

THE WIND IN ITS SAILS



Cape Verde is home to the flourishing Cabeolica Wind Farm; the first commercial scale, privately financed, public-private joint venture wind project in sub-Saharan Africa. **Michael Dynes** assesses a true success story

Construction of the 61 million euro Cabeolica wind farm on the Cape Verde islands has not only succeeded in propelling the wind-swept archipelago into the record books overnight as the country with the highest penetration of renewable energy in Africa, it has also provided a timely example in how pioneering private sector companies are playing an increasingly vital role in helping to bridge the fast-growing continent's historic infrastructure deficit.

The 25.5-megawatt Cabeolica wind farm – the first commercial scale, privately financed, public-private joint venture wind project in sub-Saharan Africa – became fully operational in 2012. It is now bringing low-cost electricity to the energy import dependent economy, supplying 95% of the island chain's 450,000 inhabitants, and has made once constant power cuts a distant memory.

By harvesting the trans-Atlantic trade winds that sweep across the islands from the north east, the Cabeolica wind farm – which is actually four separate wind farms constructed on the islands of Sao Vincente, Santiago, Sal and Boa Vista – has

dramatically reduced Cape Verde's fossil fuel import bill, and has helped to boost job creation on the island chain, which had been suffering from an exodus of its population in search of job opportunities. The new wind farm also provides an effective 30-year insurance policy against the risk of renewed high oil prices.

Cabeolica is a public-private partnership between the government of Cape Verde, Electra (the state-owned power utility) and InfraCo Africa (www.infracoafrica.com), the European donor-funded early stage development capital provider. eleQtra (www.eleqtra.com), a UK-based private sector infrastructure development company, was responsible for developing the project on behalf of InfraCo. eleQtra specialises in creating opportunities in infrastructure projects in sub-Saharan Africa, and is currently implementing multiple power generation, transport and water schemes in nine sub-Saharan African countries.

"Getting projects like this off the ground is never very easy," says Antao Fortes, Cabeolica's Chief Executive Officer, "although in this case, the ground work was very well prepared." He continues, "Cabeolica is a public-private partnership

which has benefited from strong backing by the Cape Verde government. We generate the electricity, and the national utility Electra buys from us."

At present, Cabeolica is providing 20% of the island's total electricity demand, although the government has ambitions to see that increase to 50% by 2020, Fortes says.

Third time's the charm

As with many infrastructure projects in frontier and emerging market economies, the Cape Verde wind farm was a long time in the making. Cabeolica was the third attempt to get the country's wind farm scheme off the ground, after the two previous attempts ended in failure.

The government turned to eleQtra in 2007 to try again. eleQtra enlarged the proposed project and through systematically studying, quantifying, and mitigating all project risks, was able to provide assurances to project investors, lenders and suppliers alike. The rigorous preparation and due diligence carried out by eleQtra was critical to attract additional equity participants.

"The 61 million euro project was funded with 70% debt supplied by the European Investment Bank and the African



Development Bank, and 30% equity from the Africa Finance Corporation, the FinnFund and InfraCo," Fortes says. "Cabeolica underwent exhaustive economic and social impact assessments, and the visual impact of the giant turbines was minimised by locating them far from the main centres of population. The population understands the need for renewables, and there were few negative reactions to the construction of the 30 onshore turbines," he adds.

"Cape Verde is extremely fortunate in that it has a very high availability of wind – one of the highest in the world, with a constant wind velocity of ten metres per second," Fortes says. "Clearly, one of the biggest risks faced by the project would be having no wind at all – but that hasn't happened, at least not yet. The other is the capacity of the off-taker Electra to buy all the electricity we are producing. So far, supply and demand have been more or less in balance," he adds.

Project implementation faced many formidable obstacles, which eleQtra had to overcome. Two of the islands didn't have ports big enough to handle the giant turbines supplied by Vestas, while even the cranes required to offload the turbines on the islands that did had to be imported.

Studies even had to be carried out to ensure that the turbines were not located in the flight paths of Cape Verdian birds. But by the time Prime Minister Jose Maria Neves inaugurated the wind farm, Cabeolica had already been declared the 'Best Renewable Project in Africa' at the 2011 Africa Energy Awards.

As a renewable energy project, Cabeolica will also benefit from the Clean Development Mechanism (CDM) under the provisions of the United Nations 1992

Kyoto Protocol. Cabeolica successfully registered as a CDM scheme in 2013, and has amassed more than 185,000 certified emission reductions or CERs, which it plans to sell to big carbon polluters in the developed world – earning valuable new revenue streams for the clean energy project in the process.

A true success story

Cabeolica is now an African renewable energy success story, which attracts visitors from across the continent wanting to find out how they can replicate Cape Verde's success in their own countries. But without InfraCo's ability to mobilise funding for African infrastructure projects, and eleQtra's in-house skills sets needed to successfully implement them, Cabeolica would never have materialised.

Paradoxically, while Africa is currently the second fastest growing region in the world after Asia – hosting ten of the world's fastest growing economies – the continent's vast infrastructure deficit in the key sectors of power generation, transport, telecoms and water provision is not being bridged because most private sector infrastructure providers remain hesitant about taking on the early stage risk, while the financial resources needed to make projects happen remain scarce.

In the aftermath of the 1997 Asian financial crisis, many US and European infrastructure providers exited sub-Saharan Africa to focus on their home markets, while the 2008 financial crisis saw many traditional sources of commercial lending dry up. As a result, Africa has struggled to keep up with rising demand for new infrastructure. The region as a whole is investing some US \$60 billion a year in

new power, transport, telecoms and water infrastructure, which the World Bank estimates needs an investment of \$100bn a year over the next decade to catch up with other developing regions.

InfraCo and eleQtra were both created in an effort to help correct this market failure. InfraCo, which is made up of a group of European donors including the Netherlands, Germany, Sweden, Switzerland the United Kingdom and the World Bank Group, seeks to mobilise funding for infrastructure projects, while eleQtra is a for-profit company specialising in developing privately operated infrastructure in African markets.

Since its inception, eleQtra has chalked up an enviable record in overseeing greenfield infrastructure projects across sub-Saharan Africa, including the Chanyanya irrigation project along Zambia's Kafue river, providing access to year-round irrigation for small holder farmers; the Envalor Biofuels project in Mozambique, growing 15,000 hectares of sugar cane as feedstock for a biofuels processing plant, and construction of the Cabeolica wind project in Cape Verde, reducing the West African country's over dependence on price volatile fossil fuel imports. **Ai**

