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Scaling-up renewable energy in Africa: South Africa

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Updater

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In this edition of the *Scaling-up renewable energy in Africa* series of publications we focus on the climate change investment policies and opportunities in South Africa in the energy sector. This briefing is a high-level compilation of key policies and projects, based on publicly available sources, and is not intended to be comprehensive.

Key points on South Africa

- South Africa has a population of approximately 49 million.
- South Africa is the most industrially developed country in Africa and 73 percent of its population has access to electricity[1]. The financial sector is the largest industry, followed by manufacturing, tourism and other industry.
- Per capita emissions are relatively high (about 7,000 tonnes per year)[2], slightly below the average per capita emissions for the G8 countries, mainly due to South Africa's strong dependence on coal-fired energy.
- The energy intensity of the South African economy (due to the significance of mining and minerals processing in the economy and coal-intensive energy system) has resulted in an emissions profile differing substantially from that of other developing countries at a similar stage of development, but emissions from land-use change (primarily deforestation) contribute a significantly smaller share to South Africa's emissions profile than for many other developing countries.
- The majority of South Africa's energy emissions arise from electricity generation (approximately half of SA's energy emissions and just under 40 percent of total emissions).[3] Transportation and energy used in industry contributed just under 10 percent each for total emissions and industrial process emissions constituted around 14 percent of total emissions. Emissions from agriculture and land-use change in South Africa constitute only around 5 percent of emissions, compared to an average of 44 percent in developing countries as a whole.[4]

1 Richard Worthington of WWF as quoted in Mail & Guardian Online 12/11/11
2 Richard Worthington ibid
3 See p25 of the White Paper
4 White Paper, p25

Climate Change Policy

South Africa has been active in establishing a legal and policy framework related to climate change:

- starting in 2004 with investigation of a National Climate Change Response Strategy followed by the SA National Climate Change Conference in 2005
- the development of the long term mitigation strategy scenarios (LTMS) as a key informant of policy evolution from 2006 onwards
- development of the SA draft National Climate Change Response Green Paper in 2010 and the Green Economy Summit in 2010
- culminating in the White Paper on the National Climate Change Response released in October 2011.

Renewable Energy Policy

- Starting with a White Paper on Renewable Energy, 2003, the foundations were laid for wide spread implementation of renewable energy (a policy objective of contribution of 10 000 GWh to final energy demand by 2013 which has been ramped up substantially in subsequent policy initiatives).
- The Energy Efficiency Strategy of the Republic of South Africa, 2005 (reviewed in 2008), targets energy efficiency improvement of 12 percent by 2015 and provides for a number of enabling instruments.
- Key legislation is the Electricity Supply Act 2008, which requires the Minister to develop on an annual basis, an Integrated Resource Plan (IRP), mapping out South Africa's long-term and medium plans for energy generation and the planned contribution of each type of energy source, ie, conventional and renewable, to the energy mix. This is determined in an integrated fashion against the background of all relevant policy issues. In terms of this legislation, the Minister may make regulations determining the minimum contribution to national energy supply from renewable energy sources and the nature of the renewable energy sources to be used.
- In keeping with the new legislative and policy direction, South Africa has moved quickly to implement a comprehensive renewable energy procurement programme with a view to procuring the first 3 725 MW tranche of renewable energy contribution to the national energy mix as contained in the IRP, from Independent Power Producers.
- The SA government is also in the process of implementing its own 200 MW Sere Wind Farm and is investigating the implementation of a 5 GW solar park.

UNFCCC / Kyoto Protocol

National Communication

SA has ratified both the UN Framework Convention on Climate Change (UNFCCC) and the Kyoto Protocol and continues to engage in all current multilateral negotiations:

- in its first national communication to the UNFCCC, SA bound itself to participate in all UNFCCC initiatives
- in its second national communication to the UNFCCC, SA committed to a strategy in terms of which its emissions would peak in the period 2020 to 2025, remain stable for about a decade, and decline thereafter in absolute terms. This has informed a National GHG Trajectory Range for SA, projected to 2050.

