



## Solar Billboard Installed at Rajkot Corporation Office

The Rajkot Municipal Corporation installed a 165 Wp solar billboard at the Central Zone Office building of Rajkot Municipal Corporation to display the variety of applications that solar energy, specifically solar photo voltaics, may have. In addition to serving as a model demonstration, the billboard intends to increase awareness in the local community about pressing climate and public issues, by displaying the major activities of RMC along with messages of traffic situation, accident occurrence, pollution, flooding, VIP movements / processions in the city, school timings etc.



### Background and purpose

In the attempt to bring about greater awareness within the community about solar energy as a viable energy source, the Rajkot Municipal Corporation decided to undertake the solar billboard project. The system will serve also as a study model and will be monitored for technical, economic and social gain. The system will be used as a demonstration project of renewable energy and will be studied and monitored for technical, economic and social gain. First hand experience will be gained from such pilot projects, which will help to large scale dissemination of renewable energy systems on commercial and institutional buildings around the cities.

The purpose of the project is:

- To create awareness and demonstrate effective alternate solutions for energy in community / institutions in urban area
- To showcase a way to reduce the burden on conventional electricity in cities / towns facing shortage of power especially during peak hours

### About the activity

Rajkot has been approved by the Ministry of New and Renewable Energy (MNRE) to be developed as a solar city under the National Programme on the Development of Solar Cities. After preparation of the city's Solar City Master Plan, Rajkot designed pilot projects for implementing the findings in the master plan document. One such pilot is for the installation of a solar billboard at the corporation's central zone office. The design for a 165 Wp, 10' x 20' hoarding was to be funded equally by the RMC and the MNRE.

The system uses 10 LED lamps backed up by two batteries to illuminate the billboard after dark. The systems will be installed in the central zone office complex of RMC and will be opened for interested public and entrepreneurs. Most conventional billboards employ 4 to 12 lamps and consume a vast amount of energy. This power, if saved, can reduce the peak load demand in cities and towns especially during 6 pm to 10 pm. Rajkot Municipal Corporation (RMC) will be the direct beneficiary of the project. RMC is responsible for providing the basic services infrastructure to city dwellers.



Individual/ Pilot application as per project				Potential for Citywide Application			
Annual energy reduction	Annual CO <sub>2</sub> emission reduction	Cost of electricity	Annual cost savings	Annual energy reduction	Annual CO <sub>2</sub> emission reduction	Cost of electricity	Annual cost savings
248 kWh	0.21 Tonnes	₹4.5/kWh	₹ 1100	50 MWh	42 Tonnes	₹4.5/kWh	₹ 0.22 million

## Outcomes, lessons learnt and replication

The solar hoarding was installed and commissioned in 2011. This is the first time a solar hoarding project had been undertaken in the city of Rajkot and the process provided a unique learning experience, both for the corporation and the local partners engaged in project implementation. The solar powered hoarding / bill board in the central zone office building will provide several benefits including providing a public platform for awareness generation, reducing the dependence on conventional energy, reduction in carbon emissions. While the high capital investment required may be considered a deterrent, the attractive rate of return on investment

was a driver for the corporation to undertake the project. The obstacle of the corporation not having ready capacity to operate and maintain the hoarding was solved in a strategic manner: the technology provider will operate, maintain and monitor the project for the first five years, while training the RMC staff during this period. The system will be then fully handed over to the RMC at the end of the contract period. Thus, through knowledge transfer, the RMC is able to build capacity for undertaking such projects at a larger scale in the future. The project investment was approximately ₹ 0.15 million with ₹ 0.075 million co-funding by the RMC and ₹ 0.075 million from MNRE Subsidy.