



Jeffrey's Bay Wind Farm in Eastern Cape Province

Renewable energy (RE) and energy efficiency (EE) have played a central role in the International Climate Initiative (IKI) of the German Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB) since its inception in 2008. The IKI supports more than 100 RE and EE projects, providing total funding of more than EUR 360 million. In terms of renewable energy technologies, the IKI has focused on solar thermal, photovoltaic (PV), concentrated solar power (CSP) and bioenergy.

The IKI portfolio also includes wind energy projects. These projects have focused on potential analyses (Vietnam, Morocco and Tunisia), feasibility studies and development plans (Chile), and research and training (China). In addition, there has been a very prominent wind energy investment project in South Africa, co-funded by the IKI.

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South Africa is a major producer of greenhouse gas emissions. The country's dependency on indigenous coal has resulted in a yearly per capita emission rate of approximately 10 tonnes of carbon dioxide. This is 43% above the global average, making South Africa one of the 15 largest emitters of greenhouse gases worldwide and number one on the continent.

In order to diversify the energy mix and achieve its ambitious climate targets (voluntary reduction target of 34% and 42% against a business-as-usual scenario by 2020 and 2025 respectively), the South African Government, represented by the Department of Energy (DoE), introduced an Independent Power Producer (IPP) procurement programme for renewable energy (REI4P) in 2010. REI4P was designed to increase the diversification of domestic electricity suppliers and power plant operators and to harness the full potential of domestic renewable energy-technologies.

Through REI4P, the South African Government aimed to increase the share of renewable energies to 18GW (approximately 20% of total installed capacity) by 2030. The Government has since increased the target to around 22GW of installed capacity. The project involves IPPs offering generation capacities within the scope of a multi-stage tender process. Jeffrey's Bay Wind Farm was selected as part of the first round of REI4P. The project adds 138MW of green electricity to the national grid. Being one of the first of its kind and the largest project in the field of wind energy in the region, it serves as a blueprint for future projects.

Located between the towns of Jeffrey's Bay and Humansdorp, the Jeffrey's Bay Wind Farm site spans 3,700 hectares. The site's optimal wind conditions, relatively flat topography, minimal environmental constraints and close proximity to the 132kV Eskom grid line make it ideal for harnessing wind energy. Jeffrey's Bay Wind Farm signed a 20-year power purchase agreement with Eskom as well as an implementation agreement with the Department of Energy. The project began commercial operations in mid-2014, having initiated construction in December 2012. By mid-2016, the wind farm had supplied an average of 420,000MWh per year; enough clean, renewable electrical energy to meet the needs of 100,000 average South African households. The project has so far effectively reduced annual carbon emissions by 380,000 tonnes and will achieve a reduction in carbon emissions of 7,650,000 tonnes over its lifetime.

In 2014, the Development Bank of Southern Africa (DBSA) and the Kreditanstalt für Wiederaufbau (KfW), with financial support from BMUB via the IKI, signed a senior loan facility of EUR 50 million. The loan facility refinances a DBSA investment in Jeffrey's Bay Wind Farm. The wind farm is a perfect match for the "Energy and Climate" focal area of cooperation between Germany and South Africa.

Germany and KfW offer internationally recognised expertise and unique know-how in the field of green energy generation. The use of innovative technologies and approaches will have a positive impact on South Africa's carbon footprint and contribute to global climate protection.

Jeffrey's Bay Wind Farm not only generates benefits for the environment and the climate, but also for the communities in the vicinity of the farm. These benefits include enterprise and socio-economic development, promotion of access to the economy for local people, procurement and employment opportunities that channel financial resources into the local area as well as the building of trust within the local community. Working with the Black Economic Empowerment (BEE) programme, the project involves previously disadvantaged groups and helps to overcome historical inequalities. The local population participates in the wind farm as co-owners via a trust fund, and is closely involved in construction, maintenance and operation activities.

More information at:

Website of IKI-project:

www.international-climate-initiative.com/en/nc/projects/projects/details/154/

Website of the Jeffrey's Bay Wind Farm:

www.jeffreysbaywindfarm.co.za

Imprint

Published by: Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB)
Division KI II7 · 11055 Berlin
E-Mail: KI117@bmub.bund.de · Internet: www.bmub.bund.de/en/

Design: MediaCompany – Agentur für Kommunikation GmbH

Photo credits: ©Jeffreys Bay Wind Farm

Date: August 2017

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