.1007/978-3-031-46282-5_22

this work is the application and practice of principles of energy justice to the inequitable burdens borne by the Niger-Delta region. This is done by utilising the recognition justice tenet of energy justice to ensure that the plight of those living within close proximity of exploration and production operations are recognised, addressed and injustices rectified.

Keywords Energy justice · Nigeria · Recognition justice · Petroleum industry · Pollution

22.1 Introduction

Nigeria is a State immensely rich in natural resources with over 37 billion barrels of proven reserves of oil[1] and 209 trillion cubic feet (TCF) of proven gas reserves.[2] The revenue derived from the petroleum industry in Nigeria constitutes the largest source of revenue for the country.[3] Due to the importance and impact of the petroleum industry in Nigeria, this paper shall concentrate on the oil and gas aspect of the energy sector in making a case for the application of energy justice within the Nigerian energy industry with a view to alleviating the suffering of people living within the Niger-Delta region of Nigeria[4] and achieving a just energy transition to a low carbon economy.

Having discovered oil in commercial quantities over six decades ago, Nigeria's devastating ecological records arose not long after. The indigenes and residents of the Niger-Delta region have complained consistently over the decades about the deplorable state of their environment

[1] Nnodim, O., 'Nigeria's oil reserves hit 37.046 billion barrels, gas, 208.62TCF–FG' (07 May 2022) *Punch Newspaper* <https://punchng.com/nigerias-oil-reserves-hit-37-046-billion-barrels-gas-208-62tcf-fg/> accessed 19/04/2023.

[2] Azeez, W., 'NMDPRA: Nigeria's natural gas reserves hit 209.5tcf—up by 1.4% in one year' (02 March 2022) *The Cable Newspaper* <https://www.thecable.ng/nmdpra-nigerias-natural-gas-reserves-hit-209-5tcf-up-by-1-4-in-one-year> accessed 19/04/2023.

[3] Morocco-Clarke, A., 'In the midst of so much injustice, can there be a seat for energy justice at the Nigerian table?' (2023) *Journal of World Energy Law and Business*, 3. <https://doi.org/10.1093/jwelb/jwad003> accessed 19/04/2023.

[4] The Niger-Delta region is the region which contains and produces most of Nigeria's oil and gas.

as a result of the exploration and production activities carried out in the region.[5]

In addition to the acknowledged devastation the petroleum industry has wrought on the environment and the disastrous effects of exploration and production activities on the lives of people particularly within close proximity to these activities, the people of the Niger-Delta region wallow in poverty, including energy poverty.[6] Nevertheless, the Nigerian government lacks the strong political will to put the lives of its people and the protection of the environment before financial gain by consequently firmly clamping down on energy companies operating in the country. It is clear when one views cases like *Allar Irou v Shell BP Petroleum Development Company*,[7] where the court refused to grant the injunction sought holding that the refusal was expedient on socio-economic grounds, and *Gbemre v Shell Petroleum Development Company Nig. Ltd & Ors.*,[8] wherein the Nigerian government explicitly stated that it would not be obeying the order of the Federal High Court to stop routine gas flaring in Nigeria as it would not be in Nigeria's interest,[9] that for decades, the Nigerian government has put the financial interest of the country ahead of the health and well-being of its citizens and the environment.

[5] Ratcliffe, R., '"This place used to be green": the brutal impact of oil in the Niger Delta', (6 December 2019) <https://www.theguardian.com/global-development/2019/dec/06/this-place-used-to-be-green-the-brutal-impact-of-oil-in-the-niger-delta> accessed on 04/05/2023.

[6] Jack, J., and Zibima, T., 'Gas flaring and the energy poverty paradox in the Niger Delta' (2018) *Abuja Journal of Sociological Studies*, Vol. 5 No. 2, 168 at 171–173. <https://www.researchgate.net/publication/327107488_GAS_FLARING_AND_THE_ENERGY_POVERTY_PARADOX_IN_THE_NIGER_DELTA> accessed on 12/05/2023.

[7] Unreported. Suit No. W/89/71 of the High Court holden in Warri, 26th of November 1973.

[8] Unreported Suit No. FHC/CS/B/153/2005.

[9] Petroleum Africa, 'Industry says impossible to comply with court ruling' (17 November 2005) *Petroleum Africa*, <http://www.petroleumafrica.com/en/newsarticle.php?NewsID=818&PHPSESSID=b13487c84871c4bd149bc00f34894e63> accessed on 12/05/2023; Also, Ahemba, T., 'Nigeria can't stop flaring right now, industry says' (16 November 2005) *Planet Ark World Environmental News*, <http://www.planetark.org/dailynewsstory.cfm/newsid/33493/story.htm> accessed on 12/05/2023.

22.2 The Role of Energy Justice in Righting Injustices

Despite the role the energy industry in Nigeria plays in contributing about 65% of Nigeria's total greenhouse gas emissions,[10] the burning issue of climate change is not front and centre on the Nigerian agenda. Although in 2021 at COP26 in Glasgow, Nigeria submitted an updated version of its Nationally Determined Contribution[11] under the Paris Agreement, it also signed into law the Petroleum Industry Act 2021, under which gas flaring is still allowed in Nigeria.[12] With the continued flaring of gas[13] and the lack of prioritisation of the rights, well-being and health of the Nigerian people and the environment, energy justice is poised to play a momentous role in ensuring that the energy industry operates in line with international best practices. This will correspondingly ensure that there is a significant reduction of greenhouse gas emissions emanating from Nigeria.

Energy justice is the concept which seeks to apply justice principles to energy policy, production, systems, consumption, activism, security

[10] Asoegwu, C., 'Exploring Nigeria's nationally determined contribution' (7 March 2023) *Business Day* <https://businessday.ng/paywall-free/article/exploring-nigerias-nationally-determined-contribution/#:~:text=The%20country%20was%20among%20the,contribution%20conditional%20on%20international%20support> accessed on 12/05/2023.

[11] Federal Ministry of Environment - The Federal Government of Nigeria, 'Nigeria's nationally determined contribution' (2 July 2021) <https://climatechange.gov.ng/wp-content/uploads/2021/08/NDC_File-Amended-_11222.pdf> accessed on 12/05/2023.

[12] Sections 104–108 of the Nigerian Petroleum Industry Act 2021.

[13] The World Bank, 'Global gas flaring tracker report' (29 March 2023) <https://www.worldbank.org/en/topic/extractiveindustries/publication/2023-global-gas-flaring-tracker-report> accessed on 29/05/2023. Also, Adesanya, A., 'Nigeria Loses N122.9bn to Gas Flaring in Q1 2023' (2 May 2023) *Business Post* <https://businesspost.ng/economy/nigeria-loses-n122-9bn-to-gas-flaring-in-q1-2023/> accessed on 29/05/2023.

and climate change.[14] The established tenets of energy justice—distributive, procedural, restorative, recognition and cosmopolitan justice—are all principles which can be individually and collectively applied successfully to the Nigerian oil and gas industry to "bring change through ensuring that citizens' rights and well-being are protected in today's modern economy."[15]

It is pertinent that energy justice is not just acknowledged as a sound academic/research concept, but is carried through into policy and ultimately routine practice. For example, the recognition justice tenet of energy justice has the power to kick-start the justice process within the Nigerian petroleum industry in the short to medium term. This is because recognition justice seeks to examine, understand and ultimately address the basis and cause of inequalities in the energy system and advocates that the various needs, rights and experiences of those affected by energy systems and decisions are respected, acknowledged and appreciated.[16]

Acknowledging, appreciating and dealing with burning issues within the petroleum industry, which have blighted the existence of people residing in the Niger-Delta, will not only ensure that Nigeria addresses the ecological devastation wrought by the petroleum industry, but also acknowledges that the current modus operandi cannot continue and sustainable energy sources have to be invested in and promoted. This will reduce the over-reliance on oil and gas as the predominant energy source and ensure the Nigerian government is alive to the fact that it cannot continue to put the financial income it receives from the petroleum

[14] Jenkins, K., McCauley, D.A., Heffron, R., Stephan, H. and Rehner, R., 'Energy justice: A conceptual review' (2016) *Energy Research & Social Science*. 11, 174–182. Pre-pub version, 1 <https://dspace.stir.ac.uk/bitstream/1893/23236/1/Energy%20Justice%20A%20Conceptual%20Review%20-%20final%20pre-pub%20version.pdf> accessed on 12/05/2023.

[15] Heffron, J., and De Fontenelle, L., 'Implementing energy justice through a new social contract' (2023) *Journal of Energy & Natural Resources Law*, 41:2, 141–155 at 142. <https://doi.org/10.1080/02646811.2023.2186626> accessed on 12/05/2023.

[16] Gillard, R., et al., 'Advancing an energy justice perspective of fuel poverty: Household vulnerability and domestic retrofit policy in the UK' (2017) *Energy Research and Social Science*, 29 at 53–54.

industry before the lives of its citizens and the environment. Correspondingly, the practical application of recognition justice will ensure the reduction of acts of sabotage and vandalism which oil companies (operating in the Niger-Delta region) continually allege the indigenes of the region of carrying out.[17]

22.3 Conclusion and Next Steps for Energy Justice in Nigeria

The decisions in the cases of *Gbemre v Shell Petroleum Development Company Nig. Ltd & Ors.*,[18] and *Centre for Oil Pollution Watch v. NNPC*[19] show the paradigm shift in the judicial attitude towards environmental litigation in Nigeria. In both cases, the courts put the rights, interests, health and well-being of individuals and the environment over revenue and governmental prosecutorial privilege, respectively. Both cases are evidence that the courts now recognise that the rights, health and well-being of people and the environment need to be protected and supersede the pecuniary gains the country receives from the petroleum industry.

With the courts turning their backs on the business-as-usual mode of lax regulation, inadequate industry monitoring and inefficient enforcement of laws/policies by the government, and instead choosing to recognise the failings within the petroleum industry and its negative impacts on people and the environment, they have started clamping down on human rights abuses and non-compliance with laid down laws and policies. Correspondingly, the government is being forced to deal with the concerns raised by complainants, better regulate the petroleum industry

[17] Anoruo, I., 'CSO flays oil firms' claim of sabotage in Bayelsa, Delta spills' (9 April 2021) *The Guardian* <https://guardian.ng/news/cso-flays-oil-firms-claim-of-sabotage-in-bayelsa-delta-spills/> accessed on 12/05/2023.

[18] Unreported Suit No. FHC/CS/B/153/2005.

[19] [2019] 5 NWLR (Pt. 1666) 518.

operators and invest in other renewable sources of energy to address energy security and poverty issues. This is the power of energy justice through recognition. It has been agreed that the decision of the Supreme Court in *COPW v NNPC* displays a refreshing shift in the "jurisprudence of the judiciary in Nigeria regarding cases that have significant import for climate change and the stopping of gas flaring in Nigeria."[20] It is also posited that the COPW case "…demonstrates a significant positive paradigm shift in the attitude of the Supreme Court to environmental and climate change-related claims…. and could engender the growth of successful climate change litigation in Nigeria."[21]

The entrenchment of recognition justice within the Nigerian energy industry will open the door for the courts to apply restorative justice which will see victims compensated, penalties applied by infractions and the consistent practice of remediation and restoration for ecological damage. Consequently, the distributive, procedural and cosmopolitan principles of energy justice will be routinely applied. This will ensure that Nigeria not only moves away from its major reliance on fossil fuels, but also puts in place the requisite investments, processes, measures and systems to enable it to meet its Nationally Determined Contribution quota in a bid to assist the global effort to stop and possibly reverse climate change.

[20] Afinotan, U., 'How serious is Nigeria about climate change mitigation through gas flaring regulation in the Niger Delta?' (2022) *Environmental Law Review*, 24(4), 288 at 303–304. <https://doi.org/10.1177/14614529221137142> accessed on 29/05/2023.

[21] Etemire, U., 'The Future of Climate Change Litigation in Nigeria: COPW v NNPC in the Spotlight' (2021) Carbon & Climate Law Review, Volume 15, Issue 2. Pg. 158 at 169–170. <https://cclr.lexxion.eu/article/cclr/2021/2/7/display/html> accessed on 29/05/2023.

CHAPTER 23

Utilising Recognition Justice to Bridge Climate and Energy Financing Gaps in the Global South

Susan Nakanwagi

Abstract This chapter discusses the critical issue of climate and energy financing shortfalls in the global south. It emphasises the urgent need for investment in electricity and sustainable fuels for millions of underprivileged and vulnerable communities to meet the Sustainable Development Goals by 2030. It envisions that, through recognition justice, energy justice could help bridge this gap by helping realign the global financing priorities to help navigate energy financing deficits in the global south. It argues that recognition justice aims to acknowledge and rectify historical injustices in the energy transition and emphasises the need to prioritise funding for marginalised communities. The article identifies barriers to equitable energy financing, such as high up-front costs, lack of supporting legal frameworks, and state fragility. It concludes that recognition justice can play a crucial role in overcoming these obstacles, fostering a just transition to a low-carbon economy, and ensuring that the benefits of clean

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R. J. Heffron and L. de Fontenelle (eds.), *The Power of Energy Justice & the Social Contract*, Just Transitions,
https://doi.org/10.1007/978-3-031-46282-5_23

energy reach all sectors of society in the global south and that the energy funding needs of the disadvantaged groups are prioritised.

Keywords Recognition justice · Energy financing · Global south · Energy justice · Just transition

23.1 Introduction: Climate and Energy Financing Challenges in the Global South

Climate and energy financing shortfalls hinder the energy transition in the global south. Approximately 785 million people globally lack access to electricity,[1] with over 600 million in Africa alone. Sub-Saharan Africans without access to electricity increased to 77% from 74% before the COVID-19 outbreak.[2] Globally, 2.6 billion people do not have access to safe, clean fuels and technology, and sub-Saharan Africa accounts for over 75%.[3]

Attaining the Sustainable Development Goals (SDGs) 7 and 13 energy access and climate mitigation targets will require annual investments of over $35 billion by 2030.[4] Energy financing is concentrated in a few global north countries, and limited access to long-term funding impedes clean energy investments in the global south. Coordination of financing is thus necessary for effective public and private investment in the energy sector.

With significant advancements in renewable energy, electric vehicles, battery storage, green hydrogen, energy efficiency, and carbon capture technologies, the technology required to support the energy transition is accelerating. However, these technologies will require a significant financial investment to scale at the rate necessary to fulfil the net-zero 2050

[1] IEA 2021. Net Zero by 2050, IEA, Paris. https://www.iea.org/reports/net-zero-by-2050 (last accessed 29 May 2023).

[2] IEA 2022. SDG7: Data and Projections, IEA, Paris. https://www.iea.org/reports/sdg7-data-and-projections (last accessed 29 May 2023).

[3] IEA 2022. SDG7: Data and Projections, IEA, Paris. https://www.iea.org/reports/sdg7-data-and-projections (last accessed 29 May 2023).

[4] UNDP 2021. Evaluation of UNDP Support To Energy Access and Transition. IEO/UNDP.

timelines, with the cost of capital being higher for developing countries.[5] Energy justice, through recognition justice, could help bridge this gap by helping realign the global financing priorities to support the transition where it is most needed.

23.2 The Role of Recognition Justice in Navigating Energy Financing Deficits in the Global South

Equitable energy financing in the global south requires global, regional, and national policy approaches that consider its peculiar circumstances. At its core, energy justice through recognition justice seeks to acknowledge the disadvantaged groups of the world, be it regions, countries, or populations and social demographics in the energy transition.[6] It is thus insufficient to conclude that unequal portions of society will suffer because of the energy system's distribution of inequities. By pinpointing the origins of inequities, energy justice pushes us to consider whom we should prioritise when considering energy victims.[7]

Recognition justice does not work in isolation and must be embedded in all aspects of the energy transition. The tenets of a just energy transition include procedural, distribution, restorative, and cosmopolitan. Procedural justice is concerned with following due legal processes, while restorative justice concerns remedying the spoils of the energy transition like environmental restoration.[8] Distributive justice aims for an equitable distribution of the ills and benefits of the transition. In contrast, cosmopolitan justice calls for viewing the energy transition with the view of the entire world and not looking at issues in silos or disintegrated manner. Recognition justice interconnects with all tenets and entails acknowledging and redressing prior wrongs, recognising the rights and

[5] Steffen, B., 2020. Estimating the cost of capital for renewable energy projects. *Energy Economics*, *88*, p. 104783.

