

# IIT-Gn gets two solar power plants for research

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TWO photovoltaic (PV) solar power plants have been set up at the Indian Institute of Technology, Gandhinagar (IIT-Gn) to help students learn and study various aspects of the subject.

As part of an understanding with the US-based Underwriters Laboratories (UL), which tests and certifies products, the two plants — each of 10 kWp (kilowatt peak) capacity — have been set up at IIT-Gn's current campus, with the option of shifting it to the new campus when the institute moves.

The first plant was sponsored by NTT Facilities, a Japanese company, and set up and connected on the last day of 2011. It is made up of thin film CIS technology

The second plant, installed one week ago, was sponsored by the Gujarat Energy Development Agency (GEDA) and manufactured by Jain Irrigation Systems, an Indian company. It is made up of polycrystalline silicon materials

Together, the plants have the capacity to produce 30,000 kWh (kilowatt hour) per annum, and authorities calculate it would cut IIT-Gn's carbon emissions by as much as 15 metric tons over 25 years, the expected life of these plants.

"There are hundreds of PV plants in the country now thanks to the National Solar Mission, but I don't think anyone has any idea what to do with them once their life-cycles run out," said Chin-

may Ghoroi, an assistant professor at IIT-Gn's chemical engineering department.

Ghoroi is leading a research with his colleague from the electrical engineering department, Naran Pindoriya.

"The research would focus on whether panels can be recycled or, if not, how can they be disposed of safely. Also, the panels in the two plants are made of different material. Which is better in terms of durability and efficiency will also be studied," he said.

Another matter of research will be the fire safety aspects that would fall in line with UL's agreement with IIT-Gn, which has already set up a national fire registry. This aspect would focus on drawing a protocol to guide firefighters on how fires that are either caused by electricity from PV panels or in places with PV installations should be tackled.

According to Pindoriya, IIT-Gn and Vishwakarma college — the two institutes temporarily share a campus — has a total contracted demand of 350 kilowatt, and the 20 kilowatt from the plants is helping bring this down.

Pindoriya said that the research is also focusing on making accurate short-term predictions of energy output from the above said solar plants. "Making predictions for solar plants requires detailed forecasts. The continuous monitoring that we have set up for the two plants here can give us the tools to make such forecasts," he said.

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