

**China:  
45 MW Wind Power Project**  
100 GWh of clean electricity from  
the Taiwan Strait



Certification:

**Gold Standard**

**Key Facts**



**Background**

As the world's most populous country with over 1.3 billion inhabitants, it is no surprise that China is also the largest energy consumer. China's economy has grown rapidly, dominating global growth since 2008 with an average GDP growth of 10% every year. Much of this growth is a result of fast industrialization. Whilst this has spurred on the economy and pulled 800 million people out of poverty, industrialization is always closely followed by increased demand for energy. As the industry sector accounts for almost three quarters of electricity consumption it is no surprise that energy demand is 3.5 times higher than in 1990. Almost all of this increase in demand has been met with fossil fuels and China is responsible for almost half of all global coal consumption.

This has resulted in high levels of air pollution which is now a major cause of concern for society and public health. Poor air quality is a major problem in China with as little as 3% of the population enjoying exposure to air quality that meets the WHO guidelines. It is estimated that the average life expectancy is reduced by 25 months as a result of poor air quality. 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 the domestic environmental situation.



**The Project**

The Fujian Zhangpu Liuaio Wind Power Project involves the installation and operation of 36 turbines, each of which has a rated output of 1250 kW, providing a total capacity of 45 MW. Located at the Chinese coastline of the Taiwan Strait, the wind farm harnesses the reliable winds of the South China Sea to generate an annual average of 96,000 MWh of clean energy. This equals the demand of around 60,000 Chinese households.

**Location:**

Fujian Province, China

**Project type:**

Renewable Energy – Wind

**Total emission reductions:**

» 84,000t CO<sub>2</sub>e p.a. «

**Project standard:**

Gold Standard

**Project start date:**

December 2006

**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.



**Good health and well-being**

Increasing wind generating capacity reduces the carbon intensity of China's economy. With only 8 out of 74 major cities meeting national standards for clean air in 2014, it is important that China's reduces its reliance on fossil fuels.



**Affordable and clean energy**

The project contributes to the increase of renewables within China's energy mix. Wind power generates no emissions and thus proves 100% clean electricity to the regional grid. The project helps to reduce power cuts and to stabilize supply.



**Decent work and economic growth**

The project will generate employment opportunities for the construction, operation and maintenance of the wind farm. Furthermore, the project uses locally sourced materials, helping the local economy whilst also reducing transport-related costs and emissions.



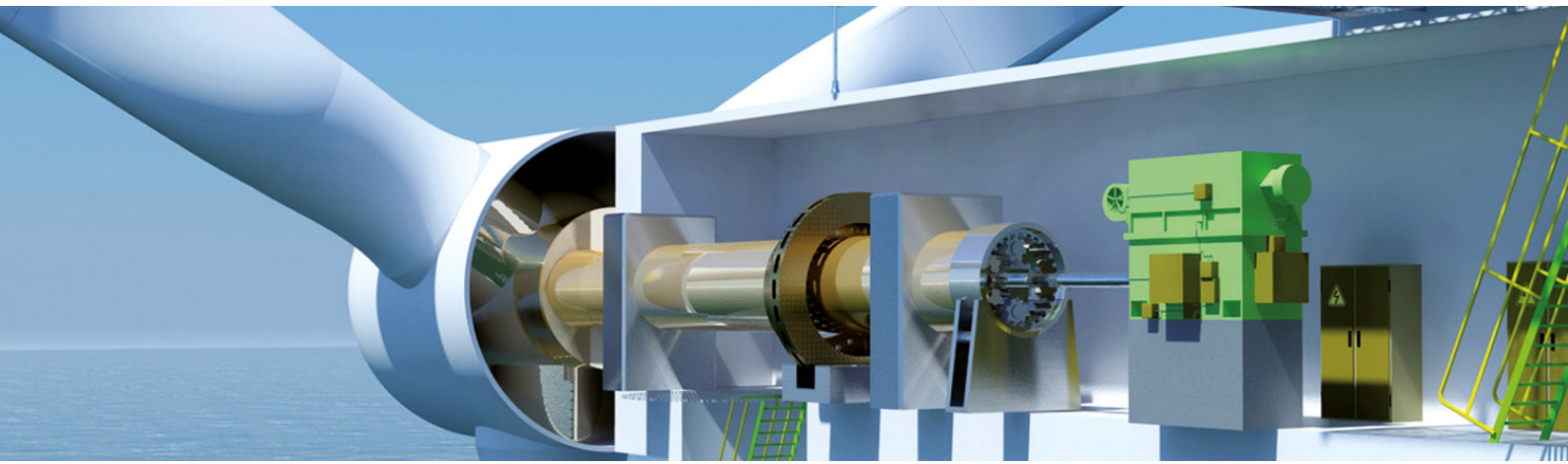
**Climate action**

China currently accounts for 28% of all global carbon emissions, which is double than the rest of Asia alone. The project reduces a total of 84,000t of carbon dioxide, helping the country to achieve it's pledge to cut its emissions.



**Life on land**

In the absence of the project activity, an equivalent amount of electricity would have been generated from power plants connected to the grid, the majority of which are based on non-renewable fuels. Thus, the project helps to prevent the emission of various air pollutants.



## 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.



## Project Standard

**Gold Standard**  
Climate Security & Sustainable Development

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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