

# CDM SOLAR WATER HEATER PROJECT – BANGALORE, INDIA

## **Objective: The generation of renewable energy which will reduce CO<sub>2</sub> emissions**

Anu Solar Thermal Private Limited's programme iHOT aims to reduce electricity generated from fossil fuel, hence CO<sub>2</sub> emissions, by installing solar water heaters mainly in households.

## **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 CO<sub>2</sub>.
- > 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 iHOT programme solar water heaters will be installed in households as well as hotels, hospitals and other small businesses 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 300 days per year, reducing greenhouse gas emissions through the displacement of coal fired electricity generation.
- > The solar water heaters are made up of evacuated tubes which absorb thermal energy from the sun and convert it into usable heat. The programme envisages the installation of 400,000 m<sup>2</sup> of solar water heaters per year. The programme has already started with eight separate projects in and around Bangalore with 64,000 m<sup>2</sup> of solar collector area per project.



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**Benefit: By 2012 about 330,000 tonnes of CO<sub>2</sub>e will be avoided by the first eight projects**

- > The water heated by the solar water heaters can be used for day to day activities, reducing the electricity demand.
- > After the installation of 512.000 m<sup>2</sup> capacity by mid 2012 means approximately 236,000 tonnes of CO<sub>2</sub>e will be abated annually.
- > The local benefits can be measured in energy savings in the household, hotels, hospitals et cetera 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 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 households and small businesses.
- > Furthermore the project creates job opportunities during the manufacturing, installation and maintenance of the solar water heaters.



<b>Project title</b>	<b>iHOT - water heating service</b>
Project type:	Demand-side allocation of thermal energy
Host country:	India
Project status:	1st Project is registered as CDM project activity at UNFCCC since January 10th, 2011, other 7 in Validation
Crediting period:	January 10th, 2011 (first project);
Emission reduction start:	Spring 2009
Average Emissions reductions p.a.:	29.000 t CO <sub>2</sub> e per project