



SUN & WIND ENERGY

THE MAGAZINE for Renewable Energies

PHOTOVOLTAICS

Turnkey solutions: better choice for production?

SOLAR THERMAL

Plastics – material of the future?

WIND ENERGY

Major trade shows worldwide in 2009

GREEK PV MARKET

Bright perspectives in Hellas?

BUILDING INTEGRATION

Boundless possibilities

SOLAR THERMAL INDIAI MANUFACTURERS

In a wide category of buildings, like hospitals, hotels, individual residential buildings of more than 150 m² plinth area, in airports. Several state governments have incorporated this in their laws, including Andhra Pradesh, Maharashtra, Tamil Nadu, Rajasthan, Haryana, Uttar Pradesh, Uttaranchal and Chandigarh. This has made the real estate sector one of the important markets for solar thermal technologies. Builders and developers grasped the opportunity to include SWH as an amenity for the residential apartments and villas. The Magarpatta Township in Pune city is a prime example for the use of SWH. Located in Western India, this community will utilise just over 10,000 m² of solar water heaters of 125 litres per day capacity for approximately 5,000 residents. It has earned a place in the Limca Book of Records published in India (see S&WE 4/2007, page 58).

The Indian government has a special interest rate for SWH. It is offered at some of its nationalised banks and other private sector banks which have played a critical role in the growth of this market. The demand at the banks was much higher than the amount offered. Despite these difficulties, solar water heaters in India have now reached a stage of sustainable cost and have gained a wide acceptance in the population even with-

out the various incentives and subsidies. India's engineering industrialisation is also growing at a rapid pace and several industries like textiles, dairy products, food processing, pharmaceuticals and poultry farms require hot water at moderate temperatures from 40 °C to 60 °C. These are perceived as the business sectors for industrial SWH and the future could witness a frenzied development activity in them.

The domestic demand and the positive market response are promising signs that the plans of the government to meet 10 % of the country's energy demand from renewable sources by 2012 under Renewable Portfolio Obligations can be realised. Industrial demand for hot water in the future, using solar energy, will make the realisation of the government's plans more probable. Due to the vast geographical locations, it is essential that more manufacturers from other regions need to come forward to serve local needs. India is currently facing a shortage of skilled manpower and the skilled manpower at a steep price. This could slow down manufacturing activities. The future depends on the ability to attract young professionals to contemplate this as a career option.

Jaldeep N. Malaviya

Manufacturer	Type of system	Year of launch	Production surface m ² /yr 07-08	Collector type	Type of bonding technology	Absorber coating	Type of absorber	Material of mounting system	Lifetime (years)	Available in which countries	Website
Sudarshan Saur Shakti, Aurangabad	closed	1989	7,000	flat	ultrasonic welding	black chrome	copper	galvanised, aluminium	25	India	www.sudarshan.com
NRG Technologists, Vadodara	closed	1985	4,000	flat	soldering, ultrasonic welding	black chrome	copper	galvanised,	20	India	www.nrgtechnologists.com
Jain Irrigation, System, Jalgaon	closed	1994	13,000	flat	ultrasonic welding	black chrome	copper	galvanised, aluminium	15	India	www.jains.com
Kotak URJA Private Ltd., Bengaluru	closed	1997	24,000	flat	ultrasonic welding, mechanical clamping	blue, black chrome	copper aluminium	galvanised, aluminium	20	India, Europe, Africa	www.kotaurja.com
TATA BP Solar India Ltd., Bengaluru	closed	1991	50,000	flat	ultrasonic welding	black chrome	copper	galvanised, aluminium	20	India	www.tatabpsolar.com
Vijaya Industries, Bengaluru	closed	1995	12,000	flat	n/a	black chrome	copper	galvanised, aluminium	20	India	-----
Kaushal Solar, Pune	closed	1993	3,300	flat	ultrasonic welding, laser welding	black chrome	copper	galvanised, aluminium	20	India	www.kaushalsolar.com
Velnet Non-Conventional Energy System, Bengaluru	closed	2003	11,600	flat	ultrasonic welding, tig welding	black chrome	copper	galvanised, aluminium	10	India	www.kamalsolar.com
Solochrome Systems India Ltd., Parwanoo	closed	1987	22,384	flat	ultrasonic welding, laser welding	black chrome	copper	galvanised, aluminium	20	India	www.solochrome.com
Enolar System, Bengaluru	closed	1991	5,000	flat	ultrasonic welding, laser welding	blue, black-chrome	copper	galvanised, aluminium	15	India	----
Rashmi Industries, Bengaluru	closed	1997	25,000	flat	ultrasonic welding, laser welding	black chrome	copper	galvanised, aluminium	20	India	www.rashmiindustries.com
Bipin Engineers, Pune	closed	1991	12,000	flat	ultrasonic welding, laser welding	black chrome	copper aluminium	galvanised, aluminium	15	India	www.bipsun.com
Emmvee Solar System, Bengaluru	closed	1992	57,800	flat	ultrasonic welding, laser welding	blue, black chrome	copper	galvanised, aluminium	25	India	www.emmveesolar.com
Anu Solar Power, Bengaluru	closed	1989	18,000	flat	ultrasonic welding, laser welding	black chrome	copper	galvanised, aluminium	15	Dubai, South Africa	www.anusolar.com
Akson's Solar Equipments Pvt. Ltd., Pune	closed	1998	4,000	flat	plasma welding	nickel chrome thin film deposition	copper	galvanised, aluminium	30	India	www.aksonsolar.com

15 leading manufacturers of flat plate collectors in India were asked on their collector production and their achievements during the period from April 2007 till March 2008.

Source: MNRE, New Delhi