

Invest In Egypt

Renewable Energy

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Sector Overview

With the expected depletion of natural gas reserves within the next 57 years, Egypt is an investor's dream when it comes to sustainable energy resources. Egypt possesses an abundance of land, sunny weather and high wind speeds, making it a prime resource for three renewable energy sources: wind, solar and biomass.

Although renewable energy is relatively a new market in Egypt, the country's strategic location and the government's commitment to increasing its renewable energy output make it an attractive investment opportunity. A new policy framework had been approved in February 2008 that fosters an investor friendly system and encourages foreign as well as private sector involvement.

The government expects the renewable energy sector to produce 20% of total power generation by 2020, 12% of which will be generated by wind energy. Priority sectors are wind farms (the most cost-effective renewable energy source), followed by biodiesel production, both of which are supported by the country's abundance of land, stable climate conditions and competitive labor force.

With solar energy costs expected to decline sharply over the next 5 to 7 years, Egypt aims to develop a competitive market in solar energy, but sees more immediate opportunities in wind and biomass.

Competitive Strengths and Capabilities

Core Areas for Investment: Wind energy, solar energy, biodiesel, biomass.

Strategic Geo-Climactic Location. Egypt's consistently hot climate, high wind speeds and abundance of agricultural land give it a competitive advantage in renewable energy production. Furthermore, its proximity to European energy markets and energy-equipment manufacturers make it an attractive investment option.

Highest Wind Electricity Generation in Region. With Egypt producing almost 57% of the region's total wind energy, it has already become the leading producer - ahead of Morocco, Iran and Tunisia. Furthermore, the Suez Canal area has one of the highest consistent wind speeds in the world at 10 m/s. Other important areas include the Western and Eastern deserts, in addition to the Red Sea coast along the Gulf of Aqaba.

High-Intensity Solar Radiation. The high intensity of direct solar radiation (2,000-2,600 KWh/m²) in Egypt shows great potential for solar energy development, especially in Upper Egypt.

Longer Hours of Sun and Wind Operation than in Europe. Every year, Egypt's primary locations offer 2,400 or more hours of solar operation, compared with maximum European figures of 1,900 in Spain and Greece, the next-closest countries. As for wind energy, hours of operation in areas with the highest speeds can reach up to 3,900 hours per year.

Stable and Investor-Friendly Government Incentive System. Proving its commitment to the RE sector, the Egyptian government developed an investor-friendly incentive system based on successful European incentive models. The government plans to introduce a feed-in tariff and a seamless licensing process to boost private investment. Furthermore, it will reduce the cost of infrastructure investment for foreign renewable energy companies by identifying logistically suitable areas and at the same time providing the locations with connection access to the national grid.

Logistical Advantage for Biodiesel Production. Egypt has a logistical advantage in biodiesel production: the country has a competitive labor force, a stable and hot climate to facilitate plant growth, and an abundance of affordable land for plant production. The government plan indicates that biomass will generate an expected share of 1,500 MW worth of electricity by 2020.

High Degree of Public Acceptance. Wind projects and biomass plants will provide an estimated 40 jobs per project. In addition, cultivation of plants for biodiesel production provides 3,000- 5,000 employment prospects, thus creating job opportunities to help boost the country's economy and the RE sector's public image.

International Cooperation. Egypt is among the first countries to tap the USD 5.2 billion funds supported by the World Bank Group, the African Development Bank, development agencies, and private sector sources; Egypt plans to use the fund to meet its target of 20% of energy from renewable sources by 2020.

Egypt is also planning USD 100 –USD 120 million in clean technology fund money to co-finance a high capacity transmission system from the wind farms in the gulf of Suez to serve heavily populated areas such as Cairo. Moreover, the National Renewable Energy Authority is preparing a study in cooperation with the German Government to identify the suitable locations for thermal solar stations.

With regards to PV technology, The National Renewable Energy Authority signed a protocol for cooperation with the Italian Ministry of Environment to electrify two remote settlements in the Matrouh Governorate.

Strong Policy Support for Renewable Energy

Egypt Developed the following incentive schemes to encourage Renewable Energy investment:

- A feed-in tariff scheme in the development of wind farms, encouraging investment by ensuring a revenue stream.
- A seamless licensing process by ensuring timely management of authorization requests and creating a single point of interface authorized to deal with land-related issues. The entire authorization process will be facilitated in full cooperation with all government authorities.
- Area zoning; by planning logistically appropriate areas, and preparing the locations with connection access to the national grid, thus reducing the cost of infrastructure investment for investors.

