

Summary of the Renewable Energy Programme in the Republic of South Africa

Context

The governments of Denmark and the Republic of South Africa have initiated a Renewable Energy Programme on integration of renewable energy (RE) and energy efficiency (EE) in South Africa. The programme builds on the Memorandum of Understanding between the two governments signed October 2011. The basis for the programme is Danish financing and technical assistance to a low-carbon transition within the energy sector, specifically targeting RE initiatives in South Africa. It is a 3 year programme with a budget of DKK 40 million sourced from the global framework under the Danish Climate Envelope.

Background

The Republic of South Africa has formulated ambitious goals to reduce the country's carbon emission by 42% by 2025, as pledged during COP15 in 2009. The power sector in the South Africa is the single largest emitter of CO₂ accounting for 50% of CO₂ emissions due to the country's almost total reliance on coal for electricity. In its National Climate Change Responses White Paper and the Integrated Resource Plan 2010-30, the South African government clearly states that the high use of fossil fuels is contributing to climate change and that climate change is one of the greatest threats to sustainable development. The Integrated Resource Plan for Electricity 2010-30, the New Growth Path, Green Economy Accord, the National Skills Development Accord, and the Local Procurement Accord establish the legal framework, standards, and targets for a gradual transition involving reduced reliance on coal based power generation through an increased use of RE resources.

This forms the basis for a transition to electricity generation based on renewable resources which requires the development of new competence within regulation, management and operation of the power system in the South Africa. Danish experience of integrating RE and EE in the power sector will be used to assist the South Africa in meeting the goals set for a future low-carbon economy.

Objectives & Outputs

The primary objective of the programme is the decoupling of economic growth from increased greenhouse gas (GHG) emissions through increased deployment of low-carbon technologies with a focus on RE and EE. The programme consists of three components; Technical assistance to the Department of Energy, Further development of the wind atlas for South Africa and Technical assistance to ESKOM, the South African government owned national electricity utility, for RE integration in electricity supply.

Component 1: Technical assistance to the Department of Energy

The objective of this component is to assist the Department of Energy (DoE) in developing coherent energy planning that includes deployment and integration of RE and EE technologies. Anticipated activities and outputs include development of alternative scenarios for RE deployment, conducting socio-economic analyses of RE policies, energy planning assistance, and grid studies. Further expected activities include implementation of smart meter technology in selected public buildings, analysis of energy demand in public buildings based on smart metering as well as development and implementation of a national energy

efficiency awareness campaign strategy. The capacity building of DoE staff will be supported through an energy advisor positioned in the Department.

Component 2: Further development of the wind atlas for South Africa

This component supports as a continuation of the existing Wind Atlas for South Africa (WASA) programme. The intention is to assist the South African National Energy Development Institute (SANEDI) and other public entities in mapping national potential for wind power. Activities and outputs include five new measuring masts covering the remaining areas of Eastern Cape, KwaZulu-Natal and parts of Free State Provinces as well as continued measurement from existing masts. Mapping of wind potential will serve as input to the DoE's strategic energy planning processes. This component also includes collaboration with ESKOM on data for day-ahead and in-hour forecasts.

Component 3: Technical assistance to ESKOM for RE integration in electricity supply

The objective of this component is to maximise carbon mitigation through efficient planning and technical integration of RE in the South African power system. Technical assistance will support ESKOM in developing decision making tools aimed at reaching this objective. This will facilitate the integration and simulation of RE technologies in South Africa. Part of the envisaged activities within this component is the development of system planning along with standards and guidelines for system operation with variable power generation.

Management & Funding Arrangements

The programme is implemented by a joint Management Committee in close collaboration between the DoE representing the Government of South Africa and Ministry of Climate Energy and Building representing the Government of Denmark supported by the Embassy of Denmark in South Africa being responsible for day to day management. A programme Advisory Board consisting of representatives from the DoE, the Ministry of Climate Energy and Building, SANEDI, and ESKOM is responsible for programme oversight and coordination. The Advisory Board provides strategic guidance for the programme on approached and focus of technical assistance to support the overall objective of the programme.

Indicators

Programme level monitoring will be based on indicators developed in the partners' official work plans and budgets. Primary means of verification will include statistics on economic performance and GHG emissions, and generation capacity of RE technologies. The Advisory Board will evaluate programme progress as part of their annual agenda and make related decisions through interim written correspondence. The programme monitoring system is designed to secure full transparency in programme management and reporting, and will be based on periodic reporting. The subsequent reports will be reviewed by the programme coordinator and the Management Committee and approved by the Advisory Board as required.