



INDIA: WIND POWER PROJECT IN TAMIL NADU



NEW WIND PARK IN INDIA

ENABLING A GREENER PATH FOR INDIA'S ENERGY SUPPLY IN FUTURE



KEY FACTS

The second largest economy among India's 28 federal states, Tamil Nadu's has been built on agriculture and manufacturing. With lignite reserves of just under 30 billion tons, growth in Tamil Nadu has been spurred by the combustion of fossil fuels. However, it has also resulted in significant local air and water pollution. Consequently, it is in the state's interests to diversify its energy mix. Moving away from fossil fuels helps to mitigate pollution, preserve the health of its people, and improve its overall energy security.

This project consist of 812 wind turbine generators with a combined installed capacity of 460 megawatts and results in the generation of approximately 817 gigawatt hours of electricity per annum. This amount is enough to supply more than 500.000 households for one year. The electricity is fed to the local grid, displacing an equivalent amount of electricity that would have otherwise been generated from fossil fuels.

Renewable energy is going to be an essential part of India's switch to a more sustainable development. Yet, the framework for renewable energy investment in India is still far from attracting substantial funds for the development of renewable energy projects. Since the development of projects is left primarily to the private sector returns have to measure up against alternative investments. Analysis shows that returns on investment for the project would not be sufficient without the additional revenue from carbon credit sales.

SUSTAINABILITY BENEFITS

The project activity helps to enhance economic development in the region. It improves road connectivity in the areas involved and generates income for the local population through the creation of employment positions during the construction and operation period.

Wind power plants increase the financial value of the project site, fetching higher revenues for land owners.

Renewable energy eliminates emissions of other air pollutants such as sulphur, nitrogen oxides and particulate matter associated with energy generated by fossil fuels, improves local air conditions and minimizes negative health impacts.

Location:
Tamil Nadu, India

Project type:
Renewable energy – Wind

Project standard:
VCS

Total emission reductions:
>>> 758.000 t CO₂ e p.a. <<<

Project start date:
January 2004

Project partner:
Tamil Nadu Spinning Mills Association

Validator:
TÜV NORD

Verifier:
TÜV NORD

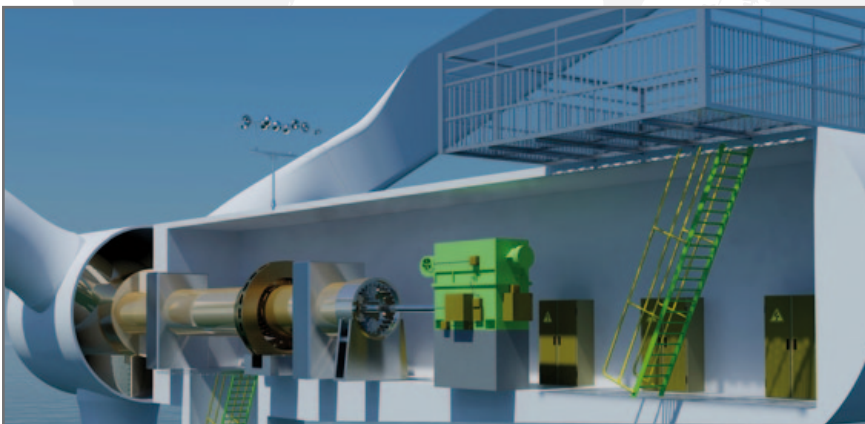




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TECHNOLOGY BRIEF - HOW IT WORKS

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, which 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 witnessing a consistent increase in the size and power output of turbines along with a decrease in the cost per electricity unit.



First Climate Markets AG
Industriestr. 10
61118 Bad Vilbel - Frankfurt/Main
Germany
Phone: +49 6101 556 58 0
E-Mail: cn@firstclimate.com

For more information on other projects in our portfolio please visit our website:

www.firstclimate-climateneutral.com