[6] Carley, S. and Konisky, D.M., 2020. The justice and equity implications of the clean energy transition. *Nature Energy*, *5*(8), pp. 569–577.

[7] McCauley, D., Ramasar, V., Heffron, R.J., Sovacool, B.K., Mebratu, D. and Mundaca, L., 2019. Energy justice in the transition to low carbon energy systems: Exploring key themes in interdisciplinary research. *Applied Energy*, *233*, pp. 916–921.

[8] Heffron, R.J., 2022. Applying energy justice into the energy transition. *Renewable and Sustainable Energy Reviews*, *156*, p. 111936.

knowledge of marginalised communities, ensuring full and equal participation in the decision-making of all stakeholders, and establishing an equitable distribution of the transition's costs and benefits.[9]

Recognition justice is crucial in mobilising the global north and financial institutions to prioritise and channel energy funds to the global south. A deeper analysis of recognition justice reveals a grounding in the concept of common but differentiated responsibilities and capacities (CBDR-RC) regarding climate financing.[10] CBDR-RC recognises that all countries are responsible for addressing global environmental issues. However, their responsibilities and capacities vary according to their level of development and contribution to the problem.

23.3 Barriers to Equitable Energy Financing for the Global South

The global south nations are decapacitated by their historical economic, technical, technological, and political limitations, which hinder the energy transition. They frequently struggle to obtain financing to meet their renewable energy aspirations. Many foreign financial institutions hesitate to invest in emerging nations due to the perceived dangers. These include:

- *High up-front costs*: Renewable energy projects frequently involve huge up-front expenses for infrastructure, technology, and policy alignment, making it more challenging for the nations to attain their energy transition objectives.[11]
- *Heavy reliance on fossil fuels*: Economies relying on fossil fuels to drive their economic transformation will find it challenging to transition easily. The financing deficits compel countries to invest in fossil fuel projects with high and volatile costs. Globally, countries need

[9] Sovacool, B.K., Bell, S.E., Daggett, C., Labuski, C., Lennon, M., Naylor, L., Klinger, J., Leonard, K. and Firestone, J., 2023. Pluralizing energy justice: Incorporating feminist, anti-racist, Indigenous, and postcolonial perspectives. *Energy Research & Social Science*, *97*, p. 102996.

[10] Akinkugbe, O.D. and Majekolagbe, A., 2022. International Investment Law and Climate Justice: The Search for a Just Green Investment Order. *Fordham Int'l LJ*, *46*, p. 169.

[11] Moorthy, K., Patwa, N. and Gupta, Y., 2019. Breaking barriers in deployment of renewable energy. *Heliyon*, *5*(1), p. e01166.

support for seizing benefits associated with phasing down fossil fuels for the greater global public good.[12]

- *Lack of supporting legal frameworks*: The frameworks may not promote the implementation of renewable energy technology or divestment from fossil fuels, making it challenging to attract investment. Further, with ineffective energy subsidies, nations are frequently relegated to costly and high-carbon energy options.[13] Countries thus need to plan extensively to mitigate stranded asset risks, refinancing fossil fuel liabilities, and economic and livelihood disruption; and the law can play a big role.[14]
- *State fragility*: This shows in weak governance and institutional systems, corruption, abuse of office, low transparency, and political instability.[15] Instability and conflict on the political level can discourage investment in renewable energy projects and, in some instances, make it harder to implement these projects.

23.4 Conclusion—Benefits of Addressing Energy Financing Gaps in Achieving Overall Societal Move to a Just Transition to a Low-carbon Economy

Recognition justice strives to redress the historical and ongoing injustices that oppressed populations face in the social, economic, and political realms. In the context of energy financing for the global south, recognition justice is an essential factor in addressing the long-standing systematic disparities in the energy sector advocates for correcting these past and present injustices by prioritising the energy funding needs of underprivileged populations, Small Island Developing States (SIDS) and indigenous

[12] World Bank., 2023. *Scaling up to phase down: Financing energy transitions in the power sector*. Washington, DC: World Bank.

[13] Ibid.

[14] Rossati, D. and Zahar, A., 2022. Governing international climate finance and investment: The role of law. *David Rossati and Alexander Zahar, 'Governing Climate Finance and Investment: The Role of Law', in Research Handbook on Climate Finance and Investment Law, edited by M. Mehling and H. van Asselt (Edward Elgar, 2022).*

[15] Hafner, M. and Tagliapietra, S., 2020. *The geopolitics of the global energy transition* (p. 381). Springer Nature.

and local communities.[16] This could involve directing finance for renewable energy projects to marginalised groups in the global south, as opposed to only wealthy nations or companies.

Solving financing challenges will ensure stable and affordable energy supplies, provide universal energy access, and support overall economic growth in the global south. Securing energy financing for the global south will support broader SDGs and a transition to a low-carbon economy.[17] Developing countries can access and obtain finances for their energy needs, including addressing energy poverty and infrastructural developments. Spill-over benefits will accrue for the other sectors that rely on a functioning energy system, such as employment, agriculture, industry, health, education, infrastructure, research and development, *inter alia*.

Addressing the financing gaps also buttresses the recognition that industrialised countries in the global north are more responsible for tackling climate change and transitioning to renewable energy sources due to their more significant historical emissions and economic resources. Through recognition justice, policymakers and financial institutions can realign financing approaches to support infrastructural development, capacity building, policy regulation, and technological advancement for the energy transition in the global south.[18]

The energy transition in the global south necessitates investing in and promoting renewable energy technologies, pushing for regulations that encourage sustainable environmental practises and economic development, and prioritising energy efficiency measures. The energy transition must be equitable and inclusive, and developing economies should have access to financial and technological assistance. Policy stakeholders at all levels should channel the bulk of climate and energy financing to the most vulnerable nations through mainstreaming recognition justice into global, regional, and national energy transition planning. Recognition justice can

[16] Heffron, R.J. and De Fontenelle, L., 2023. Implementing energy justice through a new social contract. *Journal of Energy & Natural Resources Law*, *41*(2), pp. 141–155.

[17] Siciliano, G., Wallbott, L., Urban, F., Dang, A.N. and Lederer, M., 2021. Low-carbon energy, sustainable development, and justice: Towards a just energy transition for the society and the environment. *Sustainable Development*, *29*(6), pp. 1049–1061.

[18] Carley, S. and Konisky, D.M., 2020. The justice and equity implications of the clean energy transition. *Nature Energy*, *5*(8), pp. 569–577.

thus play an essential role in fostering equitable access to energy funding for the energy transition in the global south by addressing the past and continuing injustices that have contributed to the unequal distribution of energy resources and environmental damage.

CHAPTER 24

Australian Petroleum and Coal Resources: Taxation, Emissions and Energy Justice

Diane Kraal

Abstract Two forms of energy justice provide insight on Australia's petroleum and coal problematic policy issues. First, distributive justice is used to cover the implications of low revenues from critical energy minerals; and fair allocations of resource income. Unfortunately, calls for true reform by the Australian community has resulted in a weak response from government. Second, cosmopolitan justice is used to consider the global effects of Australia's fossil fuel extraction and use. Petroleum and coal exports result in GHG being emitted beyond the borders of the source country. However, there is now pressure in Australia to limit the opening of coal mines that supply the export market, but no such limit is applied to gas exports.

Keywords Australia · Petroleum · Coal · Distributive · Cosmopolitan

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R. J. Heffron and L. de Fontenelle (eds.), *The Power of Energy Justice & the Social Contract*, Just Transitions,
https://doi.org/10.1007/978-3-031-46282-5_24

24.1 Introduction

Australia's export volumes of liquified natural gas (LNG) are the largest globally. The coastal waters off Western Australia are the main source of gas resources, a petroleum commodity. Coal is Australia's largest energy resource, with the states of Queensland and New South Wales (NSW) as the primary sites for metallurgical, black coal. Australia's export volumes of metallurgical coal are the largest globally.[1] Both gas and coal have policy issues that energy justice could address which this chapter details below.

24.2 Background

24.2.1 Petroleum

A key policy problem with Australia's petroleum resources (which are community owned) is the low federal tax revenues from its petroleum resource rent tax (PRRT), and the proposed 2023 Federal Budget changes to the PRRT will generate only modest additional revenue.[2] This issue is followed closely by policy concerns over the sector's large greenhouse gas (GHG) emissions.

Australia's current LNG production capacity is 88 million tonnes per annum (MTPA). The latest statistics show that 82 mtpa were exported in 2022 with record industry revenues of AU$91 billion.[3] The federal government's PRRT collection in 2021–2022, however, was only AU$1.6

[1] Gas and Coal data from Department of Industy Science and Resources, "Resources and Energy Quarterly: March 2023", (Canberra: Australian Government, 2023), 50, 54, 76.

[2] The Petroleum Resource Rent Tax Assessment Act 1987 (Cth) applies a tax on profits from petroleum extraction projects operating in Australian waters. Low tax revenues are addressed by Kraal D, M Mulder, and P Perey, "Taxation and Pricing of Natural Gas: The Dutch transition to gas market hub pricing and lessons for Australia's integrated gas projects" (2020) 43(1) *University of New South Wales Law Journal* 39–81. Treasurer Jim Chalmers, Media Release, 7 May 2023, "Changes to the Petroleum Resource Rent Tax." <https://ministers.treasury.gov.au/ministers/jim-chalmers-2022/media-releases/changes-petroleum-resource-rent-tax>.

[3] Department of Industy Science and Resources, "Resources and Energy Quarterly: March 2023", above n 1, 75.

billion.[4] A negative aspect of high production volumes is the annual, national proportion of GHG emissions from Australian fossil fuels—mainly from LNG production—of 9.8%, or 47.9 mt CO_2-e.[5]

24.2.2 Coal

The key policy problem from Australia's coal resources concerns its GHG emissions, arising from its being the main energy source for domestic electricity generation. There are also emissions from coal exported outside of Australia. Taxation is often used to change behaviour[6]; for instance, to increase prices to make a commodity less desirable. Coal, however, is not taxed centrally by the federal government, rather the states of Australia have their own policies and systems of royalties levied on coal.

Australia's metallurgical coal production in 2021–2022 was 174 mt. Thermal coal production in 2021–2022 was 237 mt[7]; and primarily used for electricity generation in the states of NSW, Victoria and Queensland. In 2020, NSW coal royalty collections were AU$1.6 billion, while for Queensland it was AU$4.5 billion.[8] The annual, national proportion of GHG emissions from the Australian coal-fired electricity sector was an alarming 32%, or 157 mt CO_2-e.[9]

[4] Australian Treasury, *Budget Paper No. 1. Budget Strategy and Outlook: October 2022–23*, Canberra, <https://budget.gov.au/2022-23-october/content/bp1/download/bp1_bs-5.pdf>.

[5] Department of Climate Change Energy the Environment and Water, *Quarterly update of Australia's national greenhouse gas inventory for September 2022*, Australian Government, Canberra, <https://www.dcceew.gov.au/sites/default/files/documents/nggi-quarterly-update-sept-2022.pdf>, p. 9.

[6] For example, Rogers P, R de Silva, and R Bhatia, "Water is an economic good: How to use prices to promote equity, efficiency, and sustainability" (2002) 4(1) *Water Policy* 1–17.

[7] Department of Industy Science and Resources, "Resources and Energy Quarterly: March 2023," above n 1, 59, 74.

[8] Foote C, *A Fair Share? Royalties in Australia*, Michael West Media, Perth, <https://www.michaelwest.com.au/wp-content/uploads/2021/05/A-Fair-Share_-Royalties-Report.pdf>, 32.

[9] Department of Climate Change Energy the Environment and Water, 'Quarterly Update of Australia's National Greenhouse Gas Inventory for September 2022', above n 5, 9.

24.3 The Power of Energy Justice to Transform These Policy Issues

Energy justice can facilitate discussions about energy sector GHG emissions, as well as effective taxation of energy resources. Energy justice is a normative theory that sets out sustainable pathways for the energy sector.[10] The theory can be seen as five forms of justice: procedural justice, recognition justice, cosmopolitan justice, restorative justice and distributive justice.[11]

This chapter selects two forms of energy justice to address the petroleum and coal issues at hand. First, distributive justice concerns the revenues from the critical energy minerals and how they are allocated. Taxation is a tool to elicit a return from the exploitation of resources for public goods, and how tax revenues are shared is a vital question. For example, Australia's Treasurer, Jim Chalmers, lost the chance to substantially increase PRRT revenues from petroleum profits contained in the recent 2023 Federal Budget.[12] Unfortunately, calls for true reform by the community has resulted in a weak response from government.[13] The states' collections from coal royalties are also the subject of robust debate. For instance, a recent report notes 'a 7-year coal royalty deferral arrangement between a company and the Queensland government'.[14]

Second, cosmopolitan justice stems from the belief that we are all citizens of the world and must consider the global effects of our actions. Typically, a source country exports fossil fuels that results in the importing

[10] Kraal D and R Heffron, "Resource Rent Tax: Its principles, application and need for change in Australia" (2022) 37(4) *Australian Tax Forum* 559–599, 593.

[11] Heffron RJ, *Achieving a just transition to a low-carbon economy* (Cham: Springer International Publishing AG, 2021), 16.

[12] Toscano N and M Foley, 'Gas giants face tax rise threat as Chalmers flags resource rent reform', *Sydney Morning Herald*, 18 April 2023 <https://www.smh.com.au/business/companies/gas-giants-face-tax-rise-threat-as-chalmers-flags-resource-rent-reform-20230417-p5d12n.html>. See PRRT report: Australian Treasury. "Review of the PRRT Gas Transfer Pricing Arrangements. Final Report to the Treasurer, 7 May 2023." Canberra: Commonwealth of Australia. <https://treasury.gov.au/publication/p2023-388153>.

[13] Eg. Wood D, K Griffiths, and I Chan, *Back in black? A menu of measures to repair the budget* (Grattan Institute, 2023), 42–43. <https://grattan.edu.au/report/back-in-black-a-menu-of-measures-to-repair-the-budget/>. Kraal D, 'The Importance of Energy Justice for Oil and Gas Taxation', *Austaxpolicy*, 6 April 2023 <https://www.austaxpolicy.com/the-importance-of-energy-justice-for-oil-and-gas-taxation/>.

[14] Foote, 'A Fair Share? Royalties in Australia', above n 8, 3.

country burning those resources for energy. The negative result is GHG being emitted beyond the borders of the source country.

An example of the cosmopolitan justice "beyond borders" concern was seen in a court decision on the Rocky Hill coal mine in 2019 in Australia, where it was held, in part, that the coal mine would be denied permission to open.[15] The court decision addressed the effects of the carbon dioxide that would be produced in other places in the world once that coal was transported and burnt outside of Australia. Thus, there is now pressure in Australia to limit the opening of coal mines that supply the export market.

Further, in April 2023 a commercial decision took effect to close the 50-year-old Liddell coal-fired power station in the state of NSW. It was based on the age, inefficiency and unreliability of the plant.[16] Given Liddell has contributed to 32% of national emissions from electricity generation—surely the other reason for the plant's closure had to be: excessive emissions of GHG. This is a case where cosmopolitan justice could be applied.

The implementation of energy justice can be furthered by thinking about the need for a new social contract between the energy sector and society in Australia. A civil society requires that all members respect the rights of others even if it means reducing individual expectations.

24.4 Conclusion—Achieving Energy Justice in Australian Tax Policy

The record AU$91 billion in revenues in 2021–2022 from Australian LNG exports, and associated infrastructure spending make short-term energy transformation difficult.[17] This is why climate change forums,

[15] Gloucester Resources ("Rocky Hill") case. Decision rejecting the coal mine: Gloucester Resources Limited v Minister for Planning [2019] NSWLEC 7 <http://envlaw.com.au/gloucester-resources-case/>.

