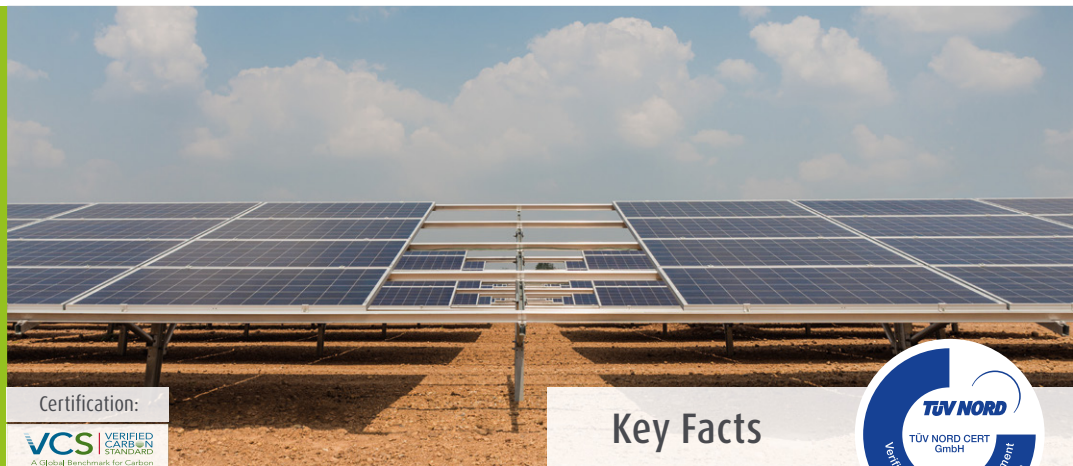


India: Clean solar power to supply national grid



Key Facts

Location:
India

Project type:
Renewable Energy – Solar

Total emission reductions:
»» 730,400t CO₂e p.a. ««

Project standard:
VCS

Project start date:
June 2015

The Project

India has experienced rapid growth in the past decades; the economy and population of the subcontinent have grown more rapidly than in almost any other country on earth. Unfortunately, this development has put huge pressure on energy supply and resources and thus brought with it increased pollution and environmental harm. The energy supply in India relies heavily 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. This affects health among the locals and the WHO lists respiratory diseases as the 3rd biggest cause of death among children under the age of 5. At the same time, India is among those countries that are most affected by the impacts of climate change: aridity, crop failures, or floods are already significant problems and are only expected to get worse.

The project is a combination of 13 small projects spread across India, including three in the state of Punjab. Each project involves a solar power plant being built on a greenfield site. The energy produced will be supplied to the Indian national grid and will displace some of the electricity produced by fossil fuel plants. The grouped project will total to 376.5MW, the largest shares being two 50MW plants in Balanagar and Hindupur. The implementation of the project not only ensures energy security but also encourages diversification of the energy mix in the grid and sustainable growth of the electricity generation sector in India.

Sustainable Development

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



Affordable and clean energy: Utilizing solar power is a cheap and sustainable way to improve the stability and accessibility of electricity. It improves regional and national energy supply and reduces dependency on fossil fuels.



Decent work and economic growth: The project generated employment opportunities for skilled and unskilled personnel during construction, operation and maintenance of the solar plant. Moreover, it creates business opportunities for local stakeholders such as vendors, contractors and suppliers, further supporting the local economy.



Industry, innovation and infrastructure: The project involves the construction of basic infrastructure around the sites, including new roads and communications. This will help the local areas attract investment. Furthermore, the grid connection will improve the often degraded and overburdened power lines, reducing the risk of power leakage.



**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

Photovoltaics involve the conversion of sunlight into electricity. A photovoltaic or solar cell is a device that converts light into electricity using the photoelectric effect. This effect is based on the characteristic of some materials, like silicon, that create a direct current when absorbing energy from sunlight. The energy received for a given area is generally higher the closer a location is to the equator, as the incidence angle of sunlight is steeper. However, cloud coverage does have a great effect on actual electricity yields. The highest solar yields therefore can be achieved in regions with little cloud cover like the Arabian Peninsula, Australia and North Africa.

Solar cells are bundled together in large numbers inside modules, which are wired together generating direct current. To make this suitable for commercial electricity grids, the current is usually converted into alternating current through the use of inverters. Prices for solar modules have fallen rapidly with large-scale production and applications. In sunny places like the south-western United States, solar power can compete with conventional power plants without additional support.



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.



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