Chapter 28
Climate Change Responses in South Africa

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South Africa is a significant emitter of greenhouse gases. Despite a long history of policy development, there is insufficient legislation addressing climate change (the chapter briefly canvassing what legislation there is) – and numerous policy imperatives which might undermine the effectiveness of recent policy innovations. Policy documents – especially the recent *White Paper on the National Climate Change Response* (2011) – are considered in some detail. Also considered is the recent *White Paper on South Africa's Foreign Policy* (2011), which provides important insight into South Africa's intentions in respect of international commitments and both national and regional growth. As a counterweight to the environmental aspirations of the White Paper, South Africa's energy policy is then considered and it is concluded that while South Africa continues on the path it is presently treading it is going to be all but impossible to reconcile the goals of strong economic growth and poverty alleviation with environmental protection generally, and South Africa's international commitments in the climate change issue-area specifically.

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28.1 Introduction[1]

South Africa is a globally significant greenhouse gas (GHG) emitter, and is the highest emitter in Africa. According to United Nations statistics for 2007, South Africa emitted 433.53 million tonnes of carbon dioxide (CO_2) in that year, placing the country 13th amongst all states and ahead of countries such as Australia and France. The next highest emitter in Africa was Egypt with 184 million tonnes. South Africa fared somewhat better in per capita figures, placing 47th internationally with a figure of 8.82 tonnes per capita, second in Africa behind Libya.[2] South Africa has also become a significant player in the international climate change negotiations regime, and hosted the latest Conference of the Parties to the United Nations Framework Convention on Climate Change (UNFCCC) in Durban in 2011.[3]

These facts, coupled with the fact that South Africa has a relatively sophisticated system of environmental laws, suggests that it ought to have a climate change legal regime in place to address its significant climate impact; but this chapter will indicate that this is not the case. Although the country published a climate change response policy in 2011, following on a near decade-long process of policy development, there is little (even indirect) legislation addressing climate change. The policy does envisage legislative innovation, but its effectiveness looks likely to be undermined by simultaneous policy development in other branches of government confirming continued commitment to fossil-fuel based sources of energy and indeed increased generation of energy from fossil fuels.

28.2 South Africa's Greenhouse Gas Emissions Profile

According to the 2011 *White Paper on the National Climate Change Response*,[4] South Africa's 2000 Greenhouse Gas Inventory[5] (the latest available) shows that the main source of South Africa's energy emissions is electricity generation, which

[1] Portions of this chapter are derived from Michael Kidd, *Environmental Law*, 2nd edition (Cape Town: Juta, 2011), Chapter 10.

[2] United Nations Statistics Division, "Environmental Indicators", available at http://unstats.un.org/unsd/environment/air_co2_emissions.htm (last accessed 2 March 2012). There are different data available from different sources (see, for example, sources cited in Kidd, supra note 2). The data differ according to the year of the statistics' derivation and the differences are not dramatic.

[3] The 17th Conference of the Parties to the United Nations Convention on Climate Change and the 7th Meeting of the Parties to the Kyoto Protocol. See, generally, "Meetings", available at: http://unfccc.int/meetings/items/6240.php and, specifically, "COP17/CMP7", available at: http://www.cop17-cmp7durban.com/ (both last accessed on 1 March 2012).

[4] Department of Environmental Affairs, *White Paper on the National Climate Change Response* (2011), at §6.2, Gen N 757 in *GG* 34695 of 19 October 2011.

[5] Department of Environmental Affairs and Tourism, *Greenhouse Gas Inventory South Africa: 1990–2000* (2009), available at: http://www.pmg.org.za/files/docs/090812greenhouseinventory.pdf (last accessed 1 March 2012).

constituted about half of the energy emissions and just under 40% of total emissions.[6] Other significant sources of emissions are transportation and energy used in industry (just under 10% each) and industrial process emissions (about 14% of total emissions). Emissions from agriculture and land-use change "constitute only around 5% of emissions, compared to an average of 44% in developing countries as a whole".[7] To put these figures into perspective, "average energy use emissions for developing countries constituted 49% of total emissions, whereas South Africa's energy use emissions constituted just under 80% of total emissions".[8]

In recognition of the significant contribution to climate change for which South Africa is responsible, the government in late 2009 announced that it would implement mitigation actions collectively resulting in 34 and 42% deviations below its "Business As Usual" emissions growth trajectory by 2020 and 2025, respectively.[9] Although this announcement was made conditional on certain aspects of the international regime under the UNFCCC coming to fruition, these commitments have subsequently been declared as domestic government policy in the White Paper.

28.3 Current Climate Change Legislation in South Africa

South Africa has few legislative provisions directly addressing climate change issues, although there are some specific legislative provisions that can be used for that purpose and a legislative framework which arguably requires more pro-action by government in this regard.

At the apex of South Africa's legal system is the Constitution, including a Bill of Rights which "applies to all law, and binds the legislature, the executive, the judiciary and all organs of state".[10] The Constitution includes the so-called "environmental right"[11] which provides that:

Everyone has the right-

(a) to an environment that is not harmful to their health or well-being; and
(b) to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that:

1. prevent pollution and ecological degradation;
2. promote conservation; and
3. secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.

[6] cf. Ibid. at 17, where the higher figure of 47.6% is given.

[7] White Paper, supra, note 4.

[8] Ibid.

[9] Ibid at §6.1.

[10] Section 8(1) of the Constitution of the Republic of South Africa, 1996.

[11] Section 24.

The national environmental management principles, in the National Environmental Management Act,[12] are intended to give effect to the Constitutional right. The principles have at their core the concept of people being placed at the centre of environmental management and sustainable development.[13] Section 24 of the Constitution together with the national environmental management principles require, at a general normative level, the South African government to address climate change and its possible impacts on South Africa, by means of legislation and other reasonable measures.

