Environment: South Africa
Climate change, renewables and energy

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GREENHOUSE GAS EMISSION REDUCTION TARGETS AND CARBON TRADING

1. Are there any legally binding or voluntary national targets to reduce carbon dioxide or other greenhouse gases in your jurisdiction? Does the government in your jurisdiction have an official climate change strategy?

South Africa is a party to the United Nations Framework Convention on Climate Change 1992 (UNFCCC) and the Kyoto Protocol 1997. It has been classified as a Non-Annex, developing country in terms of the Kyoto Protocol. Therefore no national targets for reducing carbon dioxide or greenhouse gases are mandatory.

Towards the end of 2009, a Draft Zero Climate Change Policy will be drawn up by the government. This will set out South Africa's participation at the international climate change negotiations by the Intergovernmental Panel on Climate Change (IPCC) in Copenhagen, Denmark, in December 2009. In 2010, a green paper will be published for public comment on a National Climate Change Response Policy.

The government's Long Term Mitigation Scenario (LTMS) process on climate change was conducted during 2006 to 2008. It was a participatory, research-based scenario building process. It focused on identifying South Africa's emissions plan and formulating potential strategies allowing South Africa to reduce its emissions over time, in a way appropriate to its national circumstances and capabilities. Greenhouse gas emission reductions and limits will be determined from the research conducted during the LTMS process. The government has adopted a vision for climate policy which will be informed by what is required by science, namely to limit global temperature increase to two degrees celsius above pre-industrial levels. In this scenario, called the required by science scenario, South Africa joins the world community in taking action to stabilise greenhouse gas concentrations, and has negotiated a target as its fair contribution to this shared responsibility.

South Africa has also adopted the following polices as strategies:

- Implementation Strategy for the Control of Exhaust Emissions from Road-going Vehicles in South Africa 2003.
- Integrated Clean Household Energy Strategy 2003.
- Renewable Energy Policy 2004.
- Climate Change Response Strategy 2004.
- Energy Efficiency Strategy 2005.
- Cleaner Production Strategy 2005.

2. Is there an emissions trading scheme in your jurisdiction? If yes, please give brief details.

South Africa is classified as a developing country under the Kyoto Protocol, so there is no obligation to reduce its levels of greenhouse gas emissions (*see Question 1*). No national or regional trading schemes for greenhouse gas emissions have been developed. However, the government is discussing and debating whether to introduce an emission trading scheme (instead of or in addition to introducing carbon taxes) to facilitate the reduction of greenhouse gas emissions.

South African companies can purchase voluntary emission reductions on the voluntary carbon market, to reduce their carbon footprint.

3. What other carbon commodities or credits are traded in your jurisdiction (for example, CDM and JI credits and voluntary carbon offsets)? How are these traded?

The Kyoto Protocol introduced the Clean Development Mechanism (CDM), which is specifically designed so that developing countries, such as South Africa, can participate in carbon trading and derive the associated environmental and financial benefit.

The Certified Emissions Reductions (CERs) generated by a CDM project in South Africa are typically sold to an Annex?1 country, as a participant in the CDM project, and in terms of a forward contract (Emission Reduction Purchase Agreement) (ERPA), associated with the promise of future delivery of greenhouse gas emission reductions.

4. Do investors or the government in your jurisdiction invest in CDM or JI projects? Alternatively, is your country a host for CDM or JI projects? If yes, please give brief details of the types of projects.

As a Non-Annex country (*see Question 1*), South Africa is typically a host party in a CDM project. Once the project has been checked and certified under the Kyoto Protocol, the resulting emission allowances can be traded back into the Kyoto Protocol Trading Scheme.

Examples of CDM projects developed in SA are the Kuyasa low-cost urban housing energy project in the Western Cape, and the Lawley Switch Project South Africa, which aims to change from the use of coal to natural gas as a thermal fuel for clay brick baking.

5. What legal agreements are used in carbon trading in your jurisdiction?

The legal agreements used in carbon trading are Emission Reduction Purchase Agreements for CDM projects (*see Question 3*).

6. What are the drivers in your jurisdiction for business to reduce their greenhouse gas emissions and develop climate change strategies (for example, legislation, pressure for lenders, investors, insurers, consumers and supply chains)?

