

NATIONAL INSTITUTE OF TECHNOLOGY, KARNATAKA

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
- ❖ Type of modules: Polycrystalline Silicon
- ❖ Type of inverters: String
- ❖ Annual generation: 15 lac kWh
- ❖ Carbon dioxide abated: 1416 tons annually
- ❖ Date of commissioning: September, 2016

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 Solar, India's #1 rooftop solar developer, to set up a 1MW plant on 11 academic, administrative and hostel buildings to cater to 15% of the power requirement at their campus.

The said 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, Team CleanMax Solar has successfully commissioned the plant under a build-own-operate-maintain model. 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.



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. 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 ₹ 5 lakh per month. Thereby, the institute is expected to save about ₹ 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.

KEY 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

KEY HIGHLIGHTS

- ❖ 1 MW installation in collaboration with Solar Energy Corporation of India (SECI)
- ❖ Special lightweight Aluminium structures (from Sapa, a Norwegian manufacturer) have been used to prevent corrosion due to close 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 NATIONAL INSTITUTE OF TECHNOLOGY, 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 SOLAR



Founded in 2011, CleanMax Solar is India's largest onsite rooftop solar developer with 60 MWp installation in more than 130 projects. The company has been awarded best rooftop solar developer as well as best solar EPC player by Ministry of New & Renewable Energy.

Disclaimer:

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Website:
www.cleanmaxsolar.com