

## China: Utilizing solar power to generate clean energy



Certification:  
**Gold Standard**  
Climate Action & Sustainable Development



### Key Facts

**Location:**  
Ningxia Hui, China

**Project type:**  
Renewable Energy – Solar

**Total emission reductions:**  
»» 48,000t CO<sub>2</sub>e p.a. ««

**Project standard:**  
Gold Standard

**Project start date:**  
December 2012

## The Project

Driven by heavy industrialization and urbanization, China's power industry is projected to grow by almost 7% per year until 2020. More than 70% of the electricity is generated from coal which is a particularly heavy polluting fossil fuel. As a consequence, electricity from the regional grid does not only cause high emissions of CO<sub>2</sub> but also contributes to the very poor air quality, particularly in large urban centers. China urgently needs to reduce the share of carbon intensive fuels in its energy mix in order to meet growing energy demand and prevent further deterioration of environmental conditions.

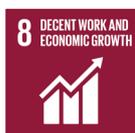
While the Chinese photovoltaic industry has been dominating export markets for years already, application within China has lagged behind. This project includes the installation of approximately 168,000 pieces of solar cell modules. The total installed capacity is 40.3 MW and it provides 56,000 MWh of electricity to the North West China Power Grid (NWPG) every year, displacing the power generated predominantly in coal-fired plants. This amount of electricity is enough to supply approximately 40,000 Chinese households for a year.

## Sustainable Development

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



**Affordable and clean energy:** The project activity increases the regional energy supply. This way it promotes local development and enhances social well-being.



**Decent work and economic growth:** This project generates employment opportunities for professional, skilled and unskilled personnel during the 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.



**Life on land:** The project displaces energy from fossil fuels and thus improves local air and water quality by reducing other pollutants such as sulphur dioxide, nitrogen oxides, soot and particles associated with the burning of fossil fuels.



**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 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.

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