

• FRIDAY, OCTOBER 19, 2012 •

THE HINDU

INDIA'S NATIONAL NEWSPAPER SINCE 1878



Sun to the rescue

Concentrated solar power projects could be the key to India's secure power future, says a new report

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A recent report released by the Council on Energy, Environment and Water (CEEW), an independent policy research institution in collaboration with the U.S. based Natural Resources Defence Council (NRDC), has shown that concentrated so-

lar power could play an essential role in achieving a secure and diversified energy future for India, especially to deal with the issues of energy blackouts.

The report titled "Concentrated Solar Power: Heating up India's Solar Thermal Market under the National Solar Mission" states that India has

jump started its solar energy industry in just over two years, thanks to Phase-I of the National Solar Mission. A major contributor to this growth is solar thermal power, including seven large-scale concentrated solar power (CSP) projects now underway in India.

Concentrated solar power involves systems of mirrors that concentrate a large area of sunlight onto a small area. The concentrated light is converted to heat, with a turbine and electrical power generator — converting the heat into electricity. Since CSP allows for storage of electricity, large-scale CSP presents several po-

tential benefits for India's energy profile. These include supplying electricity to help India meet its base-load needs, providing supplemental electricity during times of peak usage and ensuring grid stability.

The report focuses on the progress of CSP projects during Phase-I, identifying the benefits of and barriers to CSP growth in India. The report also provides recommendations to strengthen the role of CSP in subsequent phases of the mission. "It is essential that under Phase-II, the government does not force a false choice between concentrated solar power and photovoltaic technologies," Arunabha

Ghosh, CEO of the Council on Energy, Environment and Water, the New Delhi-based policy research institution said.

"With greater confidence, investment, and transparency, both sectors have the potential to strengthen India's energy profile while creating new business opportunities for domestic developers, manufacturers and suppliers, and technology innovators," he added.

The first phase sparked India's CSP market, as the government allocated power production evenly between CSP and photovoltaic (PV) technologies. The large-scale CSP projects now underway in



DIVERSIFIED USE: Solar power can help deal with energy blackouts. PHOTO: SUSHIL KUMAR VERMA

India will provide a projected 500 MW in energy capacity, a huge jump from the 8.5 MW of energy capacity under CSP projects before the National

Solar Mission began in 2010. Despite the anticipated acceleration of CSP, however, several barriers exist that challenge the long-term sus-

tainability of India's CSP industry. These include the length of time required to develop CSP projects, high initial capital costs and a lack of confidence in the CSP market as a whole. CEEW and NRDC's report provides recommendations for the Indian government, private sector and other stakeholders to ensure a robust CSP ecosystem develops to support long-term feasibility.

The report recommends that the Ministry of New and Renewable Energy could help ramp up India's solar mission by laying out a clear roadmap for Phase-II, without locking in one technology.