



15MW Sheikh Zayed Solar Power Plant

Nouakchott, Mauritania

Masdar's 15 megawatt (MW) solar photovoltaic (PV) power plant in Nouakchott was the largest solar power installation in Africa at the time of its completion in 2013. It was the first utility-scale solar power installation in the Islamic Republic of Mauritania, accounting for 10 per cent of Mauritania's grid capacity.

The Sheikh Zayed Solar Power Plant produces 25,409 megawatt-hours (MWh) of electricity annually and displaces approximately 21,225 tonnes of carbon dioxide per year. The plant consists of 29,826 micromorph thin-film panels and supplies electricity to over 10,000 homes in Nouakchott.

The 15MW PV plant has produced more energy than its designers estimated, resulting in additional savings. Producing in excess of 115 gigawatt-hours (GWh) since April 2013, the plant creates less generator load during peak sun hours, reducing the incidence of mechanical failure.

Innovative sustainable building practices were used in the construction of the plant. The use of screw piles, instead of concrete, for the foundations in the sandy terrain, reduced the project's cost, construction time and carbon footprint.

The shading offered by the solar array resulted in increased vegetation, limiting sand movement and helped the solar field blend in with the environment.

Funded by a grant backed by the UAE, Masdar developed the project on behalf of the Abu Dhabi Government. The solar

Quick facts

- Located in Nouakchott, the capital of the Islamic Republic of Mauritania
- Largest solar PV plant in Africa when connected to the grid in March 2013
- Installed capacity of 15MW
- Accounts for 10% of Mauritania's grid capacity
- Consists of 29,826 micromorph thin-film panels
- Plant covers a land area of 300,000 square metres
- Displaces approximately 21,225 tonnes of CO₂ per year
- Powers nearly 10,000 homes in Nouakchott

power plant is owned and operated by Société Mauritanienne de l'électricité (SOMELEC), the government-owned electricity utility in Mauritania.

The project was initiated by Masdar and Mauritania's Ministry of Petroleum, Energy & Mines in March 2012, and began operations a year later.

Wood from the project's construction was donated to a local NGO called AIDE to support its operations within Mauritania.