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A GLORIOUS VISION OF A RENEWABLE ENERGY FUTURE

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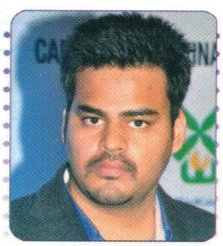
In Conversation



Ketan Mehta
Director, Rays Power Infra(P) Ltd.

Gujarat Scientists float Novel Concept for Solar Power Generation

A time may soon come when farmers who feed the people of India will also produce electricity to feed the national power grid.

That is the conclusion of an innovative study by Tirumalachetty Harinarayana, director of the Gujarat Energy Research and Management Institute (GERMI) Research Centre in Gandhinagar, and Vasavi Kamili, a student of the Medha Engineering College in Hyderabad.

Their research published Feb 11 in the online version of the international journal "Smart Grid and Renewable Energy" suggests that farmers can use their land for dual purpose rather than growing only food crops.

While continuing to grow foodgrains, farmers may simultaneously produce power by laying a roof of appropriately configured photovoltaic (PV) solar panels over the same land to generate electricity from sunlight, Harinarayana told in a statement. The power so produced can be used to pump water for irrigating their crops and any excess electricity generated may be sold to the power grid.

In other words, farmers can augment their income by renting out their land to the government or to the solar developer who will erect the solar panels while they grow food crops as usual in the same land. The scientists have found this novel concept feasible after ensuring -- through computer modelling studies -- that the reduction in sunlight caused by the solar roof has no adverse impact on the growth of crops below.

Their studies have shown that a set of PV panels placed at a height of five metres above the cultivated land and "arranged like a chess board with gaps in between" was the ideal configuration that would allow enough sunlight to fall on the crops while generating power at the same time.

They claim that the observed small reduction of sunlight may in fact help the plants to grow better as the reduction was limited to noon time when the level of harmful ultraviolet radiation coming from the sun is high.

For the purpose of computer modelling, the scientists used the solar radiation data pertaining to places in Andhra Pradesh and Tamil Nadu where mostly rice is grown, and wheat growing states of Uttar Pradesh and Punjab.

The novel idea is the latest innovation of GERMI scientists who had earlier made two proposals. One involves stacking two layers of solar PV panels one above the other, separated by a small distance, instead of using a single layer. They showed that using this approach, a given land area can be used to generate 70 percent more energy than what is possible with a single layer solar panel. In the second proposal, they claimed that India's major roads can double as "solar highways" by having a roof of solar panels over their entire length ■

Solar Energy Corp gets Electricity Trading Licence

Solar Energy Corporation of India, which has been set up to develop the solar power sector, has received inter-state electricity trading licence. The Central Electricity Regulatory Commission (CERC) has approved 'Category III' inter-state power trading licence to the company. Among others, an entity should have a net worth of Rs 5 crore to be eligible for trading licence under Category III -- where there is some limit on volumes of electricity that can be traded.

"We are satisfied that the applicant company meets the requirements of the (Electricity) Act and the Trading Licence Regulations for grant of inter-state trading licence for Category III," the regulator said in an order dated April 1.

The licence has been issued subject to certain conditions including limit on trading volume. In exceptional circumstances, SECI can undertake trading in electricity up to the maximum of 120 per cent of the volume of trade authorised under the licence granted to it.

Solar Energy Corporation of India (SECI), set up in September 2011, comes under the administrative control of Ministry of New and Renewable Energy.

Mandate of SECI allows wide ranging activities to be undertaken to facilitate implementation of JNNSM (Jawaharlal Nehru National Solar Mission) besides it has the objective of solar technologies and inclusive solar power development in the country ■