

Carbon Offset Project Profile

CHINA: SOLAR POWER

China has witnessed rapidly increasing demand for energy as a by-product of meteoric growth in recent history. This has resulted in a significant increase in the burning of fossil fuels to meet the developing demand for energy.

China has traditionally been reliant on the burning of coal to meet its energy needs given its relative abundance and cost advantage. A dependence on coal has contributed to China becoming the world's largest emitter of greenhouse gases as well as the discharge of dangerous gases and particulate matter that degrade air quality and have generated alarming health concerns.

A study published by the World Health Organisation found chronic respiratory illness to be the second leading cause of death in China with the elderly and children being most vulnerable. Air quality is worst in cities and industrialised areas and major cities where populations are most concentrated and with growth showing little sign of slowing in the near future, air pollution shall continue its steady rise.

The project is responsible for the annual production of 14,440MWh of electricity, enough to supply 10,898 Chinese households for a year. By feeding carbon neutral energy back into the grid the Dongdongtan project displaces an equivalent amount that would otherwise be provided via the burning of fossil fuels, reducing the negative impacts of air pollution on local populations.

Projects of this nature are left at the mercy of the regulatory environment and can often find it difficult to meet funding requirements. Carbon financing through the production of credits for sale has therefore been crucial in the success of projects like Dongdongtan.



Key Facts:

Location: Gansu Province, China

Project type: Solar Power

Project standard: Gold Standard

Total emission reductions: 86,611 t CO₂e p.a.

Project partner:

Three Gorges New Energy Jiuquan Power Generation Co., Ltd

Validator:

TUV Rheinland (China) Ltd.

Verifier:

Applus LGAI, Shanghai



**CARBON
REDUCTION
INSTITUTE**

Carbon Reduction Institute

Suite 1304/213 Miller St, North Sydney NSW 2060 | ABN: 26 122 969 233

P: +61 2 8228 7300 | F: +61 2 8228 7350 | info@noco2.com.au | www.noco2.com.au



TECHNOLOGY BRIEF – HOW IT WORKS

Each solar panel consists of many photovoltaic cells containing silicon and conductors which convert photons from sunlight into direct current electricity. This electricity flows to an inverter where the direct current electricity is converted to alternate current electricity which can be used by households. All electricity is fed into the grid for use by households and industry.

The Dongdongtan solar project involves the installation and maintenance of a solar farm for the production of electricity to be fed into the Northwest China Power Grid. The project boasts 36,036 pieces of the polycrystalline silicon solar cell modules with unit capacity of 250Wp each and a total installed capacity of 9.009 MWp.

SUSTAINABILITY BENEFITS

The Dongdongtan project provides reliable energy to Northwest China, which in turn provides stimulus for ongoing economic development. The project also carries significant social benefit in the form of direct and indirect employment through installation and maintenance positions.

Solar energy plays a significant role in reducing greenhouse gas emissions as well as the emission of harmful air pollutants such as sulphur and nitrous oxides. The success of the project will continue to help in promoting renewable energy use for a cleaner future while diversifying China's current energy mix.



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