



TURKEY: SOMA-POLAT WIND FARM PROJECT

CREATING 16 PERMANENT EMPLOYMENT POSITIONS IN THE REGION

SUPPLYING 200,000 TURKISH HOUSEHOLDS WITH CLEAN ELECTRICITY

KEY FACTS

Turkey has seen rapid economic growth over the last decade with an average annual growth rate of 7% or more. Consequently, energy use has sharply risen, covered mainly by oil and natural gas imports. If Turkey continues to develop at similar growth rates, energy consumption will double over the next decade, while electricity demand will grow at an even faster pace. Significant investment in the energy sector is required to meet this level of demand. However, increasing the number of conventional power stations will lead to a drastic increase in greenhouse gas emissions. A switch to more renewable sources of energy is required for Turkey to meet the growing demand in a sustainable way.

This project is located in Manisa and Balikesir Provinces, approximately 150 km northeast from the city of Izmir. It includes 119 wind turbines with an aggregated installed capacity of 140.1 MW. The wind farm utilizes the strong current of this area of Turkey to generate 467 GWh of clean electricity every year which is fed to the Turkish National Power Grid. This amount of energy is enough to supply 200,000 Turkish households for a year.

Wind power in Turkey is a success story. In 2006, the total installed capacity in the whole of Turkey was less than for this single project. In addition to a lack of local expertise in wind power technology, all major components had to be imported. This exposed the investment to significant exchange rate fluctuations. Consequentially, local banks were not willing to provide debt financing without further collateral. Stable and secure revenues from carbon finance helped to close this gap to the benefit of this project, any many other projects across Turkey. Supported by carbon finance, Turkey is set to become a global player in wind power production, too.

SUSTAINABILITY BENEFITS

This project contributes to the United Nations' Millennium Development Goals



1 The project created employment during both construction and operational phase. For the operation of the wind farm 16 additional permanent positions during operation. That is translated into over one million USD (PPP) distributed indirectly to the local economy through wages, during construction and the first 7 year crediting period.



2 The Project developer is purchasing and donating stationary equipment and books for elementary school students for the children of Hamidiye and Cerkez Villages.



7 The generation of clean energy indirectly reduces emissions of Soot, NOx, SOx and particular matter from fossil-fired power plants in the power grid. Moreover, within the scope of the project, the project has proceeded to the plantation of 2,500 trees at the project site.



8 The project improves regional and national energy supply and reduces dependence on fossil fuels. It also contributes to the transfer and development of renewable technology in the country. Turkey is projected to be among the ten largest wind energy producers in the world. The project also enables the improvement of local infrastructure, especially road conditions.

Location:

Manisa and Balikesir Provinces

Project type:

Renewable Energy, Wind

Project standard:

Gold Standard

Total emission reductions:

»» 271.099 t CO₂ e p.a. ««

Project start date:

October 2008

Crediting period:

2009-2017

Vintage years offered

2012

Methodology:

ACM0002, version 7

Project partner:

Soma Enerji Elektrik Üretim A.ğ

Validator:

TÜV Rheinland

Verifier:

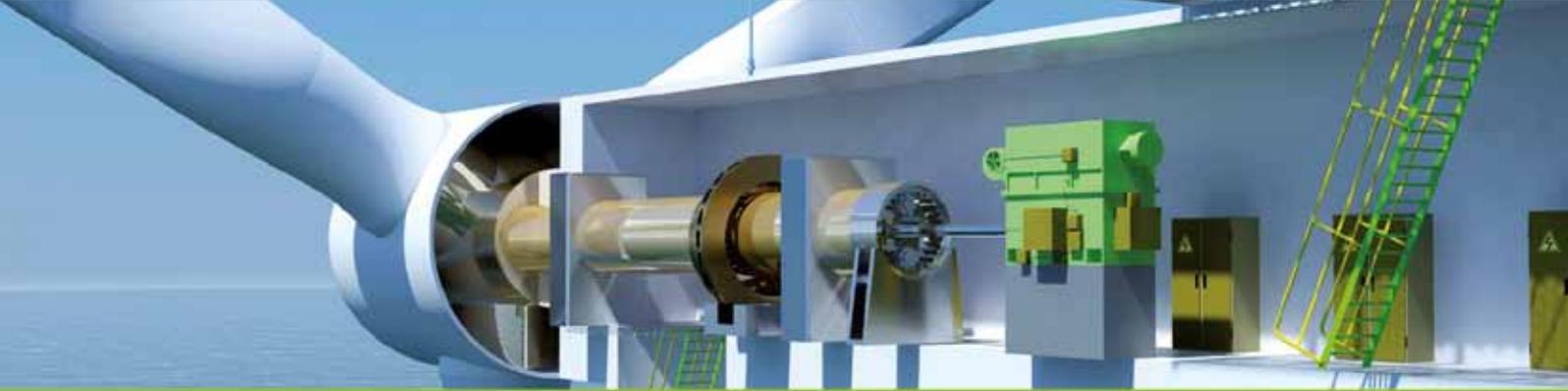
Bureau Veritas

Registry:

Gold Standard Market
Environmental Registry



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TECHNOLOGY BRIEF - HOW IT WORKS

Driven by the kinetic energy of moving air, the mechanical energy created by a rotor is fed into an attached generator to produce electricity. Output can vary depending on wind speed and this is ultimately determined by atmospheric conditions, although it is also influenced by ground characteristics. A rough surface exerts significant friction, effectively consuming energy and thereby slowing down the moving air. Smooth surfaces cause very little friction, the most obvious example being higher wind speeds in coastal areas.

It is therefore important to site wind farms carefully to maximise their potential. Over the last two decades wind power technology has rapidly improved. The size and power output have consistently increased while lowering the cost per electricity unit. Constructions with a maximum power output of 3 megawatts are now considered standard technology.



- 16 permanent employment positions created. Among them 4 technicians and 16 service and security staff
- More than 1 million USD (PPP) in wages distributed in the local economy over the 7 year crediting period.
- Generating more than 467 GWh of clean electricity every year- the equivalent of the average annual electrical consumption of approximately 200,000 Turkish households.
- 270,000 tons of CO₂e are estimated to be saved annually. This is the equivalent to emission reduction achieved by more than 18,000 hectares of forest.