[16] Gilmore J and T Nelson, 'Farewell Liddell: What to expect when Australia's oldest coal plant closes', *The Conversation* 13 April 2023 <https://theconversation.com/farewell-liddell-what-to-expect-when-australias-oldest-coal-plant-closes-203548>.

[17] The LNG industry has spent AU$200 billion on infrastructure in Australia since the year 2000, see Kraal D, "Review of the Petroleum Resource Rent Tax: Implications from a case study of the Gorgon gas project" (2017) 45(2) *Federal Law Review* 315–349, 316.

such as the United Nations COPs,[18] are so important as there needs to be global efforts to shift away from fossil fuels. The federal government could apply PRRT collections from petroleum to fund transition strategies. The tax take, however, must be adequate in the first instance. As for coal in Australia, there are still political divisions on the continued use of coal as a source of energy. Coal industry lobbying strength and jobs in the industry are unfortunately fragmenting state governments' policy decisions to reduce reliance on coal.

Government policy is a key element to progress a shift away from fossil fuel energy, whether coal or gas, to renewable energy. Self-regulation of emissions by industry has not worked. One recent federal policy development in 2023 is the Safeguard Mechanism,[19] that requires Australia's largest GHG emitters to keep their net emissions below certain limits.

This chapter has considered petroleum and coal policy issues around taxation take and GHG emissions, both in Australia and beyond its borders. The energy justice lens of distribution justice, and cosmopolitan justice, have facilitated a clearer picture of the policy path forward.

There needs to be a fairer tax system to equitably share the benefits of energy minerals extraction, with the government share best distributed to address the negatives of GHG emissions. Bearing in mind the cosmopolitanism of our existence, taxes from developed countries should fund loss and damage from climate change borne by developing countries. Ultimately, there needs to be a just transition to a low-carbon economy.

[18] The 2023 United Nations COP is in Dubai, <https://www.expocitydubai.com/en/expo-city-dubai-cop28>.

[19] Safeguard Mechanism (Crediting) Amendment Bill 2023. It amends the National Greenhouse and Energy Reporting Act 2007 (Cth).

CHAPTER 25

Contribution of Local Energy Communities to the Realization of a Just Energy Transition in Spain

Ignacio Zamora and Alejandra Garzón

Abstract This chapter begins by stressing the importance of electricity as an essential element to modern life in society. The above is followed by an insight into the relevance of local energy communities, an emerging figure that can enable new ways of producing and consuming electricity for the benefit of the community. Such a structural shift must be guided by the principle of energy justice. However, the current Spanish regulatory context is not enabling of this. In addition, existing European directives applicable to energy communities have not yet been fully transposed. But despite these barriers, opportunities for the development of local energy communities in Spain do exist. The country possesses abundant renewable energy resources, including solar and wind power, which can be harnessed by communities to become more self-sufficient and sustainable in their consumption of energy. To conclude, the chapter proposes a series of regulatory mechanisms that may be useful for deploying energy

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https://doi.org/10.1007/978-3-031-46282-5_25

communities in Spain in light of the above-mentioned principle of energy justice.

Keywords Energy communities · Energy justice · European directives · Incentive schemes

25.1 Social Impact of Local Energy Communities: From Rural Areas

Energy is present in the most basic and daily activities of life in society, but it also accompanies the most avant-garde industrial processes and enables the high-level technological development of our times. This shows that necessity and interdependence are two fundamental elements that allow us to understand the dimension of energy.[1] Energy is necessary for the social life we know and the satisfaction of what we consider as basic needs or dignified living conditions. Without energy the world and society would be exponentially different. Interconnectivity is also seen in relation to sustainable development, communication, and sustainability.

Critical events, such as the COVID19 pandemic, extreme weather conditions, and political conflicts, present a risk to the security of energy supply by affecting the availability of resources, the operation of the energy industry, and by the resulting intense increase in demand. This risk scenario highlights the complexities of facing a world without electricity and the critical situation faced by those who do not have safe, sustainable, and affordable electricity.

The principle and framework of energy justice seek to address these issues and promulgate that the energy-just world would be one involving happiness, welfare, freedom, equity, and due process for both producers and consumers. It also ensures that access to energy systems and services is equitable.[2] This is without prejudice to the legal and regulatory content that must be analyzed for its incorporation.

[1] López Ibor-Mayor, Vicente et al. (2012). "Conversaciones sobre la energía". (Energy Conversations), Nota introductoria (Introductory note) Thomson Reuters, España, pp. 27–32.

[2] Benjamin K. Sovacool, Michael H. Dworkin, Energy justice: Conceptual insights and practical applications, Applied Energy, Volume 142, 2015, pp. 435–444.

25.2 Relationship Between Energy Justice and Local Energy Communities

Energy justice as a principle implies a mandate for optimization, and in line with SDG7, it seeks alternatives which allow people living in communities where the electricity service is not safe, sustainable, and affordable to seek solutions to reverse this inequitable situation. Further in the current energy transition, justice as it relates to vulnerable communities must be included especially when looking at decarbonization impacts.

Energy communities are groups of individuals who cooperate to carry out the participation of citizens in the energy transition. By fostering active citizen participation, they promote the acceptance of renewable energies and democratizing access to resources.

Specifically, energy communities develop the different dimensions of distributive justice to the extent that they improve access to energy, reduce energy costs, and promote local economic progress with the development of local competencies. They also encourage procedural justice to the extent that they encourage citizen participation, contribute to the resilience of communities, facilitate access to educational spaces, and increase social capital. They also promote recognition justice since energy communities are seen as a space for the inclusion of people with different economic characteristics and groups that have been marginalized and now have defined participation mechanisms.[3]

As an example, in communities that have intermittent electricity service provision through fossil fuels, the promotion of energy communities has been identified as a tool to strengthen these communities against the aforementioned issues and also to ensure sustainable and safe provision of electricity supply.

[3] Cárdenas-Álvarez, Juan Pablo, et al. "Rethinking energy communities for a just transition", Transactive Energy Colombia. Available: https://www.eia.edu.co/wp-content/uploads/2023/05/3.EIA-Workingpaper-ESP_Redefiniendo-Comunidades-Energeticas-2023.pdf.

25.3 Regulatory Context for Local Energy Communities in Spain: Barriers and Opportunities

The regulatory context for local energy communities in Spain is currently facing barriers and opportunities, with one significant hurdle being the lack of transposition of European directives into national legislation. Beyond their legal definition, the absence of a regulatory framework specifically tailored to local energy communities does not create the ideal scenario for investors—who, in many cases, are domestic consumers.

The European Union has provided directives that aim to promote the establishment and operation of local energy communities. However, the full transposition of these directives into Spanish law has not yet been accomplished, hindering the implementation of supportive policies and regulations at the national level. The absence of clear rules and guidelines tailored to local energy communities creates obstacles for their formation and effective functioning.

In addition to the lack of transposition, administrative procedures, and grid connection processes pose further challenges for local energy communities. Complex and time-consuming administrative procedures often act as barriers, making it difficult for communities to navigate the regulatory landscape and establish their operations. Similarly, grid connection procedures can be burdensome and create delays, hindering the integration of renewable energy generation within local communities.

Furthermore, it should be noted that the Spanish Climate Change Act, approved in May 2021, dedicates its Title VI to "Just Transition Measures." However, this section of the cited Act should have a broader scope, without limiting itself exclusively to requiring the central Government to draw up a Just Transition Strategy and establish the essential elements of just transition agreements linked to the cessation of national coal production.[4]

[4] López-Ibor and Zamora (2022) "Derecho de la transición energética y Ley de cambio climático" (Energy Transition Law and Spanish Climate Change Act), *"Estudios sobre cambio climático y transición energética"* (*Studies on Climate Change and Energy Transition*), pp. 45–73.

Despite these barriers, opportunities exist for the development of local energy communities in Spain. The country possesses abundant renewable energy resources, including solar and wind power, which can be harnessed by communities to become more self-sufficient and sustainable in their energy consumption.

25.4 Energy Justice as a Key Element in the Regulatory Design of Local Energy Community Incentive Schemes

Energy justice is a crucial element that should be considered in the regulatory design of local energy community incentive schemes. As these schemes aim to promote renewable energy generation and community engagement, it is essential to ensure equitable access and benefits for all participants.

Energy justice, as it relates to energy communities, encompasses various dimensions, including mainly distributive justice, procedural justice, and recognition justice.[5] Distributive justice emphasizes the fair distribution of costs and benefits associated with energy projects. In the context of local energy communities, it is crucial to design incentive schemes that prioritize equal access to financial support and rewards, ensuring that disadvantaged communities have an opportunity to participate and benefit from renewable energy projects.

Procedural justice focuses on inclusive decision-making processes and meaningful participation. As it relates to energy communities, regulatory design should incorporate mechanisms that allow for community involvement in the planning, implementation, and governance of local energy communities. This can be achieved through public consultations, transparent decision-making frameworks, and community representation in relevant decision-making bodies.

Recognition justice recognizes the diverse needs, values, and identities of different communities. The regulatory design of incentive schemes in

[5] Jenkins, Kirstin, McCauley, Darren, Heffron, Raphael, Stephan, Hannes, and Rehner, Robert (2016) "Energy Justice: A Conceptual Review", Energy Research & Social Science, 11, pp. 174–182.

energy communities should consider the unique characteristics and aspirations of local communities, taking into account factors such as social, economic, and cultural contexts.

It would be interesting if the Spanish Climate Change Act, in addition to the issues mentioned above, had addressed more ambitious measures such as "cap-and-trade" mechanisms and other possible incentive schemes able to encourage investment in decarbonization projects—especially those of a tax nature.

Additionally, local energy communities will also be essential to attract people to rural areas, distribute energy resources, and spread job creation throughout the territory. In short, to overall achieve a more just energy transition.

In conclusion, energy justice should be a fundamental consideration in the regulatory design of local energy community incentive schemes. By ensuring equitable distribution of benefits, inclusive decision-making processes, and recognition of diverse community needs, these schemes can promote a just and equitable transition to a cleaner and more sustainable energy future.

CHAPTER 26

Solving Energy Justice in the European Union

Marzena Czarnecka and Marcin Krazniewski

Abstract The electricity sector will play a key role in the energy transition. In particular, this can have a transformative affect in the European Union (EU). One of the key aspects of EU policy that can contribute to energy transition is the role of energy communities. Prioritising low-income communities and communities of colour is necessary as these are disproportionately impacted by energy poverty. Community ownership can provide communities with a voice in energy production and distribution. Promoting energy communities can enable the development of clean energy development which overall can contribute to a just transition to a low-carbon economy.

Keywords European Union · Energy justice · Renewable energy · Affordable energy · Community ownership · Just transition

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R. J. Heffron and L. de Fontenelle (eds.), *The Power of Energy Justice & the Social Contract*, Just Transitions,
https://doi.org/10.1007/978-3-031-46282-5_26

26.1 Aspects of the Energy Sector on Which Energy Justice Can Have a Decisive Impact

The electricity sector is the energy sector where energy justice can have a critical impact. Energy justice in the electricity sector can ensure that all citizens can access affordable, reliable, and clean energy sources. It can also address issues of energy poverty; when low-income households are unable to afford basic energy needs, and environmental justice; when marginalised communities are disproportionately affected by the negative impacts of energy production and consumption. Promoting energy justice in the electricity sector can create a more equitable and sustainable energy system for all. A key issue related to energy justice is the equitable distribution of the financial burdens associated with climate change, as it has a long time horizon.[1] Energy justice envisions elements of a global energy system that equitably distributes both the benefits and burdens of energy services and can be used as a framework to identify energy inequities. In recent decades, energy communities have emerged as essential actors in the energy transition. For example, EU legislation in the form of the recast Renewable Energy Directive (RED II) "provides opportunities for energy communities to promote energy efficiency at household level and (…) combat energy poverty" (European Parliament and European Council, 2018, recital 67). The emerging social role of energy communities contributes to a democratic, welfare-enhancing, and equitable energy transition. It highlights various participatory preconditions and their implications for the participation of vulnerable groups in energy communities.[2]

[1] Ambika Opal, Jatin Nathwani, Chapter 32—Global energy transition risks: Evaluating the intergenerational equity of energy transition costs, Editor(s): Majia Nadesan, Martin J. Pasqualetti, Jennifer Keahey, Energy Democracies for Sustainable Futures, Academic Press, 2023, Pages 301–310, https://doi.org/10.1016/B978-0-12-822796-1.00032-2.

[2] Florian Hanke, Rachel Guyet, Mariëlle Feenstra, 12—Energy communities' social role in a just energy transition, Editor(s): Sabine Löbbe, Fereidoon Sioshansi, David Robinson, Energy Communities, Academic Press, 2022, Pages 195–208, https://doi.org/10.1016/B978-0-323-91135-1.00027-4. (https://www.sciencedirect.com/science/article/pii/B9780323911351000274).

26.2 The Power of Energy Justice Transforms the Energy System

Energy justice ensures that all people have access to clean and affordable energy, so it has an impact on social prosperity.[3] This can be achieved by promoting renewable energy sources such as solar, wind, and hydropower that are sustainable and do not harm the environment. Energy equity ensures that energy is distributed equally regardless of income, race, or location. This can be achieved by implementing policies prioritising low-income communities and communities of colour, often disproportionately impacted by energy poverty.[4]

Energy justice promotes community ownership of energy resources, giving communities a voice in energy production and distribution. This can be achieved by supporting community-owned renewable energy projects that can create local jobs and economic opportunities. Energy justice ensures that energy production and distribution do not harm the environment or contribute to climate change. This can be achieved by promoting clean energy sources and reducing dependence on fossil fuels.[5] Overall, the power of energy justice can transform the energy system by creating a more equitable and sustainable system.

26.3 Challenges to Overcome to Achieve Transformation for Energy Injustice

There are several challenges that must be overcome to achieve transformation for energy justice. Achieving energy justice requires political will and commitment from policymakers. This can be challenging because the energy sector is often influenced by powerful interests that can

[3] Yunpeng Sun, Jin Wang, Xiuhui Wang, Xinyu Wei, Achieving energy justice and common prosperity through green energy resources. Resources Policy, 2023;81:103427, https://doi.org/10.1016/j.resourpol.2023.103427 (https://www.sciencedirect.com/science/article/pii/S0301420723001356).

[4] Hernández D. Sacrifice along the energy continuum: A call for energy justice. Environmental Justice, 2015 Aug 18;8(4):151–156. https://doi.org/10.1089/env.2015.0015. www.ncbi.nim.nih.gov

[5] Report Why Energy Justice? Towards a new economic and energy framework in Europe. European Environmental Bureau 2022. www.eeborg

resist change.[6] Transforming the energy system to achieve energy justice requires significant financial resources. This can be challenging because funding for renewable energy projects can be limited, and low-income communities may not have the resources to invest in renewable energy.

Additionally, building the infrastructure needed to support renewable energy sources can be challenging, especially in rural or remote areas. This can be a barrier to equitable access to clean energy.[7] Achieving energy equity also requires public awareness and support. Many people are unaware of the benefits of renewable energy or the impact of energy poverty on low-income communities.[8] In the end, it is worth mentioning that resistance to change can be a significant challenge in achieving energy justice. Some people may be opposed to renewable energy sources or may not see the need for change.

26.4 Ways Resolving the Energy Justice Issue Can Contribute to the Overall Societal Move to a Just Transition to a Low-carbon Economy

Solving the energy justice problem can contribute to a just transition to a low-carbon economy in several ways. First, solving the energy justice problem can promote the use of renewable energy sources such as solar, wind, and hydropower that are sustainable and do not harm the environment. This can help reduce carbon emissions and transition to a low-carbon economy. Addressing energy equity can help reduce energy poverty, a significant barrier to a change to a low-carbon economy.[9] If this is achieved, green jobs are created in the renewable energy sector which

[6] Salma Elmallah, Tony G. Reames, C. Anna Spurlock, Frontlining energy justice: Visioning principles for energy transitions from community-based organizations in the United States, Energy Research & Social Science, 2022;94:102855, https://doi.org/10.1016/j.erss.2022.102855. (https://www.sciencedirect.com/science/article/pii/S2214629622003589).