As for more specific legislation, the National Environmental Management: Air Quality Act[14] has potential for addressing GHG emissions. The Act is aimed primarily at securing air quality from the perspective of pollution prevention, and it contains no express reference to "climate change".[15] Climate change is not defined in the Act, but "greenhouse gas" is defined as meaning "gaseous constituents of the atmosphere, both natural and anthropogenic, that absorb and re-emit infrared radiation and includes carbon dioxide, methane and nitrous oxide".[16]

The Act does require the Minister of Environmental Affairs to "establish a national framework for achieving the object of the Act",[17] and this framework must include "mechanisms, systems and procedures to give effect to [South Africa's] obligations in terms of international agreements".[18] The same section requires that national norms and standards established[19] must be aimed at ensuring[20] "compliance with [South Africa's] obligations in terms of international agreements".[21] Arguably, this gives the Minister the opportunity – some might even argue, the obligation – to promulgate regulations under the Act which contain binding strictures to combat GHG emissions.[22] Realistically, however, the obligations which states assume in

[12] Act 107 of 1998. See Ch.1, s 2 for the principles. The s 2 principles are justiciable (see s 32(1)).

[13] Section 2(2).

[14] Act 39 of 2004. Hereafter referred to as the Air Quality Act.

[15] There is an oblique reference in the Preamble: "whereas atmospheric emissions of ozone-depleting substances, greenhouse gases and other substances have deleterious effects on the environment both locally and globally".

[16] Section 1.

[17] Section 7(1).

[18] Section 7(1)(c).

[19] Established under s 7(1).

[20] Section 7(2).

[21] Section 7(2)(h). In addition, s 8 provides that the national framework must establish national standards for collecting and managing data necessary to assess compliance with South Africa's obligations in terms of international agreements (s 8(c)(v)); and s 16 requires that air quality management plans, which must (per s 15) be included by national or provincial departments in environmental implementation plans or environmental management plans (per s 15(1)) or by municipalities in integrated development plans (s 15(2)), must "seek" (s 16(1)(a)) to "implement [South Africa's] obligations in respect of international agreements" (s 16(1)(a)(vii)). Similar obligations apply in respect of "controlled emitters" (per s 23(2)(c)); and "controlled fuels" (s 26(2)(c)).

[22] The Minister is empowered, although not compelled, to make regulations "that are not in conflict with this Act" regarding "any matter necessary to give effect to the Republic's obligations in terms of an international agreement relating to air quality" (s 53(a)).

international law tend not to be highly specific and so their usefulness for enhancing national law is necessarily limited.

Despite its general lack of specificity on climate change, the Act does provide that an atmospheric emission licence issued in terms of the Act must contain greenhouse gas (GHG) emission measurement and reporting requirements.[23] Such a licence is required for activities which result in atmospheric emissions and that are listed pursuant to a decision by the Minister, the decision being made if he or she reasonably believes the activity has or may have "a significant detrimental effect on the environment, including health, social conditions, economic conditions, ecological conditions or cultural heritage".[24] In addition, s 29(1) of the Act provides for the declaration of a "priority air pollutant",[25] and this mechanism could be used to declare GHGs as priority pollutants. Priority pollutants would then be specially regulated by means of pollution prevention plans provided for in respect of the specific pollutants.[26] The White Paper envisages that s 29(1) will be used to "manage GHG emissions from all significant industrial sources (those responsible for more than 0.1% of total emissions for the sector) in line with approved mitigation plans that conform to the Act's requirements for pollution prevention plans prepared by identified industries and sectors".[27] At the time of writing, the power in s 29 has not yet been used for this purpose, and it should be noted that it is a directory provision, not a mandatory one, so that there is no compulsion on the Minister to make such a declaration.

Further, the Act does provide for licensing authorities to take into account, when considering applications for atmospheric emission licences, "any relevant tradable emission scheme[s]"[28]; and provides that "greenhouse gas emission measurement and reporting requirements" must be specified in atmospheric emission licenses.[29]

Finally, the Act contains a section[30] which provides that the Minister "may investigate any situation which creates, or may reasonably be anticipated to contribute to":

(a) air pollution across the Republic's boundaries; or
(b) air pollution that violates, or is likely to violate, an international agreement binding on the Republic in relation to the prevention, control or correction of pollution[31]

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[23] Section 43(1)(l).

[24] Section 21(1).

[25] This subsection reads:

> The Minister or MEC may, by notice in the *Gazette*—
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> (a) declare any substance contributing to air pollution as a priority air pollutant; and
> (b) require persons falling within a category specified in the notice to prepare, submit to the Minister or MEC for approval, and implement pollution prevention plans in respect of a substance declared as a priority air pollutant in terms of paragraph (a).

Note that the "MEC" is the Member of the Executive Council for environmental affairs, essentially the provincial equivalent of a national Minister.

[26] Section 29.

[27] White Paper, supra note 4, at §10.6.

[28] Section 39(e).

[29] Section 43(1)(l).

[30] Section 50, which is headed "Transboundary air pollution".

[31] Section 50(1).

and to "prescribe measures to prevent, control or correct the releases within" South Africa, if the investigation "reveals that the release of a substance into the air from a source in [South Africa] may have a significant detrimental impact on air quality, the environment or health in a country other than [South Africa]".[32]

Cumulatively, these sections certainly provide the Minister with the legal wherewithal to take measures to curb GHG emissions within South Africa. However, there is still a marked lack of firm direction to the Minister, and much will rely on the Minister to elect to deal firmly with climate change issues.

