

## Egypt: West Bakr Wind Farm Project

Providing Egypt with 252 MW of clean electricity



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



### Key Facts

**Location:**  
Ras Ghareb, Egypt

**Project type:**  
Renewable Energy – Wind

**Total emission reductions:**  
»» 531,674t CO<sub>2</sub>e p.a. ««

**Project standard:**  
Gold Standard

**Project start date:**  
November 2021

## Background

Between 2009 and 2013, Egypt found itself in the middle of an energy crisis. Political tensions, a deteriorating economy, and a burgeoning population resulted in an insufficient energy supply unable to meet a significant increase in demand. With the country's return to stability in 2014, Egypt has since emerged from the energy crisis and intends to have 42% of its electricity powered with renewable energy by 2035 with wind power supplying at least 14% of the amount.

Today, there is enormous opportunity to expand renewable energy in Egypt — particularly wind and solar energy due to its location and climate. The Gulf of Suez has an average wind speed of 10.5 m/sec., and the areas around the East and West Nile have the potential to produce around 31,150 MW of wind power per year. Positioning wind farms in these areas can have great benefits and support Egypt's transition to renewable energy.

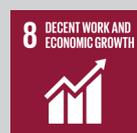


## The Project

The main purpose of this large-scale project is to generate a clean form of electricity through wind energy for sale of electricity to the Egyptian Electricity Transmission Company (EETC). The project activity involves installation of 96 Siemens Gamesa wind turbines with 2.625 MW capacity each, with an installed capacity totaling 252 MW in Ras Ghareb city, Red Sea Governorate state, Egypt. The process of generating power through wind resources is a clean technology, as there is no fossil fuel fired or no greenhouse gases are emitted during the process. The project displaces an average 1,197,600 MWh/year amount of electricity, which is dominated by thermal/fossil fuel-based power plants.

## Sustainable Development

By supporting this project you'll contribute to the following Sustainable Development Goals:



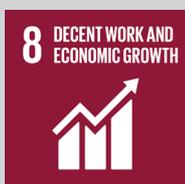
## SUSTAINABLE DEVELOPMENT GOALS

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.



### Affordable and clean energy

Wind power is a zero emission source of energy. This project generates 1,197,600 MWh of renewable energy each year and will help Egypt to achieve its goal of 42% renewable energy by 2035.



### Decent work and economic growth

The project enables Egypt to save natural gas that would otherwise be combusted for power generation. It will also contribute to the diversification of energy sources for the country. The resulting new job opportunities will further enhance both technology transfer and public awareness of renewable energy technologies and their benefits, specifically wind power generation.



### Climate action

The project mitigates local pollution caused by air emissions from thermal power plants that would have provided the same amount of power in the absence of the project activity. This project provides electricity without the generation of any local pollution and leads to the reduction of approx. 531,674 t CO<sub>2</sub> per annum due to implementation of project activity.



## 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 maximize 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. Constructions with a maximum power output of three megawatts are now considered standard technology.



## Project Standard



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