[7] Making clean Energy more accessible and more affordable, 01.2023 report. www.energy.gov.

[8] Trębska, P., & Jarka, S. The role of renewable energy sources in alleviating energy poverty in households in Poland. Energies, 14(10):2957. https://doi.org/10.3390/en14102957.

[9] Papadopoulou, S., Kalaitzoglou, N., Psarra, M., Lefkeli, S., Karasmanaki, E., & Tsantopoulos, G. Addressing energy poverty through transitioning to a carbon-free environment. Sustainability, 11(9):2634. https://doi.org/10.3390/su11092634.

supports a just transition to a low-carbon economy. This can provide economic opportunities for low-income communities and communities of colour often disproportionately affected by unemployment. Addressing energy equity can address environmental justice by ensuring that energy production and distribution do not harm the environment or contribute to climate change.

PART VI

Energy Life-Cycle Activities and Justice

CHAPTER 27

The Power of Consumers: On the Interplay Between Consumer-Centric Markets and Energy Justice

Anne Michaelis and Martin Weibelzahl

Abstract As electricity systems undergo a profound transformation characterized by decentralization and the emergence of millions of new electricity consumers, including electric vehicles and heat pumps, the complexity of modern electricity markets is on the rise. This development presents a unique opportunity for consumers to actively participate

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https://doi.org/10.1007/978-3-031-46282-5_27

in electricity markets. To avoid divergent developments, it is essential to comprehensively consider the interplay between electricity market design and energy justice. This chapter identifies main barriers to consumer-centric electricity markets and outlines a modern cycle of energy justice and consumer-centric electricity markets. Consumer-centric electricity markets, which put consumers at the heart, can be a catalyst for energy justice. Conversely, energy justice and its various forms can help design and successfully implement consumer-centric electricity markets aligned with a low-carbon economy and society. Policymakers must address both policy areas cohesively to avoid the emergence of electricity markets that fail to harness justice potentials. Consumer-centric electricity markets have the potential to drive transformative change, making it imperative to empower consumers in this evolving landscape. Now is the time to give power to consumers.

Keywords Energy transition · Electricity market · Consumer-centric market · Transformation · Energy justice

27.1 Introduction

Our world is changing. This is particularly true for electricity systems, which become highly decentralized with millions of new electricity consumers such as electric vehicles or heat pumps. Despite its challenges, this development is a great opportunity for consumers to play a new, active role in electricity systems, i.e., by actively purchasing electricity and in this way saving money. Given new players and market roles in modern electricity systems, the corresponding system complexity is growing and growing. Current policy discussions in Europe and around the world on

future-proof electricity market design underscore the key role of electricity markets in addressing this increasing complexity.[1] In particular, policymakers seek for new market design solutions that can successfully pave the way toward a sustainable economy and society (see, e.g., the current reform of the EU electricity market design or the implementation of Australia's new wholesale demand response mechanism[2]).

At the same time, there is an increasing awareness of social aspects of the energy transition, which is, for instance, also highlighted in current EU policy considerations.[3] Against this background, the interplay between *electricity market design* and *energy justice* needs to be understood and considered in an integrated way to avoid divergent developments in these two important policy areas. As we will discuss in this chapter, on the one hand, a *consumer-centric electricity market*, which puts consumers at the heart, can be a catalyst for energy justice.[4] On the other hand, energy justice and its various forms like procedural justice can help design and successfully implement consumer-centric electricity markets that are ready for a low-carbon economy and society.

[1] Heffron, R. J., Körner, M. F., Schöpf, M., Wagner, J., & Weibelzahl, M. 2021. The role of flexibility in the light of the COVID-19 pandemic and beyond: Contributing to a sustainable and resilient energy future in Europe. Renewable and Sustainable Energy Reviews, 140, 110743.

[2] European Commission. 2023. Reform of the electricity market design. https://energy.ec.europa.eu/system/files/202303/SWD_2023_58_1_EN_autre_document_travail_service_part1_v6.pdf and International Energy Agency. 2022. Demand response. https://www.iea.org/reports/demand-response.

[3] European Commission. 2015. A framework strategy for a resilient Energy Union with a forward-looking climate change policy. https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52015DC0080&from=EN.

[4] Elia Group. 2021. Towards a consumer-centric and sustainable electricity system. https://www.eliagroup.eu/-/media/project/elia/shared/documents/elia-group/publications/studies-and-reports/20210618_elia_ccmd-white-paper_en.pdf.

27.2 Barriers to Consumer-Centric Electricity Markets

Notwithstanding the relevance of consumer-centric electricity markets, there are currently severe *barriers* to consumer centricity in electricity systems. These barriers are diverse and for instance relate to technical, economic, regulatory, and social issues.

From a *technical* perspective, the lack of standardized smart meters is a current hurdle in many countries such as Germany, as data is necessary for reliable forecasts and market activities. Without the availability of data, for instance demand management by consumers and the application of innovative consumer-centric business models are not possible. *Economically*, a consumer-centric electricity market may be associated with high initial investments. In order to realize consumer-centric electricity markets, targeted incentives for active consumer engagement must be set to cover such investments.

Moreover, new forms of dynamic tariffs and grid charges must be introduced.[5] From a *regulatory* perspective, the standardization of regulations (e.g., within the EU) and the simplification of market entry barriers are still a regulatory challenge on the way to a consumer-centric electricity market. In order to achieve *social* acceptance of a consumer-centric electricity market, it is decisive that, despite the complexity of electricity markets, lack of knowledge does not lead to disadvantages for different players. Fears of new technologies or a lack of comfort should be successfully addressed. Overall, participation of the population is crucial for the functioning of a consumer-centric electricity market.

[5] Hanny, L., Wagner, J., Buhl, H. U., Heffron, R., Körner, M. F., Schöpf, M., & Weibelzahl, M. 2022. On the progress in flexibility and grid charges in light of the energy transition: The case of Germany. Energy Policy, 165, 112882.

27.3 On the Interplay Between Consumer-Centric Markets and Energy Justice

As discussed in our introduction, consumer-centric electricity markets and energy justice must be considered in an integrated manner. Bringing together consumer-centric markets and energy justice, Fig. 27.1 illustrates how the former can foster different forms of energy justice, while the latter can act as a booster for successful consumer-centric markets. In the following, we will illustrate the resulting *modern cycle of energy justice and consumer-centric markets* by using some examples.

With consumers becoming active market players, consumer-centric electricity markets can contribute to a change in the way how benefits and costs in the electricity system are shared (see the gray arrow in Fig. 27.1). In this way, consumer-centric electricity markets can directly foster distributive justice. As the example of the integrated EU electricity market shows, cross-border electricity markets can also increase "responsibility for others that goes beyond borders,"[6] which relates to

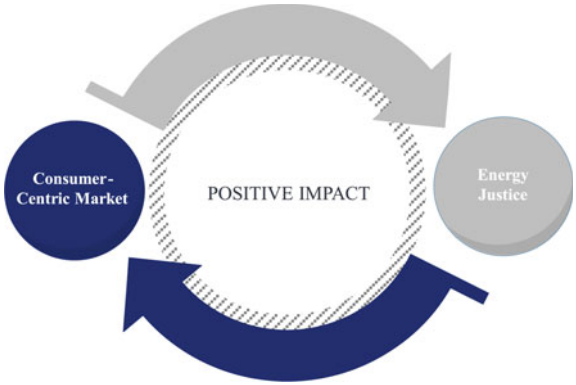

Fig. 27.1 The modern cycle of energy justice and consumer-centric markets

[6] Sovacool, B. K., Martiskainen, M., Hook, A., & Baker, L. 2019. Decarbonization and its discontents: a critical energy justice perspective on four low-carbon transitions. Climatic Change, 155, 581–619.

forms of cosmopolitan justice. As future-proof electricity markets actively contribute to CO_2 savings, they can be an important means in the global fight against climate change.

Justice forms like recognition justice, which focuses on vulnerable groups (e.g., different household types), can guide the design of new consumer-centric electricity markets and remove existing barriers as described in the previous section (see also the blue arrow in Fig. 27.1). In this way, all relevant consumer groups can play their role without any discrimination against for instance small-scale electricity consumers. The same holds for procedural justice including forms of public participation, which can—in the form of the cycle shown in Fig. 27.1—positively impact other forms of justice.

27.4 Conclusion

In this chapter, we focused on the question, how consumer-centric electricity markets can foster energy justice and vice versa. As we argue, it is of high importance that policymakers consider both policy areas in an integrated way to avoid the emergence of electricity markets that cannot harness the possible justice potentials. Current political developments indicate that electricity markets must be reformed, and the Intergovernmental Panel on Climate Change (IPCC) of the United Nations demonstrates that action must be taken now because the *carbon clock* is ticking. Consumer-centric electricity markets can, therefore, serve as a booster to enable transformative change.[7] Here, procedural and recognition justice dimensions play an important role, as participation and the inclusion of all consumers are highly relevant for a consumer-centric electricity market.

With the *carbon clock* ticking very fast and loud, policymakers cannot afford to waste underlying opportunities in the form of inefficient or outdated policies. Instead, now is the time to give power to consumers.

[7] Heffron, R. J., & De Fontenelle, L. 2023. Implementing energy justice through a new social contract. Journal of Energy & Natural Resources Law, 41(2), 141–155.

CHAPTER 28

Energy Justice Concerns of Artisanal and Small-Scale Mining Amidst Energy Transition

Chioma V. Basil

Abstract The history of artisanal and small-scale mining is riddled with injustices ranging from tax avoidance to land grabs, pollution, deforestation, adverse impact on local communities and destruction of the world's carbon sinks. The benefits and adverse impacts associated with artisanal and small-scale mining are of global significance; often involving elements of technological, economic, environmental, health and safety, social, and governmental and political concerns. The exacerbated demand for metals used for low-carbon technologies as a result of climate change mitigation necessitates an intervention against the grave dangers associated with small-scale mining activities. Unfortunately, many governments do not attempt to control these activities, which are either outside their regulatory framework, or they lack the capacity to monitor or control these activities. This chapter examines the vital role of the artisanal and small-scale mining industry and the imminent relevance of energy justice

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https://doi.org/10.1007/978-3-031-46282-5_28

application to this growing and unrecognised industry. It highlights how energy justice promotes the rights protection of artisanal and small-scale miners and communities, the redistribution of benefits, and environmental protection. Consequently, a social contract can be implemented to attain transformative change in the industry and ensure global well-being, hence, a just transition to a carbon-free economy.

Keywords Artisanal and small-scale mining · Energy justice · Critical raw materials · Climate change · Social contract

28.1 Introduction

With the prioritisation of the global energy transition, countries are investing in increased amounts of raw materials to decarbonise the energy sector, especially with the manufacture of green technologies, leading to the increased supply of critical materials like nickel, cobalt, lithium, and manganese.[1] Therefore, artisanal and small-scale mining (ASM) plays a vital role, as it is a significant contributor to the production of these minerals. According to the World Bank, ASM produces approximately 24% of the global cobalt used in electric vehicle batteries and 25% of tin[2] However, there is limited data on ASM, lacking the attention necessary to improve the conditions of artisanal miners and communities.[3] More specifically, the Democratic Republic of Congo has significant

[1] Raphael Deberdt, Philippe Le Billon, (2023) 'Green transition mineral supply risks: Comparing artisanal and deep-sea cobalt mining during the climate crisis', The Extractive Industries and Society, Volume 14, 101232, ISSN 2214-790X, available at https://doi.org/10.1016/j.exis.2023.101232.

[2] Demetrios Papathanasiou, Kurt MacLeod, (2021) 'To achieve decent work, we must improve the health and safety of "hidden" artisanal miners', Thomson Reuters Foundation, available at https://www.worldbank.org/en/news/opinion/2021/10/19/opinion-to-achieve-decent-work-we-must-improve-the-health-and-safety-of-hidden-artisanal-miners [Accessed May 3, 2023].

[3] Ibid.

ASM contributing as much as 40% of the nation's total cobalt contribution, employing more than 200,000 copper-cobalt miners.[4] Moreso, Zimbabwe has some of the world's largest reserves of lithium deployed by both ASM and Large-Scale Miners (LSM).[5] Despite this, labour-intensive sector is largely unregulated, dangerous, and riddled with injustices like poverty, lack of wealth redistribution, child labour, land grab, and inaccessibility to lands,[6] necessitating recourse to energy justice.

28.2 Energy Justice and Artisanal and Small-Scale Mining

Energy justice aims to improve the world based on the five vital tenets of justice—procedural, distribution, recognition, restorative, and cosmopolitan justice, with a conscious application of human rights protection principles across the energy cycle.[7] Injustices in ASM cut across the justice tenets of (a) distribution, that is, the fair allocation of social resources from the energy sector[8]; (b) procedural entailing focus on the legal process, compliance with due processes in addressing energy injustices, and policy-making[9]; (c) recognition necessitating the acknowledgement of the needs of various groups like local or indigenous communities

[4] Trafigura, (2022) 'Accelerating transition: The case for formalising artisanal and small-scale mined cobalt in the DRC' whitepaper, available at https://www.trafigura.com/media/3403/2022_trafigura_accelerating_transition_the_case_for_formalising_asm_cobalt_in_the_drc_whitepaper.pdf.

[5] Reuters, (2022) 'Zimbabwe bans raw lithium exports to curb artisanal mining', available at https://www.reuters.com/world/africa/zimbabwe-bans-raw-lithium-exports-curb-artisanal-mining-2022-12-21/ [Accessed May 3, 2021].

[6] Raphael Deberdt, Philippe Le Billon, (2023) 'Green transition mineral supply risks: Comparing artisanal and deep-sea cobalt mining during the climate crisis', The Extractive Industries and Society, Volume 14, 101232, ISSN 2214-790X, available at https://doi.org/10.1016/j.exis.2023.101232.

[7] Raphael J. Heffron, (2021) The challenge for energy justice: Correcting human rights abuses (Palgrave Macmillan, ISBN 978-3-030-80097-0 (eBook), available at https://doi.org/10.1007/978-3-030-80097-0), P. 3.

[8] P. Krütli, K. Törnblom, I. Wallimann-Helmer and M. Stauffacher, (2015) 'The ethics of nuclear energy. Risk, justice, and democracy in the post-Fukushima era', Cambridge University Press, P. 199.

[9] Benjamin K. Sovacool, Michael H. Dworkin, (2015) 'Energy justice: Conceptual insights and practical applications,' Applied Energy, 142, 435–444.

impacted by energy activities[10]; (d) restorative which requires the rectification of any injustices or damages resulting from energy activities of extraction, production, or operation[11]; and (e) cosmopolitan ensures that all plans and policies consider international dimensions because of the global effect of all energy activities.[12]

Considering these, many countries with significant ASM activities (e.g. Congo—Cobalt) lack the opportunity to create more revenue through the refining of their resources or application to the development of its green mobility; instead, the mining communities suffer unstable and unsafe energy access,[13] death, starvation, and homelessness. Equally, there is little or no recognition for children and women who populate the cobalt mines because of the need to support themselves in the absence of schools and employment.[14] Hence, defeating the essence of recognition justice to provide attention to socially deprived groups through institutionalising a broader standpoint on who can be disadvantaged by the logic of the energy systems.[15]

Furthermore, ASM suffers from inadequate regulation, because very few governments have ASM policies[16] where small-scale miners can be awarded a small-scale mining contract (Philippines) or artisanal mining

[10] Maciej M. Sokołowski, Raphael J. Heffron, (2022) 'Defining and conceptualising energy policy failure: The when, where, why, and how,' Energy Policy, Volume 161, 112745.

[11] M. Hazrati, R.J. Heffron, (2021) 'Conceptualising restorative justice in the energy transition: Changing the perspectives of fossil fuels,' Energy Research & Social Science, Volume 78, 102115.

[12] Raphael J. Heffron, (2020) 'The role of justice in developing critical minerals,' The Extractive Industries and Society, Volume 7, 855–863, 859.