Other current legislation that is relevant is the Electricity Regulation Act,[33] under which regulations were promulgated requiring the periodic production of the Integrated Resource Plans.[34] The Act contains amongst its objectives the achievement of efficient, effective, sustainable and orderly development and operation of electricity supply infrastructure in South Africa; ensuring that the interests and needs of present and future electricity customers and end users are safeguarded and met, having regard to the governance, efficiency, effectiveness and long-term sustainability of the electricity supply industry within the broader context of economic energy regulation in the Republic; and the promotion of the use of diverse energy sources and energy efficiency.[35] The Integrated Resource Plans set out how electricity is to be produced in future, which undoubtedly has an important role to play in climate change mitigation, given South Africa's circumstances. There is, however, no explicit reference to climate change considerations in the Act.

Finally, in 2010, the Minister of Finance announced in his budget speech a flat rate CO_2 emissions tax on new motor vehicles, with effect from 1 September 2010.[36] A carbon tax is envisaged by the White Paper,[37] but is not yet in place.

Although South Africa's law relating to climate change is currently sparse, legislative innovation seems certain in the light of the White Paper's recommendations. The mitigation targets set out in the White Paper will certainly require legislative implementation of mitigation efforts and possibilities for new legislation are discussed in the analysis of the White Paper below.

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[32] Section 50(2).

[33] Act 4 of 2006.

[34] Electricity Regulations on New Generation Capacity: GN R721 *GG* 32378 of 5 August 2009.

[35] Section 2.

[36] See National Treasury, "Press Release Regarding CO_2 Vehicle Emissions Tax", 26 August 2010, available at: http://www.treasury.gov.za/comm_media/press/2010/2010082601.pdf (last accessed 7 February 2011).

[37] White Paper, supra, note 4, at §10.7. See also National Treasury, *Reducing Greenhouse Gas Emissions: The Carbon Tax Option*, December 2010, Discussion Paper for Public Comment.

28.4 Climate Change Policy in South Africa

This section considers the policy that directly addresses climate change, and which culminated in the 2011 White Paper,[38] timeously released shortly before South Africa hosted COP17. It necessarily examines also what could broadly be called energy policy, since there seem to be worrying elements of the latter that could serve to undermine the objectives of the climate change policy. The White Paper will be examined first.

28.4.1 White Paper on the National Climate Change Response[39]

The White Paper is a culmination of a policy-development process that began with a 2004 policy statement,[40] although there relevant energy policies (which are discussed later) were also published before 2004. In March 2006, the Cabinet commissioned a process aimed at examining greenhouse gas mitigation options. This process had its outcome in the Long Term Mitigation Scenarios (LTMS) document,[41] which had as its purpose "to outline different scenarios of mitigation action by South Africa, to inform long-term national policy and to provide a solid basis for our position in multi-lateral climate negotiations on a post-2012 climate regime".[42] The scenarios were sketched between two limits: the "growth without constraints" (GWC) limit; and the "required by science" (RBS) limit, the latter being based on a reduction of emissions of between 30 and 40% from 2003 levels by 2050. These scenarios form the basis for the thinking in the White Paper.[43] Other important policy documents preceding the White Paper were the Carbon Tax discussion paper,[44] and the Green Paper which was the immediate predecessor of the White Paper.[45]

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[38] In South Africa, a White Paper is not itself legislation (although it is a step toward possible legislation) and provides no binding obligations. However, a White Paper has value in that it provides an important guide for organs of state formulating and implementing policy; and for organs of state and the judiciary in interpreting legislation.

[39] Some of the discussion of the White Paper is based on Michael Kidd, "Environmental Law", *Juta's Quarterly Review of South African Law* (October to December 2011).

[40] Department of Environmental Affairs and Tourism, *A National Climate Change Response Strategy for South Africa* (September 2004).

[41] Energy Research Centre, Long Term Mitigation Scenarios: Technical Summary (October 2007).

[42] Ibid at 2.

[43] White Paper, supra, note 4, at §6.4.

[44] National Treasury, supra, note 36.

[45] GenN 1083 in *GG* 33801 of 11 November 2010. For discussion of the Green Paper, see Kidd, supra, note 1, at 318–323.

28.4.2 The Aims of the White Paper

The White Paper aims to:

- Effectively manage inevitable climate change impacts through interventions that build and sustain South Africa's social, economic and environmental resilience and emergency response capacity.
- Make a fair contribution to the global effort to stabilise GHG concentrations in the atmosphere at a level that avoids dangerous anthropogenic interference with the climate system within a timeframe that enables economic, social and environmental development to proceed in a sustainable manner.[46]

The White Paper's "strategic priorities" are risk reduction and management (aimed essentially at adaptation strategies); mitigation actions with significant outcomes (consistent with the targets mentioned above); sectoral responses, requiring measurable implementation measures; policy and regulatory alignment (expanded upon below); integrated planning, involving prioritization of the mainstreaming of climate change considerations; informed decision-making and planning; technology research, development and innovation; facilitated behaviour change (involving use of incentives and disincentives); behaviour change through choice; and resource mobilization.

The White Paper deals with adaptation in a way that highlights those sectors and the necessary interventions in each sector subject to particular risk of adverse impacts: water, agriculture and commercial forestry, health, biodiversity and ecosystems, urban, rural and coastal settlements, disaster risk reduction and management. Under mitigation, the key elements are setting the performance benchmark, identifying desired sectoral mitigation contributions, defining carbon budgets for significant GHG emitting sectors and/or sub-sectors, mitigation plans, the use of different types of mitigation approaches, policies, measures and actions, use of the market, and monitoring and evaluation.

The White Paper identifies eight "Near-Term Priority Flagship Programmes", some of which could be regarded as nationally appropriate mitigation actions. These programmes include mitigation in specific sectors (e.g. water, transport), renewable energy promotion and energy efficiency and energy demand management. One looks at carbon capture and sequestration and another is aimed at adaptation research. The major aspects in the rest of the White Paper are instruments and mechanisms aimed at achieving the strategies, including policy instruments; the mainstreaming of climate-change development; mobilization of resources and monitoring and evaluation. A section on job creation is also included.

