firstclimate
Green Energy, Climate Neutral, Water

Dedicated, Naturally.

India:
100.5MW Wind Farm

Providing India's grids with green electricity

Certification:
Gold Standard

Key Facts

TÜV NORD
TÜV NORD CERT GmbH
Verified Carbon Offsetting

Background

With one of the largest economies in the world and rapid development, India is set to contribute more than any other country in the projected rise in global energy demand, accounting for almost a quarter. The International Energy Agency estimates that, with the Indian economy expected to be 5 times its current size by 2040, the national power system will need to quardruple in size.

Today, around a quarter of all those in the world without electricity can be found in India. To support its growing economy and continue to bring more people out of poverty, India must increase its power generation capacity. However, a large share of India's power comes from fossil fuels, which has a detrimental effect on the environment and 11 of the world's 20 most polluted cities are in India. It is estimated that the average life expectancy is shortened by 23 months due to poor air quality. Therefore, it is vital that India diversifies its energy mix and invests in renewable resources.

The Project

The project spreads itself across 14 villages in the districts of Ratlam and Mandsaur. A total of 67 wind turbines, each with a capacity of 1.5MW, are installed across this site. The total installed capacity of the wind farm is 100.5MW and the project will deliver 180.5 GWh of clean electricity to the Indian power grid.

As the average electricity consumption in India stands at just over 1MWh per capita, the project provides enough power to meet the needs of 180,000 Indians every year. Furthermore, 23% of generated power is lost in India every year due to poor transmission lines so the project will contribute to improving transmission lines.

Location:
Madhya Pradesh, India

Project type:
Renewable Energy – Wind

Total emission reductions:
» 173,000t CO_2e p.a. «

Project standard:
Gold Standard

Project start date:
December 2013

Sustainable Development

By supporting this project you'll contribute to the following Sustainable Development Goals:

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SUSTAINABLE DEVELOPMENT GOALS

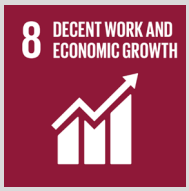
While focusing on reducing greenhouse gas emissions, all our projects also generate multiple co-benefits. These are supportive of the United Nations Sustainable Development Goals.

Good health and well-being

Since wind energy produces no emissions, the additional power will replace electricity that would have otherwise been generated through fossil fuels. This will thus contribute to the reduction of air pollution in India, reducing the health issues associated with poor air quality.

Affordable and clean energy

Wind power is a zero emission source of energy. With Madhya Pradesg being one of the top spots for wind power generation in India, climatic conditions also make it a cost-effective energy source.



Decent work and economic growth

The project will create employment opportunities in the construction, operation and maintenance of the wind farm. Furthermore, wind power stimulates the renewable energy market in India, which is attractive for foreign investment.

Industry, innovation and infrastructure

The project is located in a rural part of India which means access roads and local infrastructure will be improved. Furthermore, modern transmission lines will help reduce the significant power loss that hinders Indian development.

Reduced inequalities

As the project is based in a rural area, locals will benefit from employment opportunities, stimulation of the local economy, improved infrastructure and a direct power supply from a clean resource.

Climate action

The project contributes to the diversification of India's energy mix, reducing fossil fuel dependency and encouraging a switch to cleaner energy. By reducing anthropogenic greenhouse gas emissions, the project helps to mitigate climate change.

Life on land

In the absence of the project activity, an equivalent amount of electricity would have been generated from power plants connected to the grid, the majority of which are based on non-renewable fuels. Thus, the project helps to prevent the emission of various air pollutants and help fight the causes of acid rain.

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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 maximize 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 three megawatts are now considered standard technology.

Project Standard

Gold Standard
Climate Security & Sustainable Development

The Gold Standard is an award winning certification standard for results based project finance and is recognized internationally as the benchmark for quality and rigour in certifying environmental and socio-economic project outputs. Established in 2003 by the World Wide Fund For Nature (WWF), the Gold Standard today is trusted and endorsed by NGOs, governments and multinationals including United Nations agencies worldwide.

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