[13] Wörmann, C. (2022) 'Global energy justice: The case of cobalt,' Institute fur Afrikastudien, available at https://home.uni-leipzig.de/~afrikastudien/2022/02/17/global-energy-justice-the-case-of-cobalt/ [Accessed May 5, 2023].

[14] Benjamin K. Sovacool, Andrew Hook, Mari Martiskainen, Andrea Brock, Bruno Turnheim, (2020), 'The decarbonisation divide: Contextualising landscapes of low-carbon exploitation and toxicity in Africa', Global Environmental Change, Volume 60, 102028, ISSN 0959-3780, available at https://doi.org/10.1016/j.gloenvcha.2019.102028.

[15] Maciej M. Sokołowski, Raphael J. Heffron, (2022) 'Defining and conceptualising energy policy failure: The when, where, why, and how,' Energy Policy, Volume 161, 112745.

[16] The Republic of the Philippines, Congress of the Philippines Metro Manila, Eight Congress Republic Act No. 7076, An Act Creating a People's Small-Scale Mining Program and for other Purposes, Small-Scale Mining Act (RA 7076).

permits (Indonesia).[17] In contrast other governments either do not regulate ASM or marginalise small-scale miners. For example, the recent Zimbabwean Order[18] places a ban on the export of raw lithium ores.[19] As much as this is regarded as a step in the right direction, it is a targeted restriction on ASM and a denial of the livelihood of many small-scale communities. There needs to be a robust regulatory/policy reformation by governments with large ASM sectors to ensure the maximisation of the benefits of ASM to address the social, environmental, and climate needs of society.[20] Thus, energy justice application promotes the protection of the rights of ASM miners/communities, the redistribution of benefits, and environmental protection. With tools such as licences to operate and social contracts, special land areas can be designated for ASM; miners will be educated and guided through streamlined licensing processes; and there is an effective implementation of stakeholder dialogue and partnership with LSMs and administrative governments to facilitate the subsistence of mining communities. A social contract ensures that the obligations of a sustainable and just ASM sector are borne by the miners, the governments, and the partnering companies or LSMs; providing some assurance of environmental protection, maintenance of quality of life, and preservation of livelihood.[21]

[17] Indah Dwi Qurbani, Raphael J. Heffron, Arrial Thoriq Setyo Rifano, (2021), 'Justice and critical mineral development in Indonesia and across ASEAN', The Extractive Industries and Society, Volume 8, Issue 1, 355–362, ISSN 2214-790X, available at https://doi.org/10.1016/j.exis.2020.11.017; In Indonesia, individuals or local communities are granted artisanal mining permits under the Article 67 of the Amendment Law No. 3/2020 of the mineral and Coal Mining Law.

[18] Statutory Instrument 213 of 2022. [CAP. 21:05] Base Minerals Export Control (Lithium Bearing Ores and Unbeneficiated Lithium) Order, 2022, otherwise known as the Base Minerals Export Control (Unbeneficiated Lithium Bearing Ores) Order, 2022.

[19] Art 4, Statutory Instrument 213 of 2022. [CAP. 21:05] Base Minerals Export Control (Lithium Bearing Ores and Unbeneficiated Lithium) Order, 2022. A violation of the provision is punishable by a 3× fine of the value of the intended mineral export or imprisonment for 2 years.

[20] Tony Corbett, Ciaran O'Faircheallaigh, Anthony Regan, (2017), 'Designated areas' and the regulation of artisanal and small-scale mining, Land Use Policy, Volume 68, 393–401, ISSN 0264-8377, available at https://doi.org/10.1016/j.landusepol.2017.08.004.

[21] Raphael J. Heffron, Louis De Fontenelle, Chioma Basil, Inigo Del Guayo Castiella, Sufyan Droubi, Mohammad Hazrati, Halima I. Hussein, Diane Kraal, Darren McCauley, Alicia Phillips, Emmanuelle Santoire & Xavier Arnauld de Sartre (2023), 'Pathways of scholarship for energy justice and the social contract', Journal of Energy & Natural

28.3 Challenges Affecting the Implementation of Energy Justice

Like any other sector, there are challenges that hinder the transformation of energy injustice in the ASM sector, including but not limited to:

- **Environmental impact of ASM**: ASM has a reputation for negative social and environmental impact resulting from landslides, and deforestation leading to the extinction of flora and fauna.[22] This is because there is a lack of regulatory provisions on environmental obligations for ASM activities, licensing, and no technical support or awareness to build the capacity of miners for rehabilitation. Thus, abandoned pits lead to accidents, and toxic chemicals contaminate water sources and air without any remedy options.[23]
- **Bureaucratic and complicated licensing processes**: In a bid to formalise the ASM sector, some processes for permit grants are too complex for the miners. Moreso, miners will only formalise and register their operation if there is some benefit to doing so.[24]
- **Lack of Fair market access**: ASM has poor access to markets, finance, and support services, especially for export.[25] This was emphasised in the recent United Nations International Resource Panel reports on Minerals Resource Governance, where private

Resources Law, Volume 41, Issue 2, 211–232, available at https://doi.org/10.1080/02646811.2023.2190689.

[22] Malavika Vyawahare, Will clean-energy minerals provoke a shift in how mining is done in Africa? March 30, 2023, available at https://news.mongabay.com/2023/03/will-clean-energy-minerals-provoke-a-shift-in-how-mining-is-done-in-africa/ [Accessed May 4, 2023].

[23] World Bank. 2020, 2020 State of the Artisanal and Small-Scale Mining Sector. Washington, D.C.: World Bank, http://www.delvedatabase.org/2020report.

[24] The International Institute of Environment and Development, The Mining, Minerals and Sustainable Development Project MMSD, 'Artisanal and Small-scale Mining', Chapter 13, available at https://www.iied.org/sites/default/files/pdfs/migrate/G00905.pdf.

[25] Ibid.

sectors and governments were encouraged to implement transparent practices across supply chains to integrate ASM.[26]

- **Conflict financing**: In some situations, ASM activities and miners are controlled by armed groups who use the resources extracted for financing conflicts and insurrection with the government or LSM operators in any case of land disputes and resource access.[27]

28.4 Conclusion

No doubt these challenges may hinder the formalisation of the ASM sector and the involvement of miners through social contracts. However, the implementation of a social contract in this sector will not only protect the rights and well-being of miners but will deliver a just transition to a low-carbon economy. ASM will continue to play a vital role in the future of cobalt and lithium supply with the growing demand for the automotive sector,[28] and encapsulates the mineral enigma at the base of the green technology revolution as the world decarbonises.[29] According to Collegium Ramazzini at the UN COP 26 meeting, there is an urgent need for the mitigation of the neglected hazards and grave dangers of ASM to meet global demands for minerals, and that involves all tiers of governments, stakeholders, and mineral customers.[30]

[26] European Commission, Social Dimension of Mining (Raw Materials Information System RMIS, Research and Innovation), available at https://rmis.jrc.ec.europa.eu/employment-ebfea3 [Accessed May 4, 2023].

[27] Ibid.

[28] World Bank. 2020, 2020 State of the Artisanal and Small-Scale Mining Sector. Washington, D.C.: World Bank, http://www.delvedatabase.org/2020report.

[29] Andy Home, (2021), 'Column: Cobalt, Congo and a mass artisanal mining experiment', Reuter Energy, available at https://www.reuters.com/business/energy/cobalt-congo-mass-artisanal-mining-experiment-andy-home-2021-05-13/ [Accessed May 4, 2023].

[30] Landrigan, P., Bose-O'Reilly, S., Elbel, J. et al. (2022), 'Reducing disease and death from Artisanal and Small-Scale Mining (ASM)—The urgent need for responsible mining in the context of growing global demand for minerals and metals for climate change mitigation'. Environmental Health, Volume 21, 78, https://doi.org/10.1186/s12940-022-00877-5.

CHAPTER 29

The Energy Justice Imperative for Clean Energy Storage Alternatives

Zinnure Osman Zengin

Abstract This chapter delves into energy storage options and the concept of energy justice. In the age of energy transition, energy storage plays a pivotal role as catalyst. However, conventional batteries carry environmental and social risks that are hardly recognised. This chapter adopts the energy justice lens to explore energy storage options and questions whether they are in line with energy justice principles. Drawing from contemporary research and case studies, this chapter explores opportunities and challenges associated with various energy storage technologies. Through a comparative analysis of conventional batteries with pumped hydroelectric storage (PHS), thermal energy storage (TES), and compressed air energy storage (CAES), this chapter suggests that alternative energy storage options offer more equitable solutions.

Keywords Energy justice · Energy storage · Thermal energy storage · Compressed air energy storage · Pumped hydroelectric storage

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https://doi.org/10.1007/978-3-031-46282-5_29

29.1 Introduction

The urgent global shift towards renewable energy sources, driven by the pressing need to mitigate climate change and reduce environmental degradation, has put the spotlight on the critical role of energy storage. The intermittent nature of renewables inevitably requires renewable power generation infrastructure to work along with energy storage facilities, mainly batteries. However, the widespread use of lithium-ion batteries for this purpose poses considerable environmental concerns. In the pursuit of energy justice, it is fundamental for scholars and policymakers to critically evaluate technologies within the energy sector, including every solution associated with renewable technologies. The principles of energy justice—distributive, procedural, recognition, restorative and cosmopolitan justice—function as a rigorous lens through which the actuality of each situation is assessed. The use of the energy justice framework can help to avoid the repetition of past mistakes, such as the hasty adoption of environmentally damaging technologies.

In particular, the energy justice framework encourages us to question the widespread integration of technologies with potential environmental drawbacks, such as certain types of batteries. This calls for an exploration of cleaner and more sustainable alternatives for energy storage. The objective is to provide policy recommendations that facilitate a just transition in the renewable energy sector, one that prioritises sustainability and equity over mere expediency. With this approach, energy justice can help to ensure that the energy sector evolves in a manner that is both sustainable and equitable.

29.2 Applying the Energy Justice Framework to Energy Storage

Energy justice is an emerging framework that demands equitable access to affordable, reliable, and sustainable energy services for all individuals and communities.[1] This multi-disciplinary concept transcends the boundaries

[1] Raphael J Heffron and Darren McCauley, 'The Concept of Energy Justice across the Disciplines' (2017) 105 Energy Policy 658.

of environmental, climate, and social justice, offering a comprehensive perspective to address the multifaceted challenges associated with energy.[2]

29.2.1 Distributive Justice

Distributive justice requires a fair allocation of both the advantages and disadvantages of energy production and consumption[3] In the context of energy storage, this principle necessitates that the environmental and social consequences of batteries—from resource extraction to disposal—should not be unequally borne by specific communities.

The Global North has a poor track record in terms of exporting hazardous waste to Global South.[4] This practice is seen as a method of shifting recycling and waste recovery responsibilities on to Global South.[5] Without adequate waste disposal, batteries can have devastating environmental and social consequences. Distributional justice demands fair policies to prevent such shift in environmental responsibilities.

On the other hand, pumped hydroelectric storage (PHS), thermal energy storage (TES), and compressed air energy storage (CAES), though requiring specific geographical or technological conditions, offer sustainable and less environmentally damaging solutions, thus better adhering to the principle of distributive justice.[6] Moreover, TES, CAES, and

[2] Benjamin K Sovacool and Michael H Dworkin, 'Energy Justice: Conceptual Insights and Practical Applications' (2015) 142 Applied Energy 435.

[3] Ibid.

[4] Silpa Kaza and others, *What a Waste 2.0: A Global Snapshot of Solid Waste Management to 2050* (World Bank Publications 2018).

[5] Benedetta Cotta, 'What Goes Around, Comes Around? Access and Allocation Problems in Global North–South Waste Trade' (2020) 20 International Environmental Agreements: Politics, Law and Economics 255.

[6] Timothy Simon and others, 'Life Cycle Assessment for Closed-Loop Pumped Hydropower Energy Storage in the United States' (National Renewable Energy Lab (NREL), Golden, CO (United States) 2022) NREL/PR-6A20-81315 <https://www.osti.gov/biblio/1882389> accessed 2 June 2023.

PHS have significantly longer lifespan compared to conventional battery storage (see Table 29.1).

Battery storage, while efficient and scalable, introduces significant environmental challenges, from the extraction of raw materials to the disposal of dead batteries.[7] However, TES, CAES, and PHS promise a more equitable distribution of environmental burdens. TES, for instance, leverages natural temperature differences for storage and retrieval, minimising environmental impact. CAES, while requiring suitable geological formations, makes efficient use of surplus energy and minimises wastage. PHS, though geographically dependent, harnesses the power of gravity, reducing reliance on environmentally taxing materials[8] (see Table 29.1).

29.2.2 Procedural Justice

Procedural justice demands the inclusion of all stakeholders in decision-making processes relating to energy matters.[9] For energy storage systems, procedural justice requires the participation of diverse stakeholders, including local communities, environmental organisations, and the energy industry, in decisions regarding the manufacturing, use and disposal of energy storage technologies.

Procedural justice necessitates engagement at the international, national, and local levels. Considering the limited scope of policy deliberations at the international level, extending beyond academic circles, the demand for comprehensive waste management policies becomes even

[7] Erik Emilsson and Lisbeth Dahllöf, *Lithium-Ion Vehicle Battery Production—Status 2019 on Energy Use, CO2 Emissions, Use of Metals, Products Environmental Footprint, and Recycling* (IVL Svenska Miljöinstitutet 2019) <https://urn.kb.se/resolve?urn=urn:nbn:se:ivl:diva-132> accessed 17 May 2023.

[8] Paul Denholm and others, 'Role of Energy Storage with Renewable Electricity Generation' (National Renewable Energy Lab (NREL), Golden, CO (United States) 2010).

[9] Kirsten Jenkins and others, 'Energy Justice: A Conceptual Review' (2016) 11 Energy Research & Social Science 174.

more pressing. Upon examining global initiatives like the Conference of the Parties (COP) meetings, it is evident that minimal to no discourse is dedicated to the potential environmental harm caused by batteries.

Procedural justice emphasises transparency, inclusivity, and fairness in decision-making processes. Battery technologies have faced scrutiny for opaque supply chains and the hidden environmental impact of their life cycle. In contrast, pumped hydroelectric storage (PHS), thermal energy storage (TES), and compressed air energy storage (CAES) can better facilitate procedural justice. For example, the implementation of PHS and CAES projects often involves public consultation processes during site selection and operation, ensuring local communities have a say in projects that directly impact them. Meaningful involvement of affected communities in decision-making is an essential component of procedural justice. TES, CAES, and PHS offer more community involvement in site selections and operations, compared to centralised decision-making.

29.2.3 Recognition Justice

Recognition justice refers to acknowledging and addressing the disparate impacts that energy systems, including energy storage, can have on different communities, particularly those that are marginalised or vulnerable. For instance, studies have shown that low-income communities often bear the burden of environmental pollution from battery manufacturing and recycling.[10] Achieving recognition justice requires more proactive steps to rectify injustices that burden vulnerable communities.

Applying the lens of recognition justice to alternative energy storage technologies, such as TES, CAES, and PHS, shows their potential for greater equality. Unlike batteries, alternative technologies do not involve use of harmful materials that cause pollution during extraction, manufacturing, and disposal. As such, their adaptation can lower the burden on marginalised communities. In addition, these alternative technologies will

[10] Perry Gottesfeld and Amod K Pokhrel, 'Review: Lead Exposure in Battery Manufacturing and Recycling in Developing Countries and Among Children in Nearby Communities' (2011) 8 Journal of Occupational and Environmental Hygiene 520.

require involvement of local communities, providing job opportunities, and economic development.

29.2.4 Restorative Justice

Restorative justice focuses on addressing past harms and ensures that reparations for communities that suffered from injustices in energy sector.[11] This is particularly relevant when examining impacts of traditional battery storage technologies. From mining for raw materials to disposal of dead batteries, life cycle of batteries has often caused socio-economic hardship and environmental damage to less advanced communities.