South African CDM Projects

There are currently 19 CDM Projects registered in South Africa with 7 issuing CERs. The CDM appears to have gained traction in South Africa, and there are presently 102 projects notified for registration under the CDM (54 under Renewable Energy, 15 under Energy Efficiency, 2 under Fuel Switch, 1 under Bio Fuels, 3 under Steam to Energy Processes, 15 under Waste Management and Methane Recovery, 10 under Co-Generation and 1 under Transport).[5]

As South Africa is not a Least Developed Country, the CERs issued from CDM projects registered after 31 December 2012 will not be eligible for compliance under the EU's Emissions Trading Scheme, with corresponding negative implications for the nascent South African carbon market. Without clarity on the demand sources for CERs generated by new CDM Projects located in South Africa beyond 2012, it is likely that investment in new CDM Projects will terminate abruptly.

White Paper on the National Climate Change Response

Broad Objectives

The broad objectives of the White Paper are to:

- Effectively manage inevitable climate change impacts (using interventions that build social, economic and environmental resilience and emergency response capacity).
- Make a fair contribution to the global effort to stabilise GHG concentrations within a time frame that enables economic, social and environmental development to proceed in a sustainable manner.

5 UNFCCC

Strategic Priorities

Strategic priorities identified for South Africa are:

- risk reduction / management.
- mitigation actions with significant outcomes.
- sectoral responses.
- policy and regulatory alignment.
- informed decision making and planning.
- integrated planning.
- technology research, development and innovation.
- facilitated behaviour change.
- behaviour change through choice.
- resource mobilisation.

Approach to mitigation

South Africa's approach to climate change mitigation involves:

- Using a national GHG emissions trajectory range, against which the collective outcome of all mitigation actions will be measured.
- Defining desired emission reduction outcomes for each significant sector.
- Adopting a carbon-budget approach to provide for flexibility and least-cost mechanisms for companies in relevant sectors.
- Where target emission reduction outcomes have been established, requiring sectors to prepare and submit mitigation plans setting out how they intend to achieve the desired emission reduction outcomes.
- Deployment of a range of economic instruments to support desired emission reduction outcomes, including appropriate pricing of carbon and economic incentives, possible use of emissions off-set and emission reduction trading mechanisms where a carbon budget approach has been selected.

The South African Government is determined that the prices of environmental goods and services that generate excessive levels of GHG emissions should be adjusted to reflect the full cost of production and consumption. It seems clear that carbon taxes will be a very important tool used to internalise these negative externalities and create the correct incentives to stimulate behavioural changes in favour of cleaner, lower-carbon technologies, promoting the uptake of energy efficiency measures and research, development and technology innovation.

Clean Technology Fund

The Clean Technology Fund (CTF) is one of the two multi-donor Trust Funds within the Climate Investment Funds (CIFs). The CIFs have been designed to support low-carbon and climate-resilient development through scaled-up financing channelled through Multilateral Development Banks (MDBs). The CTF aims to support the rapid deployment of low-carbon technologies on a significant scale, with the objective of cost-effective reductions in the growth of greenhouse gas emissions. The CTF finances programmes in 12 countries, including South Africa, and one region. In order to access CTF funding, the MDBs concerned engage with stakeholders on how the fund may help finance scaled-up, low carbon activities in the given country. Investment Plans are designed under the leadership of the recipient country.

South Africa's CTF Investment Plan is a broad "business plan" by the South Africa government, elements of which are to be co-financed by the International Bank for Reconstruction and Development (IBRD), the African Development Bank (AfDB), and/or the International Finance Corporation (IFC), alongside various bilateral donors and private sector entities. It supports the low-carbon growth objectives and priorities outlined in South Africa's legal and policy framework related to climate change (see Climate Change Policy section above).

South Africa's Investment Plan envisages a total investment of about US$1 billion leveraged through partners, counterpart funds and the private sector.

South Africa's Investment Plan highlights the following priority goals:

- Generating 4 percent of the country's electricity requirements (about 10,000 GWh) from renewable energy by 2013;
- Improving energy efficiency by 12 percent by 2015; and
- Modal and technology shifts in transport, including shifts from private to public modes for passengers, shifts from road to rail for freight, and the introduction of clean passenger vehicles such as electric vehicles.

In terms of its focus on energy, the Investment Plan focuses on:

- Public and private sector-led, grid-connected solar, thermal, and large wind power projects; and
- Private sector and municipality-led solar water heating and energy efficiency, including demand-side management.

Notes

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