

# Roof over roads to tap solar power

**Gandhinagar:** India's major roads may double up as solar highways, if an innovative proposal by some scientists gets the government's approval. The proposal is the brainchild of scientists at the Gujarat Energy Research and Management Institute (GERMI) in the state capital.

In a paper just published in the International Journal of Energy, Environment and Engineering, the scientists say highways can be used to generate solar power, if a roof of solar panels was laid over them, across the length of the roads.

The photovoltaic (PV) panels that convert sunlight into electricity is normally spread out on land. "While the price of PV panels is falling day by day, the price of land and its availability are constraints in the development of solar power, espe-



**SUNNY SOLUTION**

cially in India," says Tirumalachetty Harinarayana, director of GERMI and one of the authors of the paper.

"Our proposal overcomes this obstacle by using the space over the highways for placing the PV panels," Harinarayana told this agency. "This space can contribute to energy generation without extra land costs."

The proposal by Harina-

rayana and co-worker Pragya Sharma is based on case studies they carried out on two highways passing through Gujarat, using computer simulation.

From their computations, they estimate that a PV roof cover over the four-lane 205-km-long Ahmedabad-Rajkot highway can generate 104 mw of power while the Ahmedabad-Vadodara national highway,

93-km-long, can generate 61 mw of electricity.

"We can suggest that the same concept can be extended for use on the 52,584-kilometre-long national and state highways in India with four lanes or more," the scientists said.

The four-lane 5,839-km-long Golden Quadrilateral Highway, for example, connecting Delhi, Mumbai, Chennai and Kolkata, can potentially generate 4,418 mw of power while the North-South-East-West Corridor highway of 7,300 km connecting Srinagar, Kanyakumari, Porbandar and Silchar has 5,524 mw capacity of power generation.

"If having solar panel roof over the national highways proves successful, one can think of using all our rail network as well for solar energy generation," Harinarayana said. IANS