

»» Project Information

Implemented by:



Fresh wind, clean energy •

Vietnam

Harnessing potential

Vietnam has one of the fastest growing economies in Asia with average annual growth rates of over 5 % during the last decade. As economic growth increases, so too does energy consumption • the reason for the Vietnamese government's decision to expand its generation capacity. In doing so, it is focusing on new coal-fired power plants, as well as the country's traditionally dominant hydro- power. At the same time, as part of the "Green Growth Strategy" it also aims to develop the use of renewable energies. Wind power from Vietnam's long coastline is the most suitable option. KfW is supporting this goal, on behalf of the German government, by financing the construction of a wind farm in Phu Lac, with a nominal capacity of 24 megawatts.

Context

The Vietnamese government has decided to quadruple its capacity for supplying energy from an output of 19,735 MW (2010) to around 75,000 MW in 2020, as part of its seventh energy master plan (2010-2020). To reach this goal, Vietnam primarily intends to build coal-fired power plants. If the expansion goes ahead as planned, CO2 emissions are likely to increase tenfold by 2030.

Parallel to this, the Asian country aims to harness environmentally and climate friendly renewable energy sources. Vietnam has particularly favourable conditions for wind power and is considered the largest potential wind market in Southeast Asia. Presently, the country only has one wind farm, which was connected to the

grid in 2009. Until now, the main obstacle has been a lack of regulation for feeding energy into the network. That changed with feed-in legislation enacted in mid-August 2011. It provides for a set tariff and guarantees that the power will be purchased. At about 5.8 euro cent per kilowatt/hour, the tariff is calculated rather tightly, but at good locations initial projects should still operate profitably.

The wind farm financed by KfW in Phu Lac is one of the first to be constructed within this new general framework. It is therefore a pilot project especially for project developers, energy suppliers and investors who will be able to benefit from the experience gained and invest in wind farms at low risk.

Project name	Windpark Phu Lac
Commissioned by	Federal Ministry for Economic Cooperation and Development (BMZ)
Country/Region	Vietnam
Lead executing agency	Thuan Binh Wind Power Joint Stock Company (TBW)





Clean energy from wind power - soon to be seen in Vietnam. Source: KfW / G.J. Lopata

Project approach

Phu Lac is located on the south central Vietnamese coast in the province of Binh Thuan. The region has the highest potential for wind energy in Vietnam. The average wind speed is around 6.9 metres per second at 85 metres above ground.

The Thuan Binh Wind Power Joint Stock Company (TBW) is constructing a wind farm here on an area of 400 hectares. In the first phase, 16 wind energy turbines of 1.5 MW each are to be installed with an overall output of 24 MW. During a second phase, the farm is to be expanded to 50 MW. The total costs of the measure amount to an estimated EUR 42 million. The operator and executing agency of the wind farm, TBW, will contribute EUR 7 million. KfW is providing a subsidised interest FC loan from the IKLU facility (Initiative for Climate and Environmental Protection) for phase I amounting to over EUR 35 million.

As experience in operating wind farms in Vietnam is very limited, the ongoing training of the TBW staff is part of the agreement. During the first years of operation, the manufacturer will be responsible for the supervision, maintenance and repair of the wind turbines. After this period the manufacturer will also continue to support the plant by increasingly training and involving the staff of the executing agency TBW, to enable them to assume the entire maintenance and operation of the facilities six years after commissioning. KfW assumes that TBW will then be able to operate the wind farm so that it can achieve 95 % of its technical capacity.

Impact

The wind farm will produce an estimated 50,680 MWh of electricity per year. This will be sufficient to supply around 150,000 people with electricity, at an average energy consumption of 330 KWh per capita. In doing so, the wind farm will avoid CO₂ emissions of at least 28,000 tonnes annually. Furthermore, the measure will reduce emissions of sulphur dioxide and nitrogen oxides which are normally generated by thermal power stations. Additionally, the wind farm will raise the energy supply capacity and boost the economic and social development of the country.

Through the wind farm in Phu Lac, Vietnam is harnessing one of its largest renewable energy sources and is contributing to economically more sustainable development. As the TBW staffs are to be trained on an ongoing basis, previously almost non-existent commercial and technical expertise will accrue. As knowledge accumulates, so will the trust in this alternative energy production. KfW expects that the measure will pave the way for follow-on investments, as investors such as operators will be able to benefit from the experience. The measure is therefore providing an important basis – along with planned further increases in feed-in remuneration for wind – so that Vietnam will be able to develop its large wind potential and develop alternatives to thermal power stations.

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