Although there are currently no regulation and compliance requirements for greenhouse gas emissions reporting by companies, the government recognises that South Africa is one of the largest emitters of greenhouse gases globally relative to the population and economy, and that future action is necessary. The government and the business sector have agreed to pursue the required by science scenario of the LTMS study, in a bid to curb greenhouse gas emissions (*see Question 1*).

In addition to the government's policy on climate change (see in this context the Climate Change Response Strategy and the LTMS), the government is currently investigating a carbon tax and looking to make energy efficiency measures mandatory. Taking into account the government strategies (*see Question 1*), the draft plans relating to price in carbon and ensuring emissions are stabilised by the latest 2025 (see the LTMS) will be issued during 2009/2010, and new climate change laws are expected to be in place by 2012.

For example, the Minister of Water and Environmental Affairs has stated that greenhouse gas emission reporting by industries will soon be mandatory in South Africa, and non-compliance will be met by penalties. Tighter regulations in energy efficiency, building standards, vehicle emission standards, waste regulations and greenhouse gas reporting are all therefore imminent.

South African companies also face the threat of border tax adjustments or trade sanctions from key trading partners, if it fails to take active steps towards reducing and managing its greenhouse gas emissions. Investors are also beginning to evaluate corporations on the basis of their preparation for associated risks and opportunities related to climate change. See in this context the:

- UN Principles for Responsible Investment (UN PRI).
- Institutional Investor Group on Climate Change (IIGCC).
- Investor Network on Climate Risk (INCR).
- Global Framework for Climate Risk Disclosure.
- Carbon Disclosure Project (*see Question 7*).

While the environmental driver for addressing climate change remains a substantive enough reason to respond to climate change (given its impact on air quality, land use, changing temperatures and rainfall patterns in South Africa), the economic and social drivers for addressing climate change have increased substantially in South Africa.

7. Are companies required to report on their greenhouse gas emissions or climate change strategies (for example in annual reports submitted to a national regulator)? If yes, please give brief details.

There are currently no mandatory reporting requirements in South Africa. However, the Minister of Water and Environmental Affairs has been quoted as saying that greenhouse gas emission reporting by industries will soon be mandatory in South Africa, and that non-compliance will be met by penalties. The top 100 companies listed on the Johannesburg Stock Exchange have voluntarily subscribed to the South African Carbon Disclosure Project (CDP), which is run as a partnership between the National Business Initiative (NBI) and the CDP.

RENEWABLE ENERGY

8. What types of renewable energy are already relatively well established in your jurisdiction and what other types are likely to be developed in the near future (for example, wind power, solar power and biomass plants)?

Renewable energy as a whole is still in the development stage in South Africa. Solar power energy systems are currently the most suitable and developed in South Africa. Wind farms also present attractive opportunities and other developing renewable energy types include biomass, bio-fuels, hybrid and hydro-energy systems.

9. Are there legally binding or voluntary national targets to develop or use renewable energy in your jurisdiction? If yes, please give brief details.

A national target of a 12% reduction has been set for saving energy by 2015 (see the Energy Efficiency Strategy and the Energy Efficiency Accord). The government plans to reach this target through the use and development of renewable energy. In terms of the White Paper on Renewable Energy 2003, a target has been set of 10,000 gigawatt hours (GWh) of energy to be produced from renewable energy sources (mainly from biomass, wind, solar and small-scale hydro) by 2013. This target is expressed in relation to the forecast national energy demand in 2015, and therefore allows for current economic growth expectations.

10. Is there legislation in place or proposed relating to renewable energy in your jurisdiction (for example, legislation requiring energy companies to generate or sell a certain amount of renewable energy each year)?

The White Paper on Renewable Energy has been produced by the government but there is no existing enforceable legislation on this issue.

The National Energy Regulator of South Africa (NERSA) has also approved tariff guidelines that it believes will cover generation costs and ensure reasonable profit to motivate investors, helping the government to meet a supply target of 10,000 GWh of "green energy" by 2013. NERSA released the Renewable Energy Feed in Tariffs (Refit) guidelines during March 2009. The four identified renewable energy technologies (with related approximate prices that energy suppliers would pay to the renewable energy generators) are wind, hydro, landfill gas and concentrated solar.