[46] White Paper, supra, note 4, at §2.

28.4.3 Legal Aspects of the White Paper

Whereas many of the strategic interventions envisaged by the White Paper require investigation and prioritizing from a scientific/technical/economic perspective, there are several aspects that will require legal input. One of the strategic priorities is headed "policy and regulatory alignment" and this necessitates significant legal consequences in that it entails the prioritization of interventions that are already envisaged by existing legislation (etc.)[47] that will have climate change co-benefits. This suggests that the legislation contemplated is not aimed directly at climate change but may have relevant benefits therefor. The second aspect of this strategic priority is the review of existing legislation with a view to optimising and maximising climate change co-benefits. The third component is the integration into the relevant existing or new legislation of "those climate change response interventions that stimulate new economic activities as well as those that improve the efficiency and competitive advantage of existing activities".[48] This suggests that those climate change interventions that do not have what could be called a positive economic spin-off are not prioritized, even if they could have significant impacts on reducing GHG emissions. Unfortunately, in our view, the White Paper often emphasizes interventions with positive economic consequences, which is a flaw. While efforts to avoid economic detriment should be pursued wherever possible and economic benefits ought to be pursued where they arise, it must be recognized that climate change mitigation and adaptation will in all likelihood not always have positive economic spin-offs and will often be economically difficult. The White Paper glosses over this, which is disingenuous.

The mainstreaming of climate change considerations into all relevant sectors and spheres of government is absolutely critical if any significant progress is to be made in addressing climate change. It is no good, for example, for the Department of Environment to have first-class climate change policies in place if the Department of Energy continues to insist on coal as being the primary source of energy in the country, as discussed below. This mainstreaming (integrated planning) will probably have a legal consequence in that there will have to be legal requirements for such integrated planning. It is important, however, that the efforts not be left at the planning stage and that whatever integrated plans are decided upon be implemented.

Adaptation responses are required to be "mainstreamed" into sectoral plans, which will require the appropriate legislative duty to be enacted. For example, the White Paper explicitly recognizes that adaptation responses will have to be included in the National Water Resource Strategy, a second edition of which is currently being drafted. In the water sector, the White Paper indicates that a "key element" of climate change response is the provision of, inter alia, legal and regulatory resources

[47] The White Paper speaks of "national policies, legislation or strategies". For ease of reference, this discussion will refer simply to "legislation", but this may incorporate strategies and policies as well.

[48] White Paper, supra, note 4, at §4.2.

and capacity to deal with the long-term effects of climate change. As for the health aspect of adaptation, the White Paper requires the reduction of respiratory diseases and improvement of air quality through the reduction of ambient particulate matter and ozone and sulphur dioxide concentrations "by legislative and other measures" to ensure full compliance with National Ambient Air Quality Standards by 2020.

28.4.4 Biodiversity, Ecosystems and the White Paper

In the biodiversity and ecosystems section of the adaptation aspect, one of the proposed interventions is the expansion of the protected areas network "where it improves climate change resilience".[49] This is associated with the intention to explore a regulatory framework to support investment in conservation or land rehabilitation as a way of offsetting the environmental impacts of new property developments. It would be a good idea in this regard to consider the use of protected areas not just for the obvious purpose of conserving ecosystems and habitats and thereby species, but also to use them for conserving areas of high water yield, given that water is likely to suffer severe impacts as a result of climate change. It is disconcerting at present to see how much of the high-yield water catchment areas are subject to mining and prospecting rights, which does not seem to accord with sustainability thinking, particularly in the context of climate change.

As for urban human settlements, the White Paper recommends that land-use zoning regulations must be enforced and that urban land-use planning must consider the impacts of climate change and the need to sustain ecosystem services. This really does not need further explanation and is strongly supported.

28.4.5 Further Legal Aspects of the White Paper

There are several legal interventions required or at least suggested in the mitigation section of the White Paper. The first, overarching aspect that warrants some discussion is the "commitment" by South Africa to implement mitigation actions that will collectively result in a 34% deviation from "business as usual" by 2020 and 42% by 2025. This announcement (first made at the Copenhagen Conference of the Parties – COP 15 – to the UNFCCC in 2009) was made conditional on the provision of finance and technical assistance and on the implementation of a binding multilateral climate agreement. As observed earlier, this may be conditional on the international plane but now forms part of domestic policy that, even though it not strictly binding, ought to set a target that is not so flexible as to be meaningless.

There are a number of key elements with legal significance in the White Paper's mitigation approach. First, the White Paper speaks of defining carbon budgets for

[49] Ibid at §5.5.6.

significant GHG emitting sectors and/or sub sectors. This will entail adoption of sectoral carbon budgets within 2 years. This will be followed by a "mechanism and process to translate the Carbon Budgets for each relevant sector and/or sub-sector into company level desired emission reduction outcomes [that] will be developed and implemented within 3 years of the publication of this policy for companies above a minimum emissions threshold".[50] Although the White Paper is not explicit about regulatory or legislative development in this regard, it will not be possible to implement a carbon budget process (at least, not in a way that involves securing compliance) unless it is cast in legal terms, so legislation in this regard will be necessary. The White Paper expands on the initial statement of carbon budgeting being a key element by spelling out that sectors particularly likely to be targeted by this mechanism are major energy supply (electricity and liquid fuels) and energy use (mining, industry and transport) sectors. This is likely to be controversial, as evidenced by several recent government hearings and media reports.[51]

Companies and economic sectors for which desired emission reduction outcomes have been established will also be required to prepare and submit mitigation plans that set out how they intend to achieve such reduction outcomes. These may form part of Pollution Prevention Plans already envisaged by the Air Quality Act,[52] or may require new legislative intervention.

