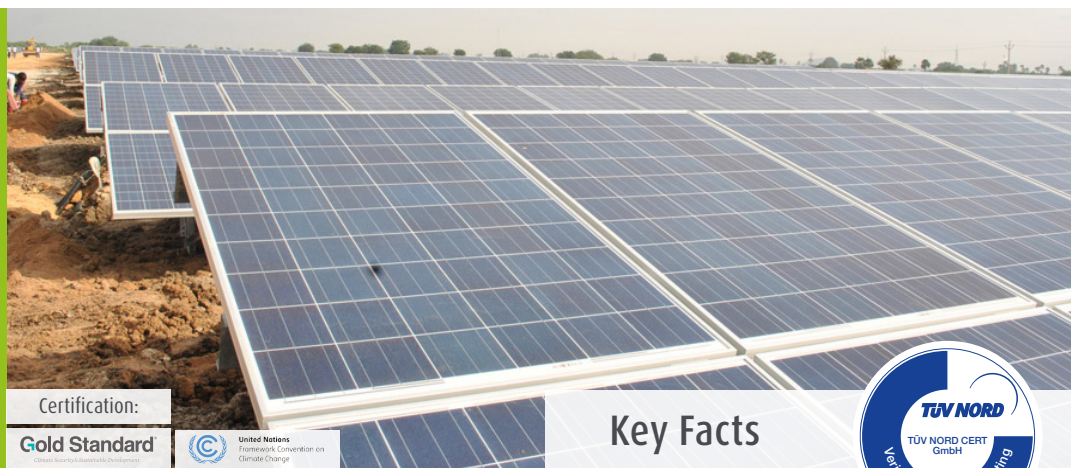


India: Solar Project in Karnataka

Generating clean electricity using solar power



Certification:

Gold Standard

United Nations
Framework Convention on
Climate Change

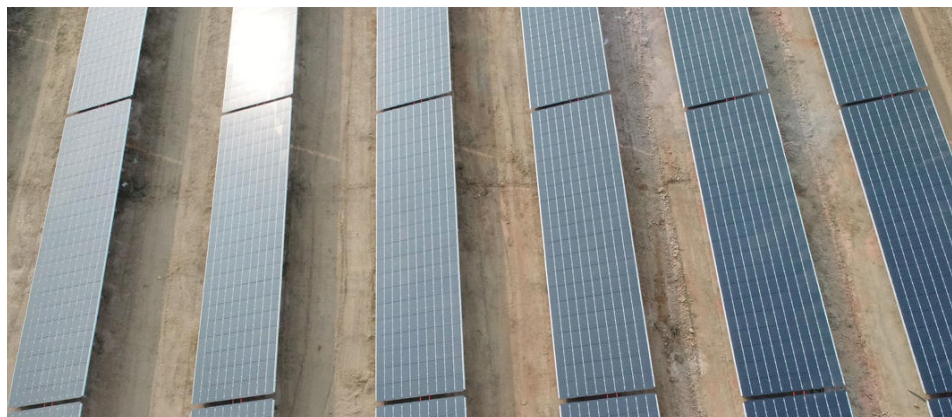
Key Facts



Background

Due to its rapidly increasing population and fast-growing economy, India's energy demand is expected to more than double until 2025. Although the country is home to some of the largest renewable potential in the world, India is still heavily reliant on fossil fuels. At the same time though, India is among the countries most vulnerable to the effects of climate change; drought, crop failures and floods are already considerable problems and their impacts are only going to get worse in the near future.

Another problem in India is the lack of electrification in many areas of the country. Around 240 million Indians still have no access to electricity, accounting for nearly a quarter of all those in the world without a power connection. The inadequate power supply also has economic impacts and hinders the growth and development of many areas. Improving energy supply in an environmentally sustainable way is vital for India. Projects such as this one help contribute to the diversification of the energy mix whilst reducing India's dependency on fossil fuels. The state of Rajasthan has great potential for the utilization of solar power. Due to high solar radiation levels and suitable topography, Rajasthan is among the top states in India for harnessing solar power.



The Project

The project involves the construction and operation of a photovoltaic solar facility near the village of Thirumani in Karnataka. The solar farm has a total installed capacity of 100MW and produces about 181GWh of clean electricity every year. Based on average per capita consumption in India, the project will be able to sustainably cover the power demands of 225.000 people each year. By feeding this electricity into the public grid network, the project contributes to the reduction of the grid's carbon intensity and therefore helps in the fight against climate change.

Location:

Karnataka, India

Project type:

Renewable Energy – Solar

Total emission reductions:

» 125,000t CO₂e p.a. «

Project standard:

Gold Standard

Project start date:

August 2016

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

Through the generation of clean electricity from solar power, the project reduces India's reliance on fossil fuels. Diversifying away from fossil fuels is important for improving India's air quality, which currently is so poor, it reduces average life expectancy by 23 months.

7 AFFORDABLE AND CLEAN ENERGY



Affordable and clean energy

Solar power is a clean and climate-friendly source of energy. By integrating the solar farm into the local grid, the project helps to stabilise the power network and thus the reliability of power supply.

8 DECENT WORK AND ECONOMIC GROWTH



Decent work and economic growth

The construction, operation and maintenance phases of the project will generate new employment opportunities. This is important as the solar facility is in a rural area, where local income predominantly relies on agriculture.

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE



Industry, innovation and infrastructure

The project invests in modern technology that contributes to the development of renewable resources in India. The successful implementation of this project can act as a model for similar projects in the future.

13 CLIMATE ACTION



Climate action

The project avoids the emission of 125,000t of carbon emissions every year. This is important in the fight against climate change and helps to reduce the carbon intensity of India's power grid.

15 LIFE ON LAND



Life on land

In addition to reducing CO₂, the project also helps to avoid the emission of air pollutants such as SO_x or fine dust, which are produced when burning fossil fuels and are directly related to acid rain.



Technology brief - how it works

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.

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. Sunny regions with high solar irradiation, like Karnataka, are well suited for solar power generation.



Project Standard



The Gold Standard is an award winning certification standard for results based project finance and is recognised 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.



The CDM is one of the three Flexible Mechanisms defined in the Kyoto Protocol and allows emission-reduction projects in developing countries to earn certified emission reduction (CER) credits, each equivalent to one tonne of CO₂. These CERs can be traded and sold, and used by industrialized countries to meet a part of their emission reduction targets under the Kyoto Protocol.

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