11. Does your government provide national subsidies or other financial incentives to develop or use renewable energy? If yes, please give brief details.

In addition to the Refit scheme (*see Question 10*), the Income Tax Act 1962 provides for a three year 50%, 30%, and 20% accelerated depreciation allowance for investments in renewable energy and biofuels production.

The National Treasury has also proposed that investments by companies and energy-efficient equipment should qualify for an additional allowance of up to 15%, on condition that there is documentary proof of the resulting energy efficiencies (after a two or three year period, which would be certified by the Energy Efficiency Agency). No such allowance has been implemented to date.

Eskom, the South African electricity utility, has also introduced rebates for the private implementation of solar water heating systems. The rebate is paid directly to the consumer but registration with the programme is required before the solar system is installed.

12. Are there local (distributed) energy networks in your jurisdiction or are electricity and heat generated from renewable sources mainly distributed through a central/national distribution network?

Currently, over 70% of South Africa's energy is derived from imported fuels and coal-powered energy generation. Electricity produced at power stations is transmitted by sending the power over high voltage power lines to the various sub-stations distributed across the country. All the high voltage lines plus the big transformers and related equipment from the transmission system is known as the National Grid. Distribution of electricity from the sub-stations to end-consumers is managed by Eskom and the relevant local governments.

The Refit scheme (*see Question 10*) aims at creating a self-sustaining market for grid-connected renewables in South Africa, according to the White Paper on Renewable Energy.

13. Are there regulatory or financial incentives to develop other low-carbon technologies (such as combined heat and power plants and energy-from-waste plants)?

Current legislation provides for accelerated depreciation allowances for investments in renewable energy and biofuels production (*see Question 11*). The 2009 budget proposes to introduce further incentives for energy efficient investments. The developers of certain renewable energy technologies also stand to benefit from the Refit scheme. The qualifying renewable technologies at this stage are wind, hydro, landfill gas and concentrated solar power (*see Question 10*).

Generators of electricity from these renewable energy technologies are defined as Qualifying Renewable Energy Power Generators. They can now sell electricity produced in this way to energy suppliers at a prescribed price per kilowatt hour (KWh). All renewable energy power generators under the Refit scheme require a Generation Licence issued by NERSA under the Electricity Regulation Act 2006.

14. Are there targets or legislation relating to the development or use of biofuels in your jurisdiction? Is there a market for the production or consumption of biofuels? What are the prospects for medium and long-term investment in biofuels (including second generation biofuels)?

The Biofuels Industrial Strategy 2007 has adopted a short-term focus and aims to achieve 2% penetration of biofuels in the national liquid fuel supply, which is equivalent to 400?million litres per annum. This will contribute 35% to the renewable energy targets proposed in the White Paper on Renewable Energy. The following crops are proposed for the production of biofuels:

- For biothanol, sugarcane and sugar beat.
- For biodiesel sunflower, canola and soya beans.

This is based on the existing crop production and proven crops. However, the strategy acknowledges that South Africa has to conduct research to develop other crop varieties and second generation technologies which will further increase its production levels.

The strategy proposes that the existing fuel level exemption for biodiesel be extended to biothanol. It also proposes that the levy exemption for biodiesel be increased to 50%, and for biothanol 100% fuel tax exemption is proposed. All production of biofuels will be licensed through the petroleum licensing system in the Department of Minerals and Energy, in terms of the Petroleum Products Amendment Act 2005.

South Africa already enjoys a prominent international profile in biofuels, as a member of the UN International Biofuels Forum, along with Brazil, China, India, the US and the European Commission. However, the country lags behind Brazil, the US, France, Sweden and Germany in terms of biofuels development and implementation.

ENERGY EFFICIENCY IN BUILDINGS

15. Are there legally binding or voluntary targets to reduce greenhouse gas emissions from buildings in your jurisdiction (including commercial, residential and public buildings)? If yes, please give brief details.

There are currently no legally binding or voluntary targets to reduce greenhouse gas emissions from buildings.

16. Is there legislation (including planning or zoning legislation) requiring buildings to meet certain minimum energy efficiency criteria? If yes, please give brief details.