From restorative justice perspective, alternative energy storage options have potential to mitigate past harms and promote more equitable future. As summarised in Table 29.1, these technologies make use of existing geological structures, hence avoiding disruptive mining activities and restoring environment impacted by mining activities.

29.2.5 Cosmopolitan Justice

The core of cosmopolitan justice is that 'we are all citizen of the world'.[12] It highlights our shared responsibilities to each other as world citizens, particularly in terms of mitigating climate change and achieving just transition. Cosmopolitan justice emphasises the global duty to shift towards cleaner and more sustainable technologies for energy storage. These technologies offer more sustainable energy storage as they align with our shared mission to reduce environmental degradation and climate change. While conventional batteries dominate renewable energy landscape, their environmental footprint is far behind "the clean image" that they have.

In the era of the energy transition, conventional batteries maintain a predominant role, yet their environmental impact starkly contrasts with their ostensible "clean" reputation. This apparent discrepancy poses an

[11] 'Raphael J Heffron and Louis de Fontenelle, 'Implementing Energy Justice Through a New Social Contract' (2023) 41 Journal of Energy & Natural Resources Law 2 <https://www.tandfonline.com/doi/full/10.1080/02646811.2023.2186626> accessed 2 June 2023.

[12] Raphael J Heffron and Darren McCauley, 'Achieving Sustainable Supply Chains through Energy Justice' (2014) 123 Applied Energy 435.

intellectual dilemma within the dialogue surrounding clean energy alternatives. The extraction of minerals for battery production often takes place in developing countries, leading to environmental degradation and socio-economic disparities, thereby contravening the principles of cosmopolitan justice.

29.3 Conclusion—Legal Implications of the Energy Justice Framework

The principles of energy justice can significantly influence legal frameworks, shaping laws and regulations to ensure equitable distribution of energy benefits and burdens, foster inclusive and democratic decision-making, and respect diversity in stakeholder perspectives. Laws could be crafted, for example, to prevent the unequal environmental impacts of battery disposal on certain communities or to guarantee that all stakeholders have a voice in decisions about energy storage facilities.

Energy justice can guide energy storage policies and promote a just transition to a sustainable energy future. By applying tenets of energy justice, policymakers can develop strategies that minimise the environmental impacts of batteries, promote fair and inclusive decision-making, and respect diverse stakeholder perspectives. An effective approach could involve the enactment of legislation that establishes mandatory recycling rates for batteries, along with the implementation of stringent monitoring mechanisms to track the life cycle of large batteries, akin to the regulatory frameworks employed for controlled drugs. Life-cycle assessment technique can be useful to evaluate and control batteries from sourcing raw materials to final disposal.[13] Such legal measures would contribute to addressing environmental concerns and ensuring a just and sustainable approach to energy storage practices.

Appendix: A

See Table 29.1.

[13] Carmen M Fernandez-Marchante and others, 'Environmental and Preliminary Cost Assessments of Redox Flow Batteries for Renewable Energy Storage' (2020) 8 Energy Technology 1900914.

Table 29.1 Comparing battery storage to cleaner alternatives

Issue	*Battery storage*	*PHS*	*CAES*	*TES*
Environmental impact	High environmental impact due to mining and disposal of hazardous waste	Lower impact, but dependent on suitable geographical features. Potential local environmental disruptions due to land and water use	Lower impact, but dependent on specific geological formations. Natural gas combustion in some designs can contribute to greenhouse gas emissions	Lower impact, especially when combined with renewable energy sources like solar power
Energy efficiency	High, but degradation over time can reduce efficiency	High, but potential energy loss during the storage and release process	Lower efficiency compared to batteries and PHS, especially due to heat loss during compression	Efficiency varies depending on the specific technology and application
Cost	High upfront costs, but falling due to advancements in technology	High upfront costs due to infrastructure requirements	Lower upfront costs than batteries and PHS	High upfront costs, but could be offset by long lifespan and low operational costs
Scalability	High, can be easily scaled up or down	Lower, due to geographical requirements	Lower, due to geological requirements	Lower, due to geological requirements
Lifespan	Limited, degradation over time reduces effectiveness	High, infrastructure can last for decades with proper maintenance	High, infrastructure can last for decades with proper maintenance	High, especially for certain technologies like molten salt storage

Source Created by the Author (2023)[14]

[14] Adopted from: Paul Denholm and others, 'Role of Energy Storage with Renewable Electricity Generation' (National Renewable Energy Lab (NREL), Golden, CO (United States) 2010).

CHAPTER 30

Just Transitions in Extractive Territories

Tara Righetti

Abstract The energy transition will have profound impacts on extractive territories—those that currently produce fossil-based fuel minerals and those that will be transformed by production of the critical minerals and materials necessary for clean energy production. To fossil-fuel extraction regions, the energy transition may result in collapse of existing social and fiscal systems. Energy justice demands recognition of these harms, restoration of past environmental damage and underinvestment, and fair procedures to allow full participation and autonomy within a transformed and decarbonized energy and economic system. This must commence with restorative justice efforts that a mutualized with local priorities and are not conditioned on acceptance of new risks. Assuring fulfillment of the existing social contract in areas of fossil-based fuel and energy production is tantamount to a just transition and to building social license in emerging areas of resource production.

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R. J. Heffron and L. de Fontenelle (eds.), *The Power of Energy Justice & the Social Contract*, Just Transitions,
https://doi.org/10.1007/978-3-031-46282-5_30

Keywords Just transition · Energy communities · Environmental restoration · Restorative justice · Social license

30.1 Introduction

Transforming the existing systems energy production and consumption demands both the unprecedented development and extraction of new resources and raw materials and the intentional abandonment of others. Doing so justly requires recognition of the profound impacts these changes will have on territories with economies that are dependent on extraction and export of the primary commodities that have sustained the current fossil-based system and enabled growth in core economic areas.[1] Primary energy extraction, and thus the people and places where coal, natural gas, and petroleum are extracted, is a critical component of modern day vertically integrated, socio-technical energy systems.[2] Advancing justice for and within these resource peripheries is complex and requires reconciliation of the entangled social-spatial relations that are embedded in the legacies of resource exploitation and extractivism.[3]

30.2 Justice in Territories of Fossil-Fuel Extraction

Energy development can embrittle coal and fossil-fuel production reliant regions, leaving them unique vulnerable to the energy transition. Often contested and "slippery" spaces, communities within these peripheries may, to varying extents, face deep-seated problems resulting of prior injustices in siting decisions and resource development, power imbalances, labor conflict, exposure to health risks and environmental pollution, and

[1] Eisenberg, A.M., *Just Transitions*, 92 S. Cal. L. Rev. 273 (2019).

[2] Goldthau, A. & Sovacool, B., *The Uniqueness of the Energy Security, Justice, and Governance Problem*, 41 Energy Pol. 232 (2012).

[3] Ciccantell, P., *Commodity Chains and Extractive Peripheries: Coal and Development*, in Irarrázaval, F., Arias-Loyola, M. (eds) Resource Peripheries in the Global Economy: Economic Geography. Springer, Cham. (2021).

fiscal dependence.[4] Despite having highly developed system of production along the energy supply-chain, these areas may concurrently be underdeveloped and lacking critical infrastructure and local capacity.

Some of these places may concurrently be impacted by climate change, straining existing infrastructure and further impeding progress toward development goals. These resource limitations and pressures, often in addition to political underrepresentation and marginalization, may render these areas unable to remediate past environmental harms or diversify their economies without external support. Transformation of the systems of energy production may generate distributional benefits by reducing environmental load and spreading the burdens of resource production more equally, but may concurrently result in deindustrialization including collapse of local economies and labor markets and fiscal rupture.[5] Recognizing the impacts of prior energy development on extractive territories as a present issue in energy justice is essential to the development of robust strategies for inclusion in new energy systems.

30.3 A Move to a Just Transition

The energy transition must not only prevent new injustices in the production and consumption of energy but also must be reparative. Communities in areas of primary energy extraction have disproportionately shouldered health and environmental burdens for decades.[6] Justice in extractive peripheries must include environmental reclamation of polluted and disturbed land and water. The energy transition has the potential to exacerbate these harms. Without sufficient planning, policy efforts to force early abandonment of fossil resources could leave significant unfunded environmental liabilities. Adequate financial assurances and intentional phase-out policies like those being applied to generation

[4] Hayter, R., *Relocating Resource Peripheries to the Core of Economic Geography's Theorizing: Rationale & Agenda*, 35 Area 15 (2003).

[5] Roemer, K.F. & Haggerty, J.H., *The Energy Transition as Fiscal Rupture: Public Services and Resilience Pathways in a Coal Company Town*, 91 Energy Res. & Soc. Sci. 102752 (2022).

[6] Ahmad, N.B., *Mask Off—The Coloniality of Environmental Justice*, 25 Widner L. Rev. 195 (2019).

resources can help assure that there are adequate resources to address legacy environmental harms within these "sacrifice zones."[7]

A just transition must also include support for green growth and economic diversification that provides realistic social and economic alternatives. Energy production communities may be appealing sites for new green-energy development due to existing infrastructure such as rail and transmission capacity. Policymakers may encourage new energy projects to locate in energy production communities as a way of supporting a just transition or to prevent new greenfield development.[8] However, a focus merely on labor replacement is insufficient to achieve a just transition.[9] Without structural changes and investments in capacity building and quality of life improvements, these areas will be unable to reconfigure their positionalities in the global economy. Green growth plans may only exacerbate existing inequities by concentrating new energy development—and associated environmental risks—within these communities, while reinforcing the periphery structure.[10] This would eliminate any burden sharing distributional equity related to the energy transition. An equity-based approach instead requires investments in new business development, infrastructure, education, and culture, and programs for workforce retraining that are oriented toward community-driven priorities.[11]

In addition, a just approach to transitions for extractive regions may also include efforts to decarbonize existing production activities or to develop new markets for existing resources. These investments allow for participation of extractive producing areas within transitioning energy systems. For instance, development of hydrogen production facilities that use natural gas could provide current peripheries with new value-added

[7] Segall, C.H., *Just Transitions for Oil and Gas Communities*, 39 Va. Envtl. L.J. 177, 214 (2021).

[8] *See, e.g.*, Dep't of the Treasury, Notice 2023–29, Energy Community Bonus Credit Amounts under the Inflation Reduction Act of 2022.

[9] Miller, C.A. et al., *Socio-Energy Systems Design: A Policy Framework for Energy Transitions*, 6 Energy Res. & Soc. Sci. 29–40 (2015).

[10] Jenkins, K., et al., *Energy Justice: A Conceptual Review*. 11 Energy Res. & Soc. Sci. 174 (2016); Baker, S.H., *Anti-Resilience: A Roadmap for Transformational Justice Within the Energy System*, 54 Harv. C.R.-C.L. L. Rev. 1 (2019).

[11] Welton S. & J. Eisen, *Clean Energy Justice: Charting an Emerging Agenda*, 43 Harv. Envt'l L. Rev. 307 (2019).

economic activities while also sustaining existing resource production. Similarly, technologies that use coal for non-combustion purposes may support prosperity and growth in coal territories, especially where new manufacturing facilities can be developed locally. Projects such as these may help overcome inclusionary bias.

Finally, transition planning must be locally driven. A purely technocratic approach is unlikely to achieve just outcomes. It is well recognized that procedural justice requires robust participation, inclusion, and incorporation of local knowledge in decisions related to new energy infrastructure siting.[12] Equally, communities within existing areas of primary energy production must be treated with dignity and cannot be ignored. Because the scales of resource territories and democratic and legal decision processes may be mismatched, a locally informed, bottom-up approach is needed. A justice-based approach to transition must allow these communities space to consider the appropriateness of new investments environmentally, socially, and culturally. Inclusive procedures may develop a sense of ownership in new projects, allowing communities to reconcile new development with well-established resource-based regional identities.[13] A just approach will also promote the autonomy of people and regions, providing territories with an opportunity to consider *whether* to accept new energy sources and *how* new industries will develop. Relying on and incorporating local knowledge in new projects can inform investment and reclamation activities to assure mutualization of benefits across spatial scales.

30.4 Conclusion

Effecting justice in this area is essential to achieving a just transition to a low carbon economy. Misalignment between the spatial divisions of production and those of policies designed to accelerate the energy transition may give rise to energy transition resistance at the national or regional

[12] Jenkins, K.E.H., et al., Energy Justice: A Conceptual Review, 11 Energy Res. &Soc. Sci. 174 (2016).

[13] Kotilainen, J., *Reproducing the Resource Periphery: Resource Regionalism in the European Union*, in Irarrázaval, F., Arias-Loyola, M. (eds) Resource Peripheries in the Global Economy: Economic Geography. Springer, Cham. (2021).

level.[14] Without viable transition alternatives, regional or national actors may in fact support intensification of fossil resource production to counter the adverse impacts of industrial decline.[15] Moreover, advancing justice and assuring that the social contract is fulfilled in fossil territories will be critical to building trust and social license within extractive activities in emerging areas of new primary resource production including for the critical minerals essential to the energy transition. Justice is, therefore, not only an end in itself, but also a means to securing support and participation in the energy transition.

Justice in extractive territories is as much about creating a new social contract as it is about fulfilling the existing social contract. This must begin with restorative justice that addresses the existing imbalances created by historic markets, patterns of production, and allocations of capital that have resulted in pollution and lack of diversification in extractive territories.[16] Restorative justice requires remediating legacy environmental pollution and waste and addressing existing underinvestment in core infrastructure, education, culture, and capacity. These activities must be conducted without qualification, independent of a community's willingness to accept new industrial or commercial risks. Doing so will position communities within extractive territories to renegotiate their positionality and engage in governance as equal partners within transformed energy systems.

[14] Righetti, T., et al., *Adapting to Coal Plant Closures: A Framework for Understanding Energy Transition Resistance*, 51 Envtl L. 957 (2022).

[15] Kotilainen, J. *supra* note 9; Stefes, C.H. and Hager, C., *Resistance to Energy Transitions*, 37 Review of Pol. Res. 286 (2021).

[16] Heffron, R.J. & De Fontenelle, L., *Implementing Energy Justice Through a New Social Contract*, 41 J. of Energy & Nat. Res. L. 141 (2023).

CHAPTER 31

Minimum Standards of Access to Energy Services: Underpinning Energy Justice and Legal Action

Tedd Moya Mose

Abstract The just energy transition is not simply about moving from fossil fuels to renewable energy. Justice in energy systems is about establishing a framework that identifies when and where injustices occur and how best law and policy can respond. This chapter proposes that access to energy services should have irreducible minimum standards in transitioning energy systems for fairer and sustainable global development. It surmises that these minimum standards should help define what the UN Sustainable Development Goal 7 on 'access to affordable, reliable, sustainable and modern energy for all' look like in practical terms. And that this

The work that informed this paper was funded by the Centre for Research into Energy Demand Solutions, UK Research and Innovation (grant number EP/R035288/1).

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R. J. Heffron and L. de Fontenelle (eds.), *The Power of Energy Justice & the Social Contract*, Just Transitions,
https://doi.org/10.1007/978-3-031-46282-5_31

ought not to be a mere aspirational target, but a legal norm. On a global scale, using energy justice as a core principle of international energy law to achieve this, it suggests that the five tenets of the energy justice framework (distributive, procedural, recognition, cosmopolitan, and restorative justice) are interdependent and could remedy global disparities in the just energy transition. It concludes that two tenets (restorative and recognition justice) are pivotal in establishing a minimum acceptable standard of universal energy access.

Keywords Just energy transition · UN SDG 7 · Energy law · Universal energy access · Irreducible minimum standards

31.1 Introduction

This chapter highlights that energy justice is sometimes unfurled like the 'Swiss Army knife'[1] for energy equity. Though useful in highlighting the importance of energy justice, a broad-brush approach to energy justice may render its principles meaningless in addressing specific problems in the global energy sector. Here, 'energy justice' is understood as the framework that identifies when and where injustices occur in energy systems and how best law and policy can respond.[2] Conceptualised as having three principal tenets: distributional justice (procedural justice and recognition justice),[3] it deals with both macro-justice (on societal impacts of energy and fair and just their institutional decisions are) as well as micro-justice (how individuals are impacted by systemic outcomes).[4]

So, what should energy justice inspire energy law and policy to do? First, it should help in identifying where there are disparities. Second, it should form the ethos that guide decision-making to right those

[1] A panacea, the ultimate solution, or a tool of such versatile utility that it is applicable to more or less any scenario at hand.

