

How soon can solar power outshine conventional electri

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New Delhi: Pankaj Pandit, who runs an Indian Youth Hostel franchisee in the Navi Mumbai suburb of Kharghar, decided to switch over to solar energy from conventional power some years back.

All he required was to install a one-kilowatt (KW) rooftop solar plant on his terrace. Several quotations for installing such a plant from industry players during the last few years have but failed to enthruse him, and he is yet to close a deal. He says he did several cost analyses, but did not seem to make any economic sense.

Good news is he has seen the economics of making the shift to

solar power getting better each year. An avid environmentalist, Pandit says his individual efforts may not have borne fruit, but India's solar energy economics as a whole, especially for commercial properties and industries, was headed in the right direction.

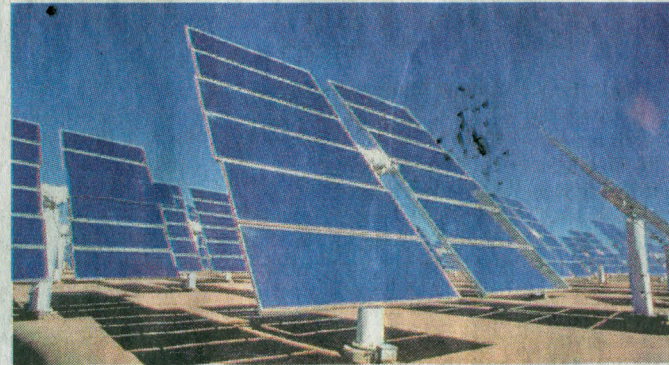
As per his calculation of the net cash flow from one kilowatt of solar photovoltaic (PV) system at the capital cost of Rs 1.56 lakh per unit, he will get paid back in the eighth year at an internal rate of return (IRR) of 8.13%.

The flip side is that he will be able to meet just one-third of his total energy requirement of 500 units per month from this solar plant. The Maharashtra State Electricity Distribution Co Ltd

(MSEDCL) is currently charging him Rs8.5-10.5 per unit as per slab applicable per consumption.

Another big challenge for him would be getting his home appliances' voltage tuned to solar power. For instance, he will have to replace all existing fans at his hostel, which run on alternating current (AC) voltage, to direct current (DC) voltage fans. He will not be able to run his air conditioners (ACs) on solar power as there are no low-intensity current ACs easily available in the market today.

"Solar power can be efficiently used for low-intensity current applications like DC lighting, fans, LED flat TVs, but is not practical for high current applications like conventional ACs, TVs, micro-



waves, water geysers, etc. We will have to look at a hybrid energy solution for my hostel," he says.

Like Pandit, there are many other green enthusiasts who are trying to figure out how to replace

fossil fuel electricity with solar energy and are finding that slowly all the pieces are coming together to make it happen.

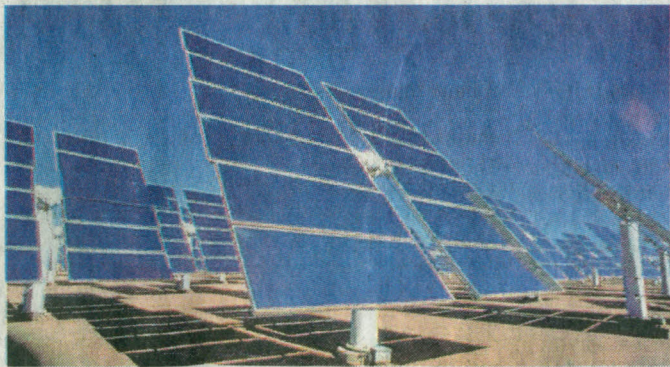
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Source Energy, which has installed capacity of 10 megawatt (mw) rooftop solar plants in the country till now, says the last couple of years has seen the alternative energy correcting and some signs of 'stability' were now being seen.

"India, in the last couple of years, has learned very fast (about the solar power). So, the market has corrected itself. Prices are more or less stabilising. But, it just takes one bidder to come and destabilise the whole thing," he says.

Gaurav Mathur, CEO of Trina Solar India Pvt Limited, which has over one gigawatt (GW) of power plant installations in India, believes that India's cost competitiveness for producing solar ener-

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Gaurav Mathur, CEO of Trina Solar India Pvt Limited, which has over one gigawatt (GW) of power plant installations in India, believes that India's cost competitiveness for producing solar ener-

gy has improved over the last five years with tariffs dropping from Rs15-17 per kilowatt-hour (kwh) to Rs 4-5 per kwh.

And with the scale of solar plants getting bigger by the day, we could see solar prices in India, which is blessed with abundant sunlight, becoming even more competitive.

"As far as tariff is concerned, developers are doing a detailed cost analysis of the (power) plants to see if they can save even a penny. It is the scale (of power projects) that is making them (developers and investors) look at India. Few years back, people were talking of 50 mw, now they are talking of 100-200 mw for a single-location plant," he says.