28.4.6 The White Paper and Alternate Instruments

One set of mechanisms identified by the White Paper is the use of economic instruments, including the "appropriate pricing of carbon and economic incentives, as well as the possible use of emissions offset or emission reduction trading mechanisms" for the relevant companies and sectors.[53] Although the White Paper is silent as to the legal consequences where this "key element" is first raised, it later states that a mix of economic instruments "complemented by appropriate regulatory policy measures"[54] are an essential element of mitigation efforts. National Government will take the lead on this. At first glance, it is often mistakenly assumed that economic instruments are alternatives to legal control, but the law is necessary at least to set the parameters within which the economic instruments will operate. This prevents the problem of "free riders".

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[50] Ibid at §6.1.3.

[51] See, for instance, Parliamentary Monitoring Group, "White Paper on Climate Change: Public Hearings", 1 November 2011, available at: http://www.pmg.org.za/report/20111102-public-hearings-national-climate-change-white-paper-2011-south-africa (last accessed 1 March 012); and Sue Blaine, "White Paper Sets Industry Carbon 'Budgets'", *Business Day*, 14 October 2011, available at: http://www.businessday.co.za/articles/Content.aspx?id=156085 (last accessed 1 March 2012).

[52] See supra, note 13.

[53] White Paper, supra, note 4, at §6.1.6.

[54] Ibid at §6.3.

"Carbon tax" is specifically mentioned as a fiscal measure that will require consultation with the National Treasury,[55] and the Departments of Trade and Industry[56] and Economic Development.[57] This is not the only official policy engagement with carbon tax. The National Treasury released a discussion paper entitled *Reducing Greenhouse Gas Emissions: The Carbon Tax Option* in December 2010.[58] In the White Paper's section on market-based instruments, the National Treasury is tasked with continuing to develop carbon tax policy and the White Paper sets out key considerations that will inform this process. These address issues of the rate of the tax; technical and administrative feasibility; distributional implications; effects on competitiveness; timing of the implementation of the tax; regressive impacts; and relief measures. In the February 2012 government budget speech, it was announced that 2012 would see a follow-up discussion document on the carbon tax. It is anticipated that the tax will be calculated on percentage-based emission thresholds rather than absolute thresholds and the rate will be R120.00[59] per tonne of CO_2e[60] above the suggested thresholds, which is proposed to take effect during 2013/2014, with annual increases of 10% until 2019/20.[61]

Legislation will also be necessary if reporting of emissions data is to become mandatory (as required by the White Paper) for entities that emit more than 0.1 Mt of GHGs annually, or that consume electricity which results in more than 0.2 Mt of emissions from the electricity sector.[62]

28.4.7 Programmes Under the White Paper

When dealing with the Near-Term Priority Flagship Programmes, the White Paper makes some general observations about the prerequisites for meeting these priorities, some of which entail regulatory or legal change. The White Paper states[63] that:

> [t]he Flagship Programmes also utilise, test and/or demonstrate a suite of policy interventions including regulatory measures, market-based instruments, tax incentives and fiscal subsidies, and information and awareness initiatives. Regulatory measures include renewable energy

[55] See, generally, http://www.treasury.gov.za

[56] See, generally, http://www.dti.gov.za

[57] See, generally, http://www.economic.gov.za

[58] See, infra, note 2; and discussion in Kidd, supra, note 1, at 317–318.

[59] Equivalent: 16.06 US$ at 1 March 2012.

[60] This symbol meaning "equivalent amounts of carbon dioxide", so as to include other greenhouse gases.

[61] Wendy Gardner, "Climate Change Taxes", *Moneywebtax*, 22 February 2012, available at: http://www.moneywebtax.co.za/moneywebtax/view/moneywebtax/en/page34677?oid=65818&sn=Detail&pid=34677 (last accessed 27 February 2012).

[62] White Paper, supra, note 4, at §6.7.

[63] Ibid at §8.

> and energy efficiency targets complemented by appropriate standards; market-based instruments including the electricity generation levy and taxes on motor vehicle emissions and incandescent light bulbs; tax incentives and fiscal subsidies are targeted at various programmes that support climate change mitigation and adaptation objectives; and information and awareness initiatives including the motor vehicle emissions labelling scheme.

These include specific measures, some of which are already in place.[64] Further measures to be investigated are set out in the carbon tax discussion paper discussed above.

When looking at the individual priority flagship programmes, the "Energy Efficiency and Energy Demand Management" programme explicitly requires "regulation" for the industry energy efficiency programme; the residential energy efficiency programme (particularly in regard to specifications for low-income housing); and in respect of commercial and residential building standards to enforce green building construction practices. In this regard, new energy efficiency standards in the National Building Regulations came into effect on 9 November 2011.[65] For the Waste Management Flagship Programme, a detailed Waste-Related GHG Emission Mitigation Action Plan will be established that will, inter alia, detail the development and implementation of any "policy, legislation and/or regulations required to facilitate the implementation of the plan".[66]

28.4.8 Coordination Under the White Paper

From an overarching macro perspective, one of the most important aspects is the mainstreaming of climate change actions and this requires coordination and alignment of government policies and actions. This is critical and, in our view, is one of the most serious deficiencies in current governmental arrangements. Unless changes are made, silo-thinking will seriously militate against successful implementation of the White Paper. In order to achieve this, the White Paper envisages a "comprehensive review of all government legislation, policy, strategies, plans and regulatory frameworks"[67] as underpinning the successful implementation of the White Paper. This will be followed by review "on a regular basis" so as to ensure that regulations, etc., falling within the jurisdiction of all spheres of government, including state-owned enterprises, are fully aligned with the climate policy. In this review process, particular attention will be given to local government legislation.