[2] Raphael J Heffron, Darren McCauley, and Benjamin K Sovacool, 'Resolving Society's Energy Trilemma Through the Energy Justice Metric', 87 (2015) *Energy Policy*, 168.

[3] Benjamin K Sovacool and Michael H Dworkin, *Global Energy Justice: Problems, Principles, and Practices* (Cambridge University Press 2014), 20.

[4] Darren McCauley et al., 'Advancing Energy Justice: The Triumvirate of Tenets', 32 (3) (2013) *International Energy Law Review*, 107–116, 109, 110.

inequities[5] and, third, it should inspire the enhanced integration of renewable energy into global energy systems as they offer the best chance for 'supporting human development over the long term in all of its social, economic, and environmental dimensions'.[6]

Global energy poverty is rife, which raises questions about developing basic minimum standards for what 'access to affordable, reliable, sustainable and modern energy for all' means. Although no universal definition of energy access exists, the International Energy Agency names four elements that are crucial to energy access, namely *Household access to a minimum level of electricity; Household access to safer and more sustainable cooking and heating fuels and stoves; Access to modern energy that enables productive economic activity, e.g. mechanical power for agriculture, textile and other industries; and Access to modern energy for public services.*[7] These collectively constitute the 'quality of energy supply'.[8] But are these contemplated by the UN Sustainable Development Goal of ensuring access to affordable, reliable, sustainable and modern energy for all?

31.2 Challenges to Achieving a Minimum Acceptable Standard of Universal Energy Access

There are disparate legal systems around the world. So, where should the legal reform start? Can any system be the exemplar? This seems unlikely and that is why these minimum standards should be inculcated as a major contribution of energy justice, which is a widely acknowledged principle

[5] Tedd Moya Mose and Mohammad Hazrati, 'Is Energy Justice in the Fossil Fuel Industry a Paradox?' in Geoffrey Wood and Keith Baker (eds), *The Long Goodbye? Managing the Decline of Fossil Fuels* (Palgrave Macmillan 2019), 529–550.

[6] 'World Energy Assessment: World Energy Assessment and the Challenge of Sustainability (2000)', in Richard Ottinger, Nicholas Robinson, and Victor Tafur (eds), *Compendium of Sustainable Energy Laws* (Cambridge University Press 2005), 2.

[7] IEA, 'Defining Energy Access: 2020 Methodology' (IEA 15 October 2020). <https://www.iea.org/articles/defining-energy-access-2020-methodology> accessed 1 May 2023.

[8] Ibid., quality refers to, 'technical availability, adequacy, reliability, convenience, safety and affordability'.

of international energy law. The legal architecture for energy systems ought to be based on identifiable, shared and universal tenets. What is needed is not a model law but, model principles (with energy justice as a key element).[9]

A major issue with global energy market design is the focus on large-scale deployment yet access to energy services seems measurable at local level. This excludes decentralised or smaller-scale energy measures. The Equator Principles are an example[10] and they only apply to projects whose total capital costs exceed 8.5 million Euro.[11] More briefly, further key points can be advanced:

1. Energy poverty is deemed to be a private problem. Largely confined to the home and difficult to observe from a public policy standpoint; manifesting differently in various geographical settings; and seen as a matter of individual perceptions and preferences.[12]
2. The lack of definitive legal standards for energy access leads to perverse outcomes. And, in some instances, even broaden the disparities in global energy access and consumption. It is also difficult to measure energy poverty using a cohesive framework.[13]

[9] See, Tedd Moya Mose, 'The Evolution of a Global Perspective in International Energy Law' (Unpublished PhD thesis, Queen Mary University of London 2020); Raphael J Heffron et al., 'A Treatise for Energy Law', 11 (1) (2018) *The Journal of World Energy Law & Business*, 34–48, <https://doi.org/10.1093/jwelb/jwx039> accessed in 29 May 2023.

[10] The Equator Principles Association, 'The Equator Principles' (The Equator Principles Association *n.d.*), <https://equator-principles.com> accessed in 28 April 2023. These establish a credit risk management framework adopted by financial institutions around the world for ethical investment.

[11] See, The Equator Principles Association, 'The Equator Principles 4' (The Equator Principles Association 1 October 2020), <https://equator-principles.com/wp-content/uploads/2021/02/The-Equator-Principles-July-2020.pdf> accessed in 12 May 2023 (US$ 10 million equivalent).

[12] Vlatka Kos Grabar Robina, Bruno Židov, and Robert Fabek, *Measuring and Monitoring Energy Poverty in the EU—Examples of Good Practices* (Odyssee Mure April 2022) <https://www.odyssee-mure.eu/publications/policy-brief/measuring-energy-poverty.pdf> accessed 17 May 2023.

[13] European Commission Directorate-General for Energy, *Energy Poverty National Indicators: Insights for a More Effective Measuring*, <https://energy-poverty.ec.europa.eu/discover/publications/publications/energy-poverty-national-indicators-insights-more-effective-measuring_en> accessed 17 May 2023.

3. Objective standards may be applied in spite of—rather than because of—legal systems. Energy law may stipulate standards (using an energy justice framework) to level disparities in accessing modern and clean energy services; akin to human rights and banking law.[14]
4. Energy access discourse has a heavy focus on what constitutes energy poverty but not on the legal measures/thresholds that would alleviate it. Some scholars even argue that what is lacking is a clear 'justice-neutral' energy source.[15]

31.3 Conclusion—How Resolving the Energy Justice Issue Can Contribute to the Overall Societal Move to a Just Transition to a Low-Carbon Economy?

Generally, energy justice can contribute to the overall societal move to a just transition to a low-carbon economy because its key features are: (i) people should be treated fairly and inclusively in energy systems; (ii) natural resource benefits should be shared equitably; and (iii) the burdens of climate change should be distributed justly. Furthermore, human rights should be upheld, and diverse actors involved in the development, implementation, and enforcement of environmental laws, regulations, and policies. Legal frameworks that govern energy systems should be underpinned by these principles in order to transition to a low-carbon economy.

Specifically, energy justice in enterprise and finance are needed now more than ever[16] because implementing irreducible minimum standards

[14] Tedd Moya Mose, 'The Law of Gravitas: Renewable Energy Law & Ethics', in Malik R Dahlan and Rosa Maria Lastra (eds), *Research Handbook on Energy Law and Ethics* (Edward Elgar 2022), 256–265.

[15] Paul Munro, Greg van der Horst, and Stephen Healy, 'Energy Justice for All? Rethinking Sustainable Development Goal 7 Through Struggles Over Traditional Energy Practices in Sierra Leone', 105 (2017) *Energy Policy*, 640.

[16] Michael J O'Fallon and Kenneth D Butterfield, 'A Review of the Empirical Ethical Decision-Making Literature: 1996–2003', 59 (4) (2005) *Journal of Business Ethics*, 375–413.

of modern energy services will require a huge financial investment. Although the five tenets of the energy justice framework (distributive, procedural, recognition, cosmopolitan and restorative justice)[17] are interdependent and could be jointly applied in remedying global disparities in the just energy transition, two are pivotal in establishing a minimum acceptable standard of universal energy access: (a) recognition justice (post-distributional, or recognition-based justice that must include a deep reflection upon where injustice emerges with regard to the impact on parts of society) and (b) Restorative Justice (where responses recognise and are responsive to context-specific cultural and social norms, knowledge systems, values, imbalances social structures and power).[18] These tenets need to be embedded in energy law to inform policy. The upshot is that energy services will benefit from law, policy and regulatory measures that require a floor of energy services. Any service level that falls short of those standards should be seen as a failure to meet, not just an aspirational target, but a legal norm. The legal framing of energy poverty needs to set parameters of the fundamental services that form an objective global index of what constitutes energy access. This is not to say that it should be a prescriptive laundry list of the type of energy source, resource, system or kilowatt hours. Rather, that there should be specificity in the essential services that are markers of access to modern energy services.

[17] Mohammad Hazrati and Raphael J Heffron, 'Conceptualising Restorative Justice in the Energy Transition: Changing the Perspectives of Fossil Fuels', 78 (2021) *Energy Research & Social Science*, 102115, <https://doi.org/10.1016/j.erss.2021.102115> accessed 29 May 2023.

[18] David Ciplet 'From Energy Privilege to Energy Justice: A Framework for Embedded Sustainable Development', 75 (2021) *Energy Research & Social Science*, 101996, <https://doi.org/10.1016/j.erss.2021.102115> accessed 29 May 2023.

CHAPTER 32

Empowering Those in Harm's Way: A Restorative Justice Approach

Amina Ahmed Ibrahim

Abstract As countries edge towards low-carbon economies, the challenges posed by energy infrastructure sited in "energy sacrificial zones" highlight the vulnerability of individuals and communities in those areas that cause environmental degradation, limited economic prosperity and impaired well-being. To address this issue, using examples, the usefulness of energy justice through the lens of its restorative justice tenet to articulate responses for a 'just' energy system is explored. Anchored on the framing of restorative justice that is a theoretical integration of three concepts—respect, responsibility and remediation, the mitigation approach to addressing injustices is more favoured. Restorative justice in this frame has implications for an enhanced social contract. This encourages early change in behaviour and averts conflict to ensure a just transition. From practice, unbalanced power allocation and unfair regulatory actions are challenges for restorative justice. However, by respecting

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R. J. Heffron and L. de Fontenelle (eds.), *The Power of Energy Justice & the Social Contract*, Just Transitions,
https://doi.org/10.1007/978-3-031-46282-5_32

and empowering these communities for co-created agreeable remedial decisions, the decision-making process can deliver on energy justice.

Keywords Energy justice · Restorative justice · Just transition · Respect · Responsibility

32.1 Introduction

Energy infrastructure plays a key role within an energy system to support production and delivery of energy including accelerating energy security and economic development. However, the challenges posed by energy infrastructure sited in "energy sacrificial zones" highlight the vulnerability of individuals and communities in close proximity.[1] These challenges include environmental degradation and limited economic prosperity that have profound implications for development, climate change and human well-being. This brings about conflict, trampled rights and injustices.

While it is very difficult for decision-makers to site energy infrastructure elsewhere due to technical, economic, environmental and even political constraints, it is possible to mitigate the impacts with the aid of processes that address injustices. This is where energy justice, particularly from a restorative justice frame, becomes key for such decision-making processes. Therefore, the specific focus of this chapter is to illuminate the usefulness of energy justice through the lens of its restorative justice tenet to articulate responses for a 'just' energy system.

32.2 Theorizing Energy Justice from a Restorative Justice Perspective

Energy justice seeks to assess the impact of energy-related decisions through the application of justice principles—recognition justice, procedural justice, distributive justice and restorative justice.[2] Restorative

[1] Hernández, D. (2015). Sacrifice Along the Energy Continuum: A Call for Energy Justice. *Environmental Justice*, *8*(4), pp. 151–156.

[2] Heffron, R. J., & McCauley, D. (2017). The Concept of Energy Justice Across the Disciplines. *Energy Policy*, *105*, pp. 658–667.

justice is the operative element of energy justice as it forces decision-makers to engage with justice concerns.[3] Here *recognition justice* considers who is affected and how they are affected. Influenced by *procedural justice*, it allows for an engaging participatory decision-making process that facilitates fair allocation of benefits—*distributive justice* with agreeable remediation actions.

Therefore, restorative justice is a duty to rectify injustices for a fair energy decision. Decision-makers should ideally define the impacts that energy infrastructure may have on a community and think about how to respond to the injustices. This view shapes the framing of energy justice from restorative justice lens, allowing it a vital role in energy decision-making. The framing, illustrated in Fig. 32.1, is anchored on the theoretical integration of three concepts—respect, responsibility and remediation which are further highlighted below:

1. **Respect**

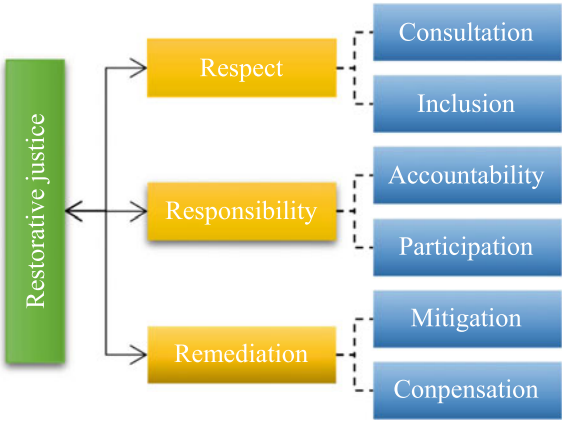

Fig. 32.1 Abstract framing of restorative justice concept from an energy justice perspective (*Source* Created by Ibrahim, A. [2023])

[3] Hazrati, M., & Heffron, R. J. (2021). Conceptualising Restorative Justice in the Energy Transition: Changing the Perspectives of Fossil Fuels. *Energy Research & Social Science*, *78*, p. 102115.

Respect is a foundational principle of ethical conduct that is largely connected to recognition justice. It directs attention to social differences on needs and perspectives to grant equality.[4] The UN declaration on the rights of indigenous peoples acknowledges that sustainable development is enhanced by respecting knowledge, culture, and practices. An example is the Norwegian Court ruling in 2021 that declared operating licences of wind farms in Fosen peninsula invalid.[5] It ruled that the reindeer herding culture of the Sami people was disregarded. Indeed, respect attaches a moral charge for decision-makers to acknowledge rights and restore relationships by providing an opportunity to all stakeholders to participate in the decision-making. This has implications for how decision-makers treat the community and resource allocation.

2. **Responsibility**

Similarly, responsibility is an ethical concept that revolves around morally or legally acceptable decisions with emphasis on accountability through duties and obligations.[6] Linked to procedural justice, it facilitates energy decision-making and associated obligations because it forces them to consider the full range of issues and needed actions to mitigate impacts. Environmental Impact Assessment (EIA) that is of particular importance in energy siting decision is largely shaped by participation of stakeholders[7]—who supply information and feedback.[8] The Lamu coal plant case in Kenya, where the ruling favoured public participation is an example of how meaningful engagement can empower communities and enhance

[4] McBride, C. (2009). Demanding Recognition: Equality, Respect, and Esteem. *European Journal of Political Theory*, *8*(1), pp. 96–108.

[5] Ravna, Ø. (2022). The Fosen Case and the Protection of Sámi Culture in Norway Pursuant to Article 27 ICCPR. *International Journal on Minority and Group Rights*, *30*(1), pp. 156–175.

[6] Sovacool, B. K. et al. (2016). Energy Decisions Reframed as Justice and Ethical Concerns. *Nature Energy*, *1*, p. 160.

[7] Hazrati, M., & Heffron, R. J. (2021). Conceptualising Restorative Justice in the Energy Transition: Changing the Perspectives of Fossil Fuels. *Energy Research & Social Science*, *78*, p. 102115.

[8] Portman, M. (2009). Involving the Public in the Impact Assessment of Offshore Renewable Energy Facilities. *Marine Policy*, *33*(2), pp. 332–338.

sustainability of energy infrastructure.[9] EIA is an accountability tool to mitigate vulnerability as it contributes to the transparency of the decision-making process. Here, decision-makers have a duty to contribute to the well-being of communities by taking action to mitigate harm.

