

India: Utilizing wind energy in Karnataka



Certification:



Key Facts



The Project

India has experienced tremendous growth in recent decades: The economy and population of the subcontinent have grown more rapidly than almost anywhere else in the world. Yet, development has also led to increased pollution and environmental damage. The energy supply in India is still very much reliant on fossil fuels – especially coal – which is one of the reasons why carbon emissions in India have increased by 900 percent in the past 40 years. At the same time, India is among the countries that are most affected by the impacts of climate change: drought, crop failures, and floods are already problematic and their effects will become more drastic in the future.

This project involves the installation and operation of 86 wind turbines with a capacity of 800 KW each. In total, the turbines generate 160 gigawatt hours of clean energy. Based on the country's average per capita electricity consumption of about 800 kWh per year, the electricity production is sufficient to supply 200.000 people. The project contributes to local economic development by improving the energy supply to meet the increasing demand in Karnataka and the success of the project shows that renewable energy has the potential to be an important part of India's power supply. Investing in new, climate-friendly technologies can help to avoid problems linked to fossil fuel based power generation. Yet, without the additional funding from carbon credits sales, the realization of the project would not have been possible.

Location:

Karnataka state, India

Project type:

Renewable energy – Wind

Total emission reductions:

»» 150,000t CO₂e p.a. ««

Project standard:

VCS

Project start date:

October 2008

Sustainable Development

By supporting this project you'll contribute to the following SDGs:



Good health and well-being: By contributing to an improved air quality, the project also helps to reduce respiratory diseases, which are a major health issue in India.



Affordable and clean energy: The general public will be indirectly benefited by greater availability of clean electricity in the national grid, which would otherwise be generated in fossil fuel based power plants.



Industry, innovation and infrastructure: The project improves electricity supply of the grid and helps India to reduce its dependence on imported oil. Furthermore it promotes renewable energy technologies in general.

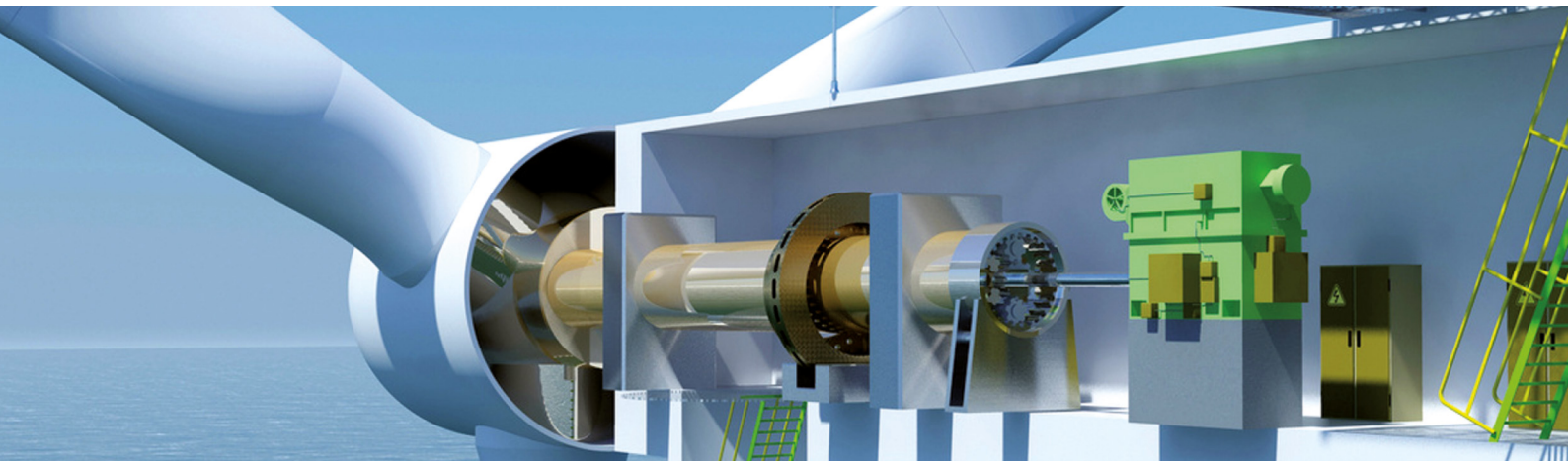


Life on land: Apart from reducing greenhouse gas emissions, the project also helps to avoid the combustion of fossil fuels and thereby contributes to reduced emissions of typical air pollutants and soot.



**SUSTAINABLE
DEVELOPMENT
GOALS**

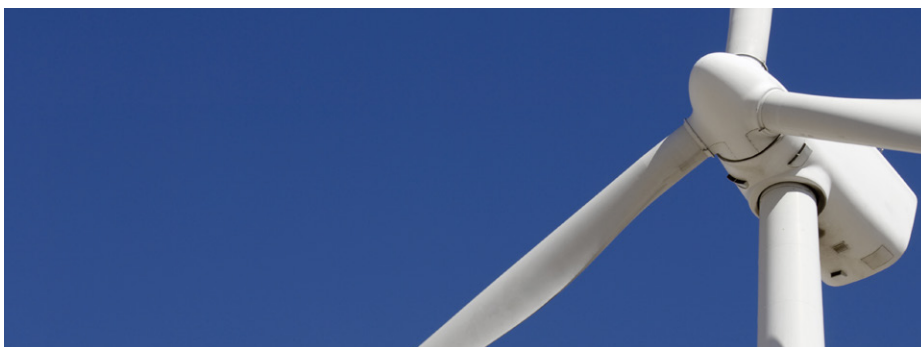
While focusing on reducing greenhouse gas emissions, all our projects also generate multiple co-benefits. These are supportive of the United Nations Sustainable Development Goals.



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 three megawatts are now considered standard technology.



Project Standard



The Verified Carbon Standard (VCS) is a global standard for the validation and verification of voluntary carbon emission reductions. Emissions reductions from VCS projects have to be real, measurable, permanent, additional, unique, transparent, and third-party verified.

Assessed against the background of the total volume of emission reductions, VCS is the globally leading standard for voluntary carbon offsets.

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