The responsibility for implementation of the climate change policy involves both identification of roles and institutional arrangements. The White Paper envisages Parliament as overseeing the development and implementation of the policy through the portfolio committees, particularly those on water and environmental affairs; energy; agriculture, forestry and fisheries; trade and industry; mining; science and

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[64] See the list of those measures already implemented in ibid, at §10.7.

[65] See GN R211 in GG 34586 of 9 September 2011.

[66] White Paper, supra, note 4, at §8.6.

[67] Ibid, at §10.1.

technology; and transport. The portfolio committees are tasked with reviewing legislation "to determine the legal requirements to support the institutional and regulatory arrangements proposed in this White Paper, and to ensure policy and legislative alignment".[68] The committees are intended to work together with the Department of Environmental Affairs and the Inter-Ministerial Committee on Climate Change to "draft any Bills, or an amendment to NEMA,[69] that may be required within 3 years of the publication of this policy". This should probably refer to amendment of any relevant legislation, not only NEMA. Potentially, changes could be made to the Air Quality Act,[70] for example, to serve some of the purposes of the White Paper. Provinces are expected to develop individual climate response strategies and these will probably require some kind of legislative authority as well.

As far as carbon markets are concerned, the White Paper envisages that these may include cap-and-trade mechanisms and offset schemes, both of which will need legislative infrastructure in order to operate. National Treasury is given the responsibility of investigating the feasibility of an emissions trading scheme "as a medium- to long-term response to climate change".[71] Another type of market-based instrument to be explored, which will also require a legislative source, is that of incentives. There are some existing incentives (lower fuel taxes on cleaner fuels, for example) and others will be explored as part of a suite of policy instruments that are aimed at influencing climate change response.

28.4.9 The White Paper: Conclusion

The White Paper recommends that South Africa must continue "proactively [to] contribute to the technical and institutional reform debates of the UNFCCC financing measures to ensure that developing and least-developed countries such as those in [SADC][72] can access the additional and necessary resources in a fair, transparent and timely manner".[73] Should parties agree on a new binding climate instrument in the future (as envisaged by the Durban Platform for Enhanced Action),[74] it is likely

[68] Ibid, at §10.2.1.

[69] National Environmental Management Act 107 of 1998.

[70] Act 39 of 2004.

[71] White Paper, supra, note 4, at §10.7.2.

[72] The Southern African Development Community; see, generally, http://www.sadc.int

[73] White Paper, supra, note 4, at §11.1.2.a.

[74] Meaning the programme agreed to at COP 17/CMP 7 of the UNFCCC/Kyoto Protocol process in Durban in December 2011, in terms of which the parties extended the Ad Hoc Working Groups on Long-term Cooperative Action; launched "a process to develop a protocol, another legal instrument or an agreed outcome with legal force"; set a deadline of 2015 for adopting this instrument, and of 2020 for its coming into force; and made certain other commitments. Available at: http://unfccc.int/files/meetings/durban_nov_2011/decisions/application/pdf/cop17_durbanplatform.pdf (last accessed 1 March 2012).

that countries will have to follow monitoring, reporting and verification (MRV) procedures in respect of emissions. One of the interventions suggested in the White Paper is that research institutions (including universities) be encouraged to develop national MRV guidelines for South Africa. These guidelines are intended to focus on mitigation and adaptation actions "such as land-use practises (sic) and change".[75]

South Africa's climate change response actions will have to be evaluated, and the White Paper provides that the Department of Environmental Affairs will be responsible for defining review mechanisms as well as developing the White Paper into a "suite of regulatory and legislative instruments where required".[76] More specifically, it is provided that South Africa will, within 2 years of the publication of the White Paper, "design and publish a draft Climate Change Response Monitoring and Evaluation System".[77] It is intended that this system will evolve with international MRV requirements.

28.5 South Africa's Foreign Policy

Whether, and how, countries ("states") incorporate their international obligations into their national legal systems is, obviously, of crucial importance to the success or failure of the international instruments in terms of which countries make those commitments. The stronger the commitments which countries make internationally, the more likely they are to attempt to translate these commitments into meaningful action at home. With South Africa clearly making efforts to position itself within the international community as a perceived leader on environmental matters, and as a committed driver of change in the climate change issue-area,[78] it might be expected that South Africa would ensure that its foreign policy was mirrored by domestic action. In May 2011, South Africa released its *White Paper on Foreign Policy* ("White Paper FP").[79] Being so recent a document, it can be expected with some confidence that South Africa will not depart from its tenets dramatically in the few years to come.

According to the White Paper FP, South Africa's "unique" approach to foreign policy is driven by "ubuntu", which is a concept or philosophy that "translates

[75] White Paper, supra, note 4, at §11.2.6.

[76] Ibid, at §12.

[77] Ibid, at §12.3.

[78] On this, *vide* South Africa's drive firstly to host COP17/CMP7 of the UNFCCC/Kyoto Protocol Process in 2011; and then to see a successful outcome from the Conference.

[79] "Building a Better World: The Diplomacy of Ubuntu", White Paper on South Africa's Foreign Policy, 13 May 2011, available at: http://www.info.gov.za/view/DownloadFileAction?id=149749 (last accessed 1 March 2012).

into an approach to international relations that respects all nations, peoples, and cultures [and which] recognises that it is in our national interest to promote and support the positive development of others".[80] It is then suggested that South Africa "accords central importance to our immediate African neighbourhood and continent; working with countries of the South to address shared challenges of underdevelopment; promoting global equity and social justice; working with countries of the North to develop a true and effective partnership for a better world"; and, additionally, "doing our part to strengthen the multilateral system, including its transformation, to reflect the diversity of our nations, and ensure its centrality in global governance".[81]

What is perhaps worrying for the environmental lawyer seeking increased action within the climate change issue-area, is that there is a strong theme running through the White Paper FP of South Africa's need to seize every opportunity to increase economic growth and meet the employment-related aspirations of the underprivileged.[82] While nobody would dispute the need for strong poverty-alleviation measures to be taken, it needs to be recognised that in the area of climate change mitigation efforts, great sacrifices are going to need to be made which might prove impossible to reconcile with strong economic growth. While innovative technologies will have an important role to play,[83] it is not going to be easy for South Africa to meet its lofty goals of lifting from poverty both its own people and people in the Southern African region[84] without making extensive use of present industry infrastructure and established industrial techniques.

