

CDM BUNDLED SOLAR WATER HEATER PROJECT – INDIA

Objective: The generation of renewable energy which will reduce CO₂ emissions

G K Energy Marketers Private Limited CDM project aims to reduce electricity generated from fossil fuel, hence CO₂ emissions, by installing solar water heaters in households, as well as in commercial, institutional and industrial facilities to cater the low temperature hot water requirement.

Background:

- > The majority of power in India is generated by old coal-fired power stations with relatively low thermal efficiencies. These power stations emit high levels of CO₂.
- > Furthermore power demand often exceeds supply resulting in brown outs.
- > To avoid brown outs it is necessary to either save energy or to produce more power. For environmental reasons it is preferable to generate additional power using renewable technologies.

Project description

- > Through the CDM project solar water heaters will be installed in households as well as in commercial, institutional and industrial facilities to provide thermal energy to the end user in the form of hot water.
- > In urban and semi-urban areas of India - the regions targeted by the project - the most common method for heating water is the use of electric geysers. In most regions, the solar water heaters will be able to provide hot water 250 days per year, reducing greenhouse gas emissions through the displacement of coal fired electricity generation.
- > The solar water heaters are made up of flat plate collector and evacuated tube collector based systems which absorb thermal energy from the sun and convert it into usable heat. The project envisages the installation of 63,900 m² of solar water heaters in the states of Maharashtra, Gujarat and Karnataka.



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Benefit: By end of 2012 about 54,970 tonnes of CO₂e will be avoided by the CDM project

- > The water heated by the solar water heaters can be used for day to day activities, reducing the electricity demand.
- > After the installation of 63,900 m² capacity approximately 22,746 tonnes of CO₂e will be abated annually.
- > The local benefits can be measured in energy savings in the household, in the commercial, institutional and industrial facilities and at the national level the project makes an important contribution to the economic development of the country.
- > The project activity reduces the peak load demand and grid fluctuation problems as it saves electricity which would have been used to heat household water.
- > The project also encourages sustainable development with the reduced use of fossil fuel based grid electricity.
- > The use of the solar water heaters reduces the energy cost of the households and small businesses.
- > Furthermore the project creates job opportunities during the manufacturing, installation and maintenance of the solar water heaters.

Project title	Bundled Solar Water Heater Project
Project type:	Demand-side allocation of thermal energy
Host country:	India
Project status:	Registered as CDM project activity at UNFCCC since November 12th, 2010
Crediting period:	10 years, (Fixed), Start: November 12th, 2010
Emission reduction start:	November 12th, 2010
Average Emissions reductions p.a.:	22,746 t CO ₂ e