3. **Remediation**

   For decision-makers, allocation of benefits to all stakeholders should be an important consideration. Remediation captures the idea of repairing or mitigating a harmful situation to a more desirable state. It involves correcting and improving harmful outcomes via inherently agreeable action. For instance, to mitigate the impacts of the Sizewell C nuclear power plant in Leiston in Suffolk, UK, the Wild Aldhurst was created to provide a new habitat for birds and rare plants at Aldhurst Farm.[10] This extends environmental improvement benefits to the community and ensures sustainability of the Suffolk wildlife habitat. Hence, the value of remediation allows decision-makers to understand the needs of communities, while seeking re-integration that is essential to fostering an equitable and just restorative decision.[11]

32.3 The Restorative Justice Challenge

While restorative justice has been advanced in literature as having a two-pronged approach of repair and mitigation. The mitigation approach is more favoured as it encourages early change in behaviour and averts

[9] UNEP. (2019). *Lamu Coal Plant Case Reveals Tips for Other Community-Led Campaigns*. Environmental Rights and Governance. https://www.unep.org/news-and-stories/story/lamu-coal-plant-case-reveals-tips-other-community-led-campaign.

[10] EDF. (2020). *How Sizewell C Is Protecting the Environment*. https://www.edfenergy.com/energy/nuclear-new-build-projects/sizewell-c/news-views/how-sizewell-c-protecting-environment.

[11] Leonard, P. B. (2011). An Introduction to Restorative Justice. In E. Beck, N. P. Kropt, & P. B. Leonard (Eds.), *Social Work and Restorative Justice: Skills for Dialogue, Peacemaking and Reconciliation*. Oxford University Press.

conflict.[12] Through attention to respect and accountability, decision-makers can extend social ease and participatory rights that allow energy infrastructure siting decisions to be considered proper and just. However, any dereliction ignores the objective of energy justice and exacerbates injustices. This is often enabled by unbalanced power allocation and unfair regulatory actions. The Lamu case mentioned above is an example of how these unfair factors undermined the effective conduct of an EIA, a restorative justice measure including withheld participatory rights from the people of Lamu community. Nevertheless, to ensure energy justice in the decision-making process, the community sought restorative redress from the courts. This legal approach can be used as a wielding stick to hold energy decision-makers to account and demand rights.[13]

As countries edge towards low-carbon economies, how decision-makers treat communities, particularly those that would host required energy infrastructure would have implications for achieving a just transition. In the earlier example of the wind farms in the Fosen peninsula in Norway, the Sami people opposed the siting of renewable energy project in their community despite the nation's need to cut carbon emissions. The community's perception of violated rights puts the wind farm projects in jeopardy and poses a huge challenge for the Norwegian government's transition goal. However, by respecting these communities, decision-makers can effectively capture their vulnerabilities for remediation to give a compensatory effect. Additionally, this action that averts conflict will ensure sustainability and protect the huge investments of low-carbon infrastructure to foster a just transition.

The conceiving of energy justice from its restorative justice tenet through notions of respect, responsibility and remediation frames energy justice as an emancipatory tool. Consequently, restorative justice in this frame has implications for an enhanced social contract.[14] This is fostered by its proactive integrative principle and reflective approach that

[12] Hazrati, M., & Heffron, R. J. (2021). Conceptualising Restorative Justice in the Energy Transition: Changing the Perspectives of Fossil Fuels. *Energy Research & Social Science*, *78*, p. 102115.

[13] Heffron, R. J. (2021). *The Challenge for Energy Justice: Correcting Human Rights Abuses*. Palgrave Macmillan.

[14] Heffron, R. J., & De Fontenelle, L. (2023). Implementing Energy Justice Through a New Social Contract. *Journal of Energy & Natural Resources Law*, *41*(2), pp. 141–155.

encourages plurality in decision-making through empowering the host communities of energy infrastructure in a bid to mitigate impacts. It allows for co-created agreeable decisions to deliver on energy justice.

PART VII

Conclusion

CHAPTER 33

Diffusing Energy Justice into the New 'Social Contract' for Society

Raphael J. Heffron and Louis de Fontenelle

Abstract With the current climate emergency, a new social contract between society and the energy sector will prove crucial to the health and livelihoods of nature and all citizens. There is no more time to wait and energy justice principles need to be infused into this social contract. Transformative change is needed across society that also involves changes in education and also in practice including for example with lawyers, accountants and financiers in particular. In this context, these decision-makers need to ensure they future-proof their decision-making. In the future, there may be liability issues with these decisions as energy and climate litigation trends are pointing in this direction. There are key justice risks that must be solved in society today and this is what the new social contract can address. This is why the next step for energy justice is to move towards developing this social contract, and delivering a just transition to a low-carbon economy.

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R. J. Heffron and L. de Fontenelle (eds.), *The Power of Energy Justice & the Social Contract*, Just Transitions,
https://doi.org/10.1007/978-3-031-46282-5_33

Keywords Energy justice · Just transition · Social contract · Future-proofing · Justice risks · Climate litigation · Livelihood

33.1 Diffusing Energy Justice into a Social Contract with Society

Energy justice as a concept had been around for near a decade now in research and policy literature.[1] It can through its key forms of justice—distributive, procedural, restorative, recognition and cosmopolitanism—bring change through ensuring that citizens' rights and well-being are protected in today's modern economy. Hence, a new social contract with energy justice at its core provides a transformative solution to society's challenge with the energy transition today. This chapter analyses in brief how we can diffuse energy justice into the new social contract for society today.[2]

33.2 Allocating Accountability Through Future-Proofing

There is a significant reason why a new social contract is needed for all stakeholders within the energy sector and this is because today, future-proofing is becoming a necessity. The basic premise of 'future-proofing' is resolving the risk around the increasingly disastrous effects of the energy sector in the areas of climate, environmental impacts, economic and governance issues. The risk on these issues needs to be shared more fairly between stakeholders and this can be achieved with this new social contract.

[1] Heffron, R. J. 2021. *The Challenge for Energy Justice: Correcting Human Rights Abuses*. Springer: Heidelberg, Germany. https://www.waterstones.com/book/the-challenge-for-energy-justice/raphael-heffron/9783030800963.

[2] This chapter is in part based with thanks to the publisher (and also due to it being open-access) on the article: Heffron, R. J. and De Fontenelle, L. 2023. Implementing Energy Justice Through a New Social Contract. *Journal of Energy and Natural Resources Law*, 41 (2), 141–155. https://www.tandfonline.com/doi/full/10.1080/02646811.2023.2186626.

However, future-proofing also has an individual motivation. Management teams in energy companies can protect themselves on an individual level and ensure they are not held accountable for their actions. They would in effect be ensuring that they are not responsible should their organisation succumb to a Minksy moment—i.e. whereby an asset class crashes in value.[3]

In simplistic terms, future-proofing means that in the future, a stakeholder (a company executive or politician and even head of an NGO) can state at 'that point in time in the past' when they made a key strategic decision, they relied on existing best-practice (including scientific data, risk management strategy, environmental impact data, consideration of alternatives, etc.) to inform their decision-making.[4] Therefore, they cannot be held accountable for subsequent problems and the associated costs.

In the past ExxonMobil Corp executives have been targeted for their incompetence towards society in ignoring the scientific data their own company was producing on climate change.[5] While that legal action has slowed, more can be expected to arise in a similar way. Already it is happening, in new legal action Shell executives have been targeted for their similar misguided strategies towards climate change.[6] In effect, had these executives future-proofed themselves they would not be in such a position.

[3] Minsky, H. P. 1986. *Stabilizing an Unstable Economy*. New Haven, CT: Yale University Press.

[4] Heffron, R. J. 2023. Repurposing for the Just Transition: Energy Companies Need to Future-Proof Their Structure and Strategy. *Journal of World Energy Law and Business*, 16 (3), 302–307.

[5] Supran, G. et al. 2023. Assessing ExxonMobil's Global Warming Projections. *Science*, 379 (6628).

[6] Reuters (Ridley, K.). 2023. Institutional Investors Back Shell Board Lawsuit Over Climate Risk. Available at: https://www.reuters.com/business/sustainable-business/institutional-investors-back-shell-board-lawsuit-over-climate-risk-2023-02-09/.

33.3 The Next Step for Energy Justice: The Social Contract

As stated earlier, the energy sector remains a problematic sector in society with key issues in terms of climate change, environmental impacts, economics and governance. The rise in energy justice as a concept and as theory and also in practice over the last decade is an expression that the energy sector is seriously flawed. The five elements of energy justice can be implemented by the social contract. These five forms of justice should be the key terms of a 'social contract' whereby a: *a social contract can be defined as*: the 'just' agreement between stakeholders in the energy sector and society where citizens' rights and well-being are protected in today's modern economy at local, national and international levels.

The focus on the energy transition which is a move to clean energy from massively polluting energy provides the impetus for change. What has been evolving too is the role for justice in that transition and how it will be achieved. Further, with greater justice, there will be a clear reduction in commercial risk, and this is where new risk management behaviour is coming in and A '*social contract*' that implements justice behaviour can be transformative and can provide new pathways for risk management behaviour in the energy transition. Now there are 12 clear risks[7] that can be identified and a new social contract can ensure these risks are negotiated and managed effectively. These risks have their roots with the five aforementioned forms of justice and this is demonstrated in Fig. 33.1. Ensuring that these justice risks are managed within a social contract can ensure that a company and/or Government future-proofs themselves in terms of energy decision-making today. Indeed, the UN Secretary General states that companies should not be in business if they are not responding to them.[8]

[7] Heffron, R., Connor, R., Crossley, P., López-Ibor Mayor, V., Talus K., and Tomain, J. 2021. The Identification and Impact of Justice Risks to Commercial Risks in the Energy Sector: Post COVID-19 and for the Energy Transition. *Journal of Energy & Natural Resources Law*, 39 (4), 439–468. https://www.tandfonline.com/doi/full/10.1080/02646811.2021.1874148

[8] BusinessGreen (Holder, M.). 2023. UN Chief: Fossil Fuel Firms Without Credible Net Zero Plans 'Should Not Be in Business'. Available at: https://www.businessgreen.com/news/4073987/chief-fossil-fuel-firms-credible-net-zero-plans-business.

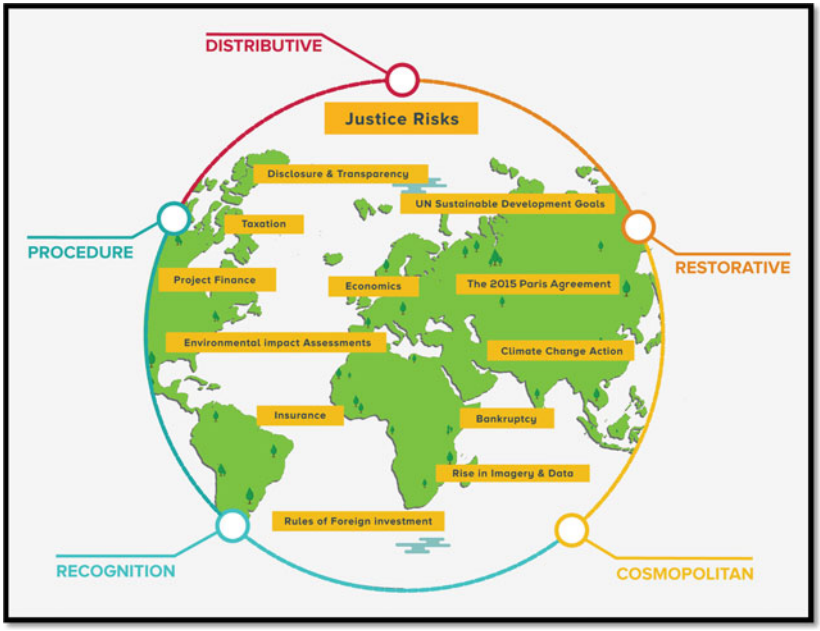

Fig. 33.1 Global justice risks in the energy sector (*Source* Created by Heffron [2020])

33.4 An Effective Social Contract Is a Vital Justice Strategy for Future-Proofing Corporations and Politicians

To manage the risk, the central idea within future-proofing is to change the strategy of an organisation. It will ensure the organisation in effect avoids a Minsky moment—i.e. whereby an asset class crashes in value.[9] In addition, and very importantly, on an individual level, executives, managers and policy-makers will be ensuring they are not held accountable and personally financially liable for their actions. Therefore, they are also future-proofing themselves. In many cases, politicians would be doing so too, as no longer in future will they be able to utilise the 'Political

[9] Minsky, H. P. 1986. *Stabilizing an Unstable Economy*. New Haven, CT: Yale University Press.

Office' or the 'Corporate Office' to avoid responsibility for their decision-making on energy and climate change.[10] In the future they will be in-part responsible for damage (contributory negligent).

It is advanced here that, 'future-proofing' in simplistic terms means that: *in the future, they can state at that a particular point in time in the past, they relied on existing best-practice (including scientific data, risk management strategy, environmental impact data, consideration of alternatives etc.) to inform their decision-making*. Therefore, they cannot be held accountable. Today and given current knowledge on climate change and environmental impacts, management personnel at companies, etc. are unlikely to avoid responsibility given the option now of future-proofing their decision-making.

A failure to future-proof is likely to end in responsibility and accountability issues been explored in an investigation. In some countries, this will be through national court action and in others it will be treated like a forensic accounting investigations and even criminal investigations. In multiple disciplines and institutions leaders will also have to question themselves. For example, with lawyers, scientists, consultants and project management teams, how did they miss so many warnings around climate change, environmental impacts and skewed subsidy regimes towards fossil fuels? Was fee-income and profiteering the major motivation of these groups? In many ways, these groups represent the modern '*Robber Barons*' of the nineteenth and early twentieth centuries in the United States; in addition, these industry *Robber Barons* from the United States were said to be morally bankrupt.[11]

Universities too, bastions of so-called knowledge continue to churn out more students with skills to operate in the fossil fuel industry than the low-carbon energy sector. An overall educational transformation is needed.[12] There remain too many programmes at universities that

[10] Similar to a medical doctor, it would be gross negligence not to prescribe a cure for a disease where the cure was available—if that were to occur the medical doctor would be 'struck-off' the medical register.

[11] See the classic text on this: Josephson, M. 1934. *The Robber Barons: The Classic Account of the Influential Capitalists Who Transformed America's Future*. New York: Houghton Mifflin Harcourt Publishing.

[12] This is further highlighted by the journal Nature recently in 2022 stating how society remains dominated in essence by existing education system that has yet to transform: (1) Heffron, R. J. and Foley, A. 2022. Promote Clean-Energy Transition in Student Education. *Nature*, 607, 32 https://www.nature.com/articles/d41586-022-01823-8 and (2)

are Masters in Oil & Gas Business/Engineering/Economics worldwide. Students of these courses have reason to expect a job post-university—legitimate expectation—however, they too have some level of culpability today for not foreseeing the climate, environmental and economic issues from the energy sector, and therefore future-proofing themselves (and therefore choosing another course). The courses should be renamed, and students taught about the full range of low-carbon energy sources, options, strategies and innovations.

Finally, a new social contract will deliver citizens' rights and well-being from the energy sector and therefore can deliver energy justice. The chapters of this book detail in different ways how influential energy justice can be to provide a platform for action—or in essence a new social contract for achieving change on a particular issue. There are 33 to read and we hope you enjoyed everyone and are inspired to be innovative, transformative and ambitious in contributing to achieving energy justice so as to achieve a just transition to a low-carbon economy.

A key related further issue that will be a future research direction is the study of the unbalanced social contract issues. While litigation and various court proceedings against climate polluters are welcome[13] this has to be a last resort. These legal battles unfortunately take too long in the legal system, and given the climate emergency, can society afford to wait continuously for the courts to decide? What is needed is research that pinpoints the areas where 'new social contracts' can be envisioned and created to resolve the imbalances. In addition, the policies that support these imbalanced relationships need to be revised, reformed or replaced. Given the climate emergency, the next social contracts between society and the energy sector are likely to prove crucial to the health and livelihoods of nature and all citizens.

Leahy, P. G. and Sovacool, B. K. Decarbonize Pedagogy—Apply Sustainable Development Goals. *Nature*, 608, 266.

[13] Heffron, R. J. 2021. Energy Multinationals Challenged by the Growth of Human Rights. *Nature Energy* (2021). https://doi.org/10.1038/s41560-021-00906-6.

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R. J. Heffron and L. de Fontenelle (eds.), *The Power of Energy Justice & the Social Contract*, Just Transitions,
https://doi.org/10.1007/978-3-031-46282-5