The White Paper FP does acknowledge climate change, stating that:

> [s]ignposts of climate change include environmental degradation, desertification, melting of the icecaps, rising sea levels and more volatile and extreme weather patterns. Both natural and man-made environmental changes impact on all aspects of human development. These changes will increasingly hinder sustainable development and have a significant impact on the world's social and economic systems.[85]

However, many of the aims of the White Paper FP remain if not contradictory then at least internally difficult (and perhaps impossible) to reconcile. The conundrum of providing environmental protection and making lifestyle sacrifices whilst at the same time providing poverty alleviation to many, perhaps even the majority, of people, appears starkly from comparing South Africa's stated goals in the climate change area with its current policy on energy, as will appear from the next section.

[80] Ibid. at 4.

[81] Ibid. at 4–5.

[82] Ibid. at 8, 13–14, 18–19, 26–28, 29, 31–32.

[83] Ibid. at 14.

[84] Ibid. at 4–5, 8, 13, 19–23.

[85] Ibid. at 15.

28.6 Energy Policy in South Africa

Whereas the White Paper on climate change emphasizes the mainstreaming of climate change considerations in all government activities, this seems to be a clarion call that is not being heeded elsewhere in government. The White Paper, at first glance replete with planned interventions to address climate change mitigation and adaptation, has to be considered in the light of South Africa's energy policy (amongst other plans and objectives). During the time that South Africa's climate policy was being developed, culminating in the White Paper of 2011, South Africa was also planning for its ongoing energy needs.

In 1998, the White Paper on the Energy Policy of the Republic of South Africa made passing reference to climate change, providing it as one of many factors to take into account in the development of energy policy; but perhaps the main message to emerge from the energy White Paper is that coal will "dominate other energy sources in South Africa for many years to come".[86] This was followed by the integrated energy plan of 2003, which was aimed at ensuring that supply meets projected demand. Various scenarios are considered, which do take into account climate change considerations.[87] The dominant consideration, however, is clearly cost. In its conclusions, the plan states that – coal remains the dominant primary energy source over the planning horizon. In all circumstances where cost is the major driver, coal generally emerges as the least expensive option. The use of such coal energy presupposes the increased use of clean coal technologies. Moreover, coal remains the largest indigenous energy resource currently available.[88]

Clearly, the "cost" referred to does not take into account the myriad externalities relating to the mining and use of coal. To be fair, the plan does recognise a role to be played by renewable energy and indicates that the "current target for renewable energy is 10,000 GWh by the year 2012".[89] For the year 2000, South Africa's primary energy supply was approximately 4,782 PJ[90] and final energy demand was 2,363 PJ for the same year.[91] The target for renewable energy, therefore, is 0.75% of the supply and 1.5% of demand at the 2000 levels. This indicates the relatively peripheral role to be played by renewable energy, especially if the levels of supply and demand do not remain at 2000 levels, but instead increase significantly.

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[86] Department of Minerals and Energy, White Paper on the Energy Policy of the Republic of South Africa (December 1998) at 92.

[87] Department of Minerals and Energy, *Integrated Energy Plan for the Republic of South Africa* (March 2003) at 20.

[88] Ibid, at 25.

[89] Ibid. By way of comparison, according to International Energy Agency data, in 2008 Denmark produced 58,426 GWh from renewable sources and Mexico 47,303 GWh, available at: http://www.iea.org/stats/renewdata.asp?COUNTRY_CODE=DK and http://www.iea.org/stats/renewdata.asp?COUNTRY_CODE=MX respectively (last accessed 27 February 2012).

[90] Department of Minerals and Energy, supra, note 87, at 6. PJ denotes Peta Joules, which is 10^{15} J.

[91] Ibid at 7.

On the subject of renewable energy, the White Paper on the Renewable Energy Policy for the Republic of South Africa of 2003 sets out "Government's vision, policy principles, strategic goals and objectives for promoting and implementing renewable energy in South Africa".[92] The overall vision of the White Paper is to increase the contribution of renewable energy to the energy mix, "thus contributing to sustainable development and environmental conservation".[93] This is an admirable objective, but the vision is somewhat limited. The White Paper sets a rather conservative target:

10,000 GWh (0.8 Mtoe) renewable energy contribution to final energy consumption by 2013, to be produced mainly from biomass, wind, solar and small-scale hydro. The renewable energy is to be utilised for power generation and non-electric technologies such as solar water heating and bio-fuels. This is approximately 4% (1,667 MW) of the estimated electricity demand (41,539 MW) by 2013. This is equivalent to replacing two (2×660 MW) units of Eskom's combined coal fired power stations.[94]

One of the shortcomings of the White Paper, in our view, is that renewable energy is seen in the "big picture" largely as an energy source to feed "into the grid", rather than as a source that can power individual consumers' needs. This is despite the fact that solar power, for example, is considered in the document to be appropriate for use by individuals. It is said that "South Africa experiences some of the highest levels of solar radiation in the world"[95] and that average daily solar radiation in South Africa varies between 4.5 and 6.5 kWh/m^2 (16 and 23 MJ/m^2), compared to about 3.6 kWh/m^2 for parts of the United States and about 2.5 kWh/m^2 for Europe and the United Kingdom.[96] These facts suggest that far greater emphasis should be given to use of solar energy for domestic power generation (not just water heating), given that solar power is used extensively in Western Europe (with far lower solar radiation) for domestic generation, to such an extent that many users sell power back to the grid.

