TATA Power Solar Systems Ltd

Murugan Textiles - the first power loom producer to use 100% renewable energy

CASE STUDY

Summary

Murugan Textiles, the largest power looms producer in India, wanted to lead the way in embracing green energy by implementing a solar system to power their open-end spinning machines installed at their mills in Palladam, Tamil Nadu.

The power loom industry is electricity-intensive and requires power 24X7. Open-end spinning machines are more power intensive than conventional machines, and need continuous power.

Objective of Intervention

Murugan Textiles has invested in a hybrid model of renewable energy consumption, using both solar and wind energy. While there is no grid power shortage, the grid electricity is used only as a back up to renewable energy when required. They have set up the largest solar plant till date in the power loom industry, with a 2 MW rooftop solar system installed at their premises.

Type of Intervention and Location

Installation of 2 MW rooftop solar system at Murugan Textiles, Tamil Nadu

Description of Intervention

The Tata Power Solar team provided a detailed engineering design and customised solution, which focussed on efficiently optimizing resources. The structures were custom designed, to withstand high winds in the region, without creating any impact on the existing building and rooftop. The rooftop design saved nearly 10 acres of land space, which would have been required for a standard project of this capacity. A dedicated SCADA system has been implemented by Tata Power Solar to monitor the plant on a real-time basis.

Project Specifications:

- System Size: 2000 kWp
- Roof Area: 18850 sq m

- Solar Power Plant Setup: 700kW on 1 rooftop; 650 kW each on 2 rooftops
- Modules: Crystalline; 245 Wp & 250 Wp
- Inverter: 30 KW;57 nos

Intangible or Tangible Benefit

One of the pioneers in installing green energy to run their complete manufacturing setup, Murugan Textiles now runs nearly 100% of its machinery on renewable energy. Used for captive consumption, Murugan textiles produces 25% of their electricity requirement through solar, and the rest though wind energy.

- Projected Cost Saving of INR 11 Crores in 25 years
- Estimated Energy Generation: 3 million (PA)
- CO2 displacement: 2567 tonnes (PA)
- 10 acres of land space saved
- Accelerated deprecation
- Low break-even period of 6 years
- Fixed energy cost for 25 years

About TATA Power Solar

Tata Power Solar, with 25 years of deep domain expertise, is India's largest specialised EPC player and one of the pioneering solar manufacturers in the world. Recently ranked the #1 EPC player in India* by Bridge to India for 2014, we have completed more than 175 MW of ground-mount utility scale and 43 MW of rooftop and distributed generation projects across the country. Tata Power Solar has commissioned around 100 MW of projects in 2014, which include 50 MW for NTPC, 3 MW for Andhra Sugars, 1.2 MW for GEDA and 750 kW for SMC.

Headquartered in Bangalore, Tata Power Solar operates world-class manufacturing units in Bangalore, with a production capacity of 200 MW of modules and 180 MW of cells.