Opportunities for Investment in Egypt's Renewable Energy Sector

Wind Turbine Manufacturing

The Egyptian government is seeking to develop selective wind turbine components to serve the increasing demand of local and regional markets. The goal is to start by manufacturing turbine towers and blade facilities for the local market (large enough to supply 400 MW yearly), then to supply products to the

emerging North African and Middle Eastern markets. The blade manufacturing project alone requires an estimated investment of US\$ 59 million, while the tower industry is estimated at US\$ 147 million per year and will provide employment to 400 workers. The blades industry itself would be a highly valuable export commodity, as Egypt has the supporting logistical infrastructure to export the blades to its neighboring countries.

According to NREA:

- In 30/5/2009, a presidential decree had been announced to allocate 292.4 thousand feddans in West Suez Gulf to be used for the establishment of wind stations with a maximum height of 120 m and will be offered by usufruct.
- In 17/9/2009, another presidential decree has been announced to allocate lands in Beni Sueif, Menia, and Assiut with a total area of 1.5 million feddan. The land is to be used for the establishment of wind stations with a maximum height of 150 m and will be offered by usufruct.

Incentives Given to Renewable Energy Projects.

- Concluding long-term agreements (20-25 years) with private sector companies in the Renewable Energy Sector to cover their cost of production and return on investments.
- Exempting renewable energy equipments from customs and tariffs.
- The technology behind PV applications is expensive, yet the high setup cost is compensated by savings in network construction and free land offerings.

Success Stories

The Gabal El-Zeit Project A wind park worth USD 880 million is to be developed on the Red Sea coast. When fully operational, the plant will generate an output of 350 GWh per year, and will cut carbon dioxide emissions by 500,000 tons per year. The plant is expected to employ up to 40 workers for plant maintenance, in addition to more than 100 workers in the construction of the wind farm.

The Zaafarana Wind Park Project is a German, Danish, Spanish and Egyptian joint venture operating since 2001. Located 120 km south of Suez on the Red Sea, the park currently boasts a capacity of 80 MW and will be delivering a total output of 160 MW after its completion. The project is progressively being built in three phases: Nordex, a German wind generator manufacturer, realized the first phase of the project, while the second and third extension phases are being undertaken by joint bidders Vestas Deutschland GmbH and ABB New Ventures. The final phase is valued around €75 million. Spanish wind turbine manufacturer Gamesa will install 280 turbines in the farm's second phase. The value of Gamesa's contract is estimated to be €80 million, making Gamesa the largest wind turbine supplier in Egypt with a 400-MW capacity. Altogether, the wind park will be feeding an anticipated 300 GWh per annum into Egypt's national grid, while saving more than 180,000 tons in CO2 emissions.

El Sewedy Cables.

The largest Arab cable maker has established two companies which aim at working in the field of wind energy, they are:

- SWEG, which is the unit responsible for the production of wind turbine components and wind farms implementation. SWEG's industrial compound includes: (1) Wind turbines assembly factory with 240 MW production capacities. (2) Wind towers production factory that reaches 300. (3) wind tower Rotor blades production factory where it produces 300 set is expecting to double the capacities of its three factories within 5 years as per the company's business plan. The surplus capacity of the towers and blades factory will be exported to Africa, Middle East and Europe.
- SIAG Elsewedy Towers (SET) is a joint venture between SIAG Schaaf Industrie Aktiengesellschaft, a leading German steel manufacturer, and Elsewedy Cables. The new tube tower plant is the first major investment outside the European continent for SIAG. It also represents an important step for wind power on the African continent. As for Elsewedy Cables, the new project is a strategic move towards providing complete solutions in the wind energy branch, including towers, wind turbine generators, blades, and turnkey solutions for wind farm projects.

Leading Renewable Energy Companies in Egypt

ABB New Ventures GmbH
www.abb.com

Gamesa
www.gamesa.es/en/products/wind-turbines

Italcementi Group
www.italcementigroup.com

Nordex
www.nordex-online.com

Vestas Germany
www.vestas.com