Closely related to overarching energy policy is electricity planning, since such a large proportion of the country's energy usage is for electricity generation. The Integrated Resource Plan (IRP) for Electricity is required by electricity regulations on new generation capacity in terms of the Electricity Regulation Act.[97] The IRP "gives effect to the following policy objectives"[98]:

1. 10,000 GWh (approximately 4% of the energy mix) of renewable energy usage,

[92] Department of Minerals and Energy, White Paper on the Renewable Energy Policy of the Republic of South Africa (November 2003), at 1.

[93] Ibid.

[94] Ibid, at 25. Eskom ("Electricity Supply Commission", translated from the Afrikaans) is South Africa's parastatal electricity supply company; on which see, generally, http://www.eskom.co.za

[95] Ibid at 20.

[96] Ibid, citing Gideon Stassen, *Towards a Renewable Energy Strategy for South Africa*, Ph.D. Thesis on file at the University of Pretoria (1996).

[97] Act 4 of 2006.

[98] GN 1243 in *GG* 32837 of 31 December 2009 at 10.

2. the implementation of Energy Efficiency and Demand Side Management through financial incentives scheme (*sic*), and
3. installation of one million solar water heaters.

The IRP contains a schedule of power-generation sources including two new coal-fired power stations (Medupi and Kusile) and makes it clear (although not using express words to this effect) that coal remains the primary energy source. From the policy objectives stated above it is also manifestly clear that renewable energy sources are regarded very much as peripheral. A second IRP is still awaited, although it is unlikely to differ significantly from the first plan in respect of the energy mix for electricity generation.

In the 2003 Integrated Energy Plan, untapped coal reserves in South Africa were estimated at 55 billion tones, and coal was regarded as "plentiful and inexpensive to exploit",[99] leading to the conclusion that it would remain the primary energy source into the future (as pointed out above). This thinking has not changed in the intervening period and renewable energy is still seen as a fringe source. In the 2009 Integrated Resource Plan, central sources of electricity for the short- to medium-term are seen to be the Medupi coal-fired power station (the first unit of which will be commissioned in 2012) and the Kusile coal-fired station (the first unit of which to be commissioned in 2013). When Medupi is fully operational, it will be producing 4,800 MW of power (more than a tenth of total current capacity), and also producing 30 Mt of CO_2.[100] It is due to commence operation in 2012, but to become fully operational only some time after that. Controversially, Eskom obtained a loan from the World Bank of US$3-billion in order to construct the project.[101] The power station will reportedly require 14.6 Mt of coal annually for the next 40 years[102] and will require enormous amounts of water in a region of the country which is already facing water stress.

28.7 Conclusion

South Africa, a major global GHG emitter, has – at the time of writing of this chapter – very little legislation aimed directly at responding to climate change. In the White Paper on the National Climate Change Response, however, the Department of Environmental Affairs has set out a blueprint for considerable regulatory innovation

[99] Department of Minerals and Energy, supra note 53, at para. 3.

[100] Carol Paton, "Hot Air v Action", *Financial Mail*, 29 July 2010, available at: http://www.fm.co.za/Article.aspx?id=116438 (last accessed 27 February 2012).

[101] Janice Roberts, "World Bank approves Eskom Loan" *Mail & Guardian*, 9 April 2010. For criticism, see, for example, Khadija Sharife, "South Africa: Country's Dirty Secret – Eskom and the Medupi Power Plant", 14 May 2010, available at: http://allafrica.com/stories/201005140838.html (last accessed 27 February 2012).

[102] Jonathan Faurie, "Medupi Project on Track for Scheduled Delivery", *Engineering News Online*, 5 December 2008, available at: http://www.engineeringnews.co.za/article/medupi-project-on-track-for-scheduled-delivery-2008-12-05 (last accessed 27 February 2012).

in addressing climate change, both from the perspective of adaptation and mitigation. If this were the only climate change-related message coming out of South Africa at the present time, there would be cause for considerable optimism. The voice of the government's environmental Department, however, has consistently been drowned out by those sectors of government that are seen as more oriented toward development and rapid poverty alleviation (and hence as pushing economic rather than environmental agendas). Consequently, it is possible to have energy policy that flies in the face of the climate change response policy. This contradiction could be seen in the President's 2012 "state of the nation" address,[103] delivered in February 2012 shortly before this chapter was written. In the address, the only reference to climate change was reference to the "successful" hosting of COP17; and the major thrust of the speech was on plans for major infrastructural development throughout the country, with no reference being made to the potential environmental (and climate) impacts of these developments.[104] This should arguably not be surprising. Although South Africa clearly has the potential to respond more appropriately to climate change than it has done so far, the country faces huge – even overwhelming – challenges. An important task for environmental lawyers and climate change issue-area activists is to convince South Africa's government that the challenge of mainstreaming climate change thinking, the clear need for which is highlighted by the government's own 2011 White Paper, is one of the most important of these challenges.

[103] "State of the Nation Address By His Excellency Jacob G. Zuma, President of the Republic of South Africa on the occasion of the Joint Sitting of Parliament, Cape Town", 9 February 2012, available at: http://www.info.gov.za/speech/DynamicAction?pageid=461&sid=24980&tid=55960 (last accessed 1 March 2012).

[104] See Patrick Bond, "South Africa: "Global Sustainability" Wilts in Hot Political Air", *Pambazuka News*, 16 February 2012, available at: http://www.pambazuka.org/en/category/features/80007 (last accessed 27 February 2012).