

CASE STUDY

FACTS AT A GLANCE

PROJECT CAPACITY

993.6 kWp

PROJECT LOCATION

Rajgarh, Bhopal, MP

TYPE OF PLANT

Ground mounted under net metering

TECHNICAL DETAILS

PV Modules: Sun Power makes 350 Wp Solar Mono Perc Modules
Inverters: Solar Edge Make, 82.8 kW Solar String Micro Inverter

ANNUAL GENERATION

16,02,000 kWh

GREEN ELECTRICITY PRODUCTION OVER THE SYSTEM'S LIFETIME

3,31,03,363 kWh

AVOIDED CO₂ EMISSION OVER THE SYSTEM'S LIFETIME

31,845 Metric Tonnes



OVERVIEW

Lapp Group is a leading supplier of integrated solutions and branded products in the field of cable and connection technology. Since 1975, the company has been producing innovative cables, industrial connectors, accessories and engineered solutions as a worldwide market leader. It has 18 production sites and over 40 sales companies. It also works in cooperation with around 100 foreign representatives.

The environmentally aware and concerned company has undertaken a green initiative by partnering with Amplus to solarise its facilities. A Power Purchase Agreement (PPA) has been signed between Amplus and Lapp Group for 20 years. Amplus will be operating and maintaining the plant for the complete duration of 20 years.

The 993.6 kWp power plant at Lapp has a single-axis tracking based mechanism which enhances the power generation. The plant with its unique solar string micro inverters made by Solar Edge, will increase the power generating by approximately 7%. The plant has got commissioned on 25th January 2019 and is operating successfully.



UNIQUE ASPECTS OF THE PROJECT

The plant at Lapp is a unique project in its own sense due to its:

- Special Solar Edge Make
- Solar String Micro Inverters of 82.8kW
- Mono Percs

This was the first project by Amplus where micro inverters were used. The project is single-axis tracker based, scorpius make. The technology of trackers helps in increasing power generation.

The plant also has Mono Perc, Sun Power Make, made in Mexico. Mono Percs are high efficiency modules that help in increasing the power generation.



KEY CHALLENGES

- **Setting up the single-axis tracker:** It was a challenging task, efficiently catered to by the engineering and construction teams.
- **DC designing with micro inverters and associated optimizers:** It was yet another challenge for the engineering team because this was the first project where Amplus used micro inverters. The superior engineering of Amplus did complete justice to the project.
- **Communication with Amplus SCADA:** The final challenge was that of communication of inverters and optimizers with Amplus SCADA. This was also looked after by the engineering team. It also involved the communication of single-axis tracker.



BENEFITS OF THE IMPLEMENTED SOLUTION

There was an increase of approximately 7% in the generation because of using Single - Axis Tracker, Micro Inverter and Mono Perc high-efficiency modules.

Following are some key environmental savings that are derived through the solar initiative:

- Green electricity production of 3,31,03,363 kWh over the system's lifetime, which is equivalent to the annual electricity generation for 11,222 urban households or meeting the annual electricity needs of 30,804 Indians.
- 73,56,303 litres of water conserved by avoiding the consumption of coal-fired electricity.
- Avoided CO₂ emissions of 31,845 metric tonnes over the system's lifetime, which is equivalent to planting 8,25,311 tree seedlings grown for 10 years.

(Figures above are Environmental Savings calculated for the installed capacity over the lifetime of the plant.)