

National Institute of Technology, Surathkal:

The largest solar plant for a government academic institute in Karnataka

Quick Facts

- ▶ Location: Surathkal, Karnataka
- ▶ Capacity: 1,000 kWp
- ▶ Type of system: Spread across 11 RCC and metal rooftops
- ▶ Annual generation: 15 lac kWh
- ▶ Carbon dioxide abated: 1416 tons annually
- ▶ Date of commissioning: September, 2016

Overview

NIT Karnataka, the half-century old premier educational institution, has always been keen to promote sustainable practices in their efforts to build a green legacy. Carrying on the initiative, the institution inked an agreement with CleanMax, India's #1 rooftop solar developer, to set up a 1 MW plant on 11 academic, administrative and hostel buildings to cater to 15% of the power requirement at their campus.

The solar plant is an initiative of the Ministry of Human Resource Development and the Ministry of New and Renewable Energy to implement green technologies on NIT and IIT campuses.

As per the agreement, CleanMax has successfully commissioned the plant under a build-own-operate (BOO) model without any upfront investment from NITK. The project has been designed keeping in mind the high wind speeds and saline spray due to the institute's proximity to the sea.

Going forward, the plant will be operated & maintained by CleanMax Solar for the entire contract duration of 25 years.



Challenges

- ▶ To rapidly execute the project, within a time span of 2 months after the PPA signing
- ▶ Less than 30 days were allotted to complete the onsite civil work
- ▶ To ensure stringent safety measures since the construction happened during the rainy season

Solutions

▶ Cheaper than the Grid Electricity

NITK requires around five lakh units of grid power every month. And with a monthly generation of around 1.25 lakh units, the institute would get 15 lakh units per annum from the solar plant, on average.

The agreement entails selling of power to NITK at a low tariff, cheaper than the grid without any capital expenditure from the institute. The institute will purchase power generated by the rooftop solar plants, at a tariff which is well below the present grid tariff. Post the commissioning of the solar plant, NITK's power bill is expected to come down by Rs. 5 lakh per month. Thereby, the institute is expected to save about Rs. 60 lakh in terms of power bill per annum.

It is worth noting here that the plant is expected to produce around 15 lakh units annually, which is sufficient to power around 1500 homes and help abate around 1416 tons of CO₂ per year.

Highlights

- ▶ 1 MW installation in collaboration with Solar Energy Corporation of India (SECI)
- ▶ Special lightweight aluminium structures have been used to prevent corrosion due to proximity to the coast. It has been designed for high wind loads (150 km/h) and for a lighter aero drag. These structures are designed to withstand the highest wind speeds for this location, and will not corrode even when exposed to saline sea spray.

About NIT, Karnataka



The National Institute of Technology Karnataka (NITK) formerly known as Karnataka Regional Engineering College (KREC), is a public engineering university at Surathkal, on the outskirts of Mangalore. It was founded in 1960 as KREC while today, it is one of the 31 National Institutes of Technology in India and is recognised as an Institute of National Importance by the Government of India.

About CleanMax



CleanMax is the sustainability partner for India's leading corporates. Headquartered in Mumbai, we are the largest provider of solar power to commercial and industrial customers.

The company develops projects on turnkey basis, providing cheaper-than-grid solar power without any upfront investment from its customers. With a highly skilled in-house team, CleanMax operates across India, Middle East and South East Asia.

Our track record with India's top companies has made CleanMax a preferred partner across sectors such as Automotive, Pharmaceuticals, Food & Beverages, Information Technology, Education and many other industries. We also partner with some of India's leading government institutions and top universities.

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Website:

www.cleanmax.com