GOODWE
YOUR SOLAR ENGINE

CASE STUDY

GoodWe powers Cochin International Airport Ltd (CIAL) of India

10 MW Solar Projects installed in India's fourth largest international airport

Background:

CIAL is the fourth largest international airport in the country in terms of international passengers.

The Cochin International Airport Ltd (CIAL) has taken the lead in utilising renewable energy in the aviation sector by becoming the first fully solar-powered airport in the country. It is the first green field airport in the country built with public-private partnership. Planned and constructed from scratch, the airport has been acclaimed for setting a novel idea in infrastructure development.

According to the CIAL authorities, the airport had last year opened a state-of-the-art new international terminal for passengers and the renovation of the old domestic terminal will serve new commercial purposes. The airport will require more solar power to make new extensions and other infrastructure facilities functional.

Installation Details

Project Name: Cochin International Airport Limited (CIAL) INFRA
Total Capacity: 10 MW
Inverter: GW60KN-MT, MT-G2 *137 units
Buyer (EPC/Developer) Info: Sterling & Wilson Solar Limited
Panel: Trina-325Wp (Ground Mounted-7.2MWp) & 330Wp (Car Parking-2.6MWp)

Sterling and Wilson has set up a 7.5-MW ground-mounted plant for airport facilities and a 2.4-MW rooftop carport array. The new 2.4-MW rooftop carport array is located in front of the domestic terminal. The airport company has already developed a solar car park with solar panels fitted on the rooftop of the car bay in front of the international terminal which has an installed capacity of 2.5 MW.

Challenge:

The Kerela Government also has very strict guidelines regarding the 'Grid Harmonics System'. For every installation verifications are required to ensure harmonics are within the specified limit for grid tied systems.

The security systems and processes are very strict in the airport premises so installation time was also extended. The team also had to face climatic challenges during the commissioning of the project such as rain and lightning.

Solution:

In spite of these challenges, GoodWe has successfully installed a total capacity of 10MWp with a total number of 137 GW60KN-MT, MT-G2 inverters. Built to achieve maximum efficiency, GoodWe MT series inverters boasts maximum efficiency 99%, aimed at maximising long-term returns and profitability using advanced topology and innovative control technology.

This project has generated 28628.33 MWh of clean energy till July 2021, further contributing to CIALs efforts to sustain power-positive status of the airport.

Innovation- Floating Project:

India subsidiary Ciel Et Terre Solar Pvt Ltd. (CTSP) has installed its first floating solar project of 450kW at Cochin Airport's CIAL golf course, Mercom India reported. This is the first installed Hydrelio floating photovoltaic project in the country.

According to a company statement, installing the initial 100 kW demonstration project to a delegation visiting the airport for International Solar Alliance, took less than two weeks. CIAL successfully executed the idea of Total Sustainability Management (TSM) in its golf course where treated water from the sewage treatment plant of the airport is used for water harvesting with the help of 12 artificial lakes.

The water from these lakes is used for irrigating the lawns of the golf course and now, with the installation of the floating power plants, it has leapt one more step forward in TSM.

Environmental effect:

PV generation spares 6,762,957 kg of Carbon Dioxide, equivalent to

33,532,252 Square meters of forest in a year

1,471 Cars driven for 1 year

3391 tons of coal burned

2,880,676 liters of gasoline consumed

822,663,972 smartphone charges

1,228 home's annual electricity consumption