No legislation has yet been enacted to establish energy efficiency targets for buildings. However, the Green Building Council of South Africa (GBCSA) was established in 2007. In November 2008, the GBCSA launched the Green Star South Africa Environmental Rating System for Buildings (Green Star SA), specifically commercial buildings. The purpose of the rating system is to measure building design and construction compliance against the Green Star SA objectives. The objectives aim to reduce environmental and human health impacts, and compliance is voluntary.

The Department of Energy has introduced the Energy Efficiency Strategy to address sustainable development and energy efficiency for South Africa (*see Question 9*). As a result, electricity regulations for compulsory norms and standards were published under the Electricity Regulation Act 4 of 2006 in July 2008. Energy efficient fittings are required, with a few exceptions, and further requirements such as remote control of electricity supply to facilities must be met by certain future dates. SANS 204, which is to be incorporated into the National Building Regulations, also aims to specify design and construction requirements for new buildings to provide energy efficiency. SANS 204 recommends good practice maximum values of energy consumption, set out in kWh per square metre per year.

Therefore, no definite legislation is in place, but there is a voluntary move to reducing greenhouse gas emissions involved with building. This is further evidenced by the Green Building Guidelines for Cape Town (*see Question 20*) and the introduction of tax on incandescent light bulbs.

17. Are there legal requirements for new buildings to be connected to or have access to on-site or off-site sources of local renewable energy (such as local/distributed energy networks)? If yes, please give brief details.

There are no such legal requirements.

18. Does your government or other national body provide financial incentives for increasing energy efficiency in buildings? If yes, please give brief details.

There are no such financial incentives at this stage.

19. Does the public procurement process include energy efficiency requirements? If yes, please give brief details.

The Department of Public Works is considering a proposal, which suggests that all new government buildings would have to achieve a four star Green Star SA rating (*see Question 16*). This system was developed by the GBCSA, and is based on the Australian system.

20. What are the drivers for building new, or refurbishing existing, buildings in a more energy efficient way? For example, is there demand from commercial tenants for landlords and developers to provide "greener" buildings? Are investors interested in green property portfolios?

The green building industry in South Africa is still in its infancy. Developments in this field are due to an active civil society in South Africa taking voluntary measures to use natural resources more efficiently. Green building principles have been introduced voluntarily through the GBCSA, which appeal to a developer's sense of environmental responsibility and intent to increase efficiency. However, if the government introduced green building legislation or regulations, this would provide additional motivation for developers to increase their use of green building principles.

The aim of the Green Building Guidelines for Cape Town is to actively promote resource-efficient construction of new or renovated buildings in Cape Town. This is to minimise the negative environmental impact of the built environment, while maximising positive social and economic impacts. Although this document is currently a guideline, in the long term Cape Town will work towards design manuals and legislation to ensure green buildings. The guidelines are aligned with the GBCSA, which has incorporated the green star rating system of the Green Building Council of Australia. It is envisaged that Cape Town will incorporate the green star rating system in future.

Although South Africa is a developing country, it is expected that demand will soon develop from commercial tenants for landlords and developers to provide greener buildings.

21. Are provisions relating to the energy efficiency of a building commonly included in contracts for the sale of a property or in leases (for example, are "green leases" used or proposed)? If yes, what type of provisions are commonly used?

Since the green building industry is still in its infancy in South Africa, a common practice to insist on green leases is yet to be established.

22. Are energy service companies (ESCOs) used in your jurisdiction to develop, implement and operate energy efficiency programmes in buildings? How well developed is this market in your jurisdiction?

The use of ESCO's has not yet been fully developed. There are no well established performance standards or service provider certification and accreditation. The Department of Energy has been mandated to establish performance standards and approved methodologies for energy efficiency audits, and skills training accreditation.

The South African Association of Energy Service Companies (SAAESC) was established in 2004, at the onset of the demand-side management (DSM) programme established by Eskom in South Africa. As of 29 July 2009, the SAAESC has 34 corporate members and ten associate member companies.

23. What impacts do requirements and demand for greater energy efficiency in buildings have on the construction industry? For example, has the construction industry produced codes of good practice or agreed to be bound by voluntary sustainability standards?

SANS 204 recommends good practice maximum values of energy consumption, which will be incorporated in the National Building Regulations in the near future (*see Question 16*).

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