

India: Powered by Wind Energy

34MW wind farm in Khanapur
generates clean electricity



Certification:



Key Facts



Background

In recent decades, India's economic and infrastructure development have been impressive. A major factor is the improved energy supply system. Over half a billion people have gained access to electricity since 2000. Subsequently, overall energy consumption has doubled since. However, the increasing demand is still predominantly met by using fossil fuels, especially coal, making India the third highest polluting country in the world.

India's economic growth shows no signs of slowing and is expected to be five times larger by 2040. To support this growth, however, the International Energy Agency recommends quadrupling the national power system. Based on current rising demand, this means an increase of at least 5% every year. In addition to this, reliability of the supply system is often poor and inefficient with 23% of all power produced being lost through transmission. It is vital that India increases its power supply as well as improves its grid system. Equally important is that these upgrades are achieved with sustainability in mind and in-line with the country's climate goals.



The Project

Based in the Sangli district of Maharashtra, the project involves the installation of 17 wind turbines, each with a generation capacity of 2MW. The wind farm spreads across five villages of Sangli district and has a total installed capacity of 34MW. Connected to the national NEWNE electricity grid, the project will annually deliver 67,133 MWh of clean electricity. Since wind-based power is GHG-free, the power stations will prevent future fossil fuel gas emissions. The project meets the sustainability development factors as stipulated by India's Ministry of Environment, Forest and Climate Change in the areas of social, economic, environmental and technological well-being.

Location:

Maharashtra, India

Project type:

Renewable Energy - Wind

Total emission reductions:

»» 66,000 tCO₂e p.a. ««

Project standard:

Gold Standard

Project start date:

July 2015

Sustainable Development

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



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.



3 GOOD HEALTH AND WELL-BEING



Good health and well-being

Urban air pollution poses a major threat to respiratory health of everyone living in India, predominantly due to the reliance on fossil fuels. Reducing this dependence through the increase of renewable alternatives will significantly improve air quality and thus respiratory health.

7 AFFORDABLE AND CLEAN ENERGY



Affordable and clean energy

Wind energy is an emissions-free source of electricity. The construction and operation of the wind farm sustainably reduces the gap between supply and demand in India's power grid. This will help stabilize power supply.

8 DECENT WORK AND ECONOMIC GROWTH



Decent work and economic growth

The project helps to reduce poverty and generate employment through construction, maintenance and operation of the wind farm. This is important in rural India, where many jobs are vulnerable to climate issues and rely on agriculture. Substantial investments will be made in infrastructure and economic plans.

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE



Industry, innovation and infrastructure

The construction of the project improves local infrastructure through the improvement of power supply and local transmission lines. Furthermore, roads will be constructed or improved around the project area.

13 CLIMATE ACTION



Climate action

The project contributes to climate change mitigation by displacing electricity from fossil-fueled generation. It reduces roughly 66,000t of CO₂ emissions per annum.

15 LIFE ON LAND



Life on land

Apart from reducing greenhouse gas emissions, the project also avoids the burning of fossil fuels which further reduces air pollutants and helps fighting the causes of acid rain. These changes will benefit agriculture and livestock sectors as well.



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. Essentially, wind energy is converted to electrical energy. Output can vary depending on wind speed and this is ultimately determined by atmospheric conditions, therefore coastal areas are preferred as sites for wind farms. It is therefore important to determine technically feasible sites for wind farms carefully in order to maximize their potential. The Sangli district of Maharashtra is relatively close to the western coast of India.

Over the last two decades wind power technology has rapidly improved. As of 2021, India has the fourth largest wind capacity in operation, which has also lowered wind-powered energy tariffs. The size and power output have consistently increased while lowering the cost per electricity unit.



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.

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.com