

News for the month of January 2015

CSH manufacturers hold high expectations for RE-INVEST



The maiden Renewable Energy Global Investors Meet & Expo (RE-Invest) will be held from 15-17 February 2015 in New Delhi, as a follow-up to the 'Make in India' initiative launched by the Prime Minister of India. The central theme of RE-Invest is to attract large scale investments for the renewable energy sector in India.

The event will showcase Indian and global exhibitors of solar thermal water heating, process heat, cooling, cooking, air drying and desalination systems. Suppliers of components and raw materials related to solar thermal engineering will also be present

Abhishek Bhatewara of Clique solar mentions "From returns perspective, use of concentrated solar thermal for substituting industrial fossil fuels such as furnace oil, diesel, LPG etc. is most attractive. With government incentives and accelerated depreciation, the equity IRR s are over 30%, which is very attractive compared to the returns on other solar projects. With increasing awareness, we believe the investment in this sector, at project level as well as corporate level should follow. RE-INVEST should help in attracting global partners and we welcome the initiative taken by the government for foreign investments in India."

Dr. Ramakrishna Sonde, Executive Vice President at Thermax Limited candidly states "we are a key player in energy security and developed reputation in manufacturing renewable energy technologies. Investment in renewable energy is the way forward as India is taking rapid strides in its augmentation and this event is just rightly positioned."

Geetanjali Patil Choori, CEO & Co-Founder, Energy Guru says "We are looking to attend RE-INVEST event. Definitely investment in CST is needed both from domestic and international sources. Considering increased focus on solar investments from global investors, definitely this event would help get better access to global investors".

RE-Invest will be the first major platform for investment promotion in this sector at Government of India level to signal India's commitment to the development and scaling up of renewable energy to meet its energy requirement in a sustainable manner. This will enable the global investment community to connect with renewable energy stakeholders in India. The event is expected be attended by over 200 investors and over 1000 delegates, both domestic and international. Besides, representatives from State Government, Public Sector Enterprises, renewable power developers and manufacturers, state renewable energy nodal agencies, and other related stakeholders will play important roles.

The event is proposed to be inaugurated by the Hon'ble Prime Minister of India on 15th February 2015.

<http://www.re-invest.in>

Rationalising subsidies, mandatory compliance, excise cuts sought to bolster manufacturing



Photo courtesy: Malaviya Solar Energy Consultancy

With February around the corner the buzzword in the country in trade sphere is habitually the annual Union Budget. Since the BJP-led NDA's coming to power in May 2014, this will be the first full Budget in February, 2015 that will be presented by their Hon'ble Finance Minister.

The overall industry feels that the first full budget of the NDA government in February 2015 will provide useful insights on the path it has been aggressively pursuing on growth in solar energy. A focus on renewable energy development, particularly solar energy, is a pillar of the government's administration's policy to provide India with energy security and expand the provision of electricity. It is looking upon solar energy as having the potential to completely transform the way one looks at the energy space.

The wish lists from solar thermal manufacturers are aplenty in the Budget to be presented. The common demand from all the manufacturers imminent is rationalising subsidies so that it creates level playing field as the present structure portrays indefinite availability of funds. It will also bolster manufacturing prospects.

Natraj Iyer at Forbes Marshall has one point wish list to make installation of CST systems mandatory for any industry using a fossil fuel operated boilers. He further states "As a company we would even recommend a complete abolishment of the subsidy. If at all that has to be continued it should reward efficiency and not inefficiency like it does now."

Abhishek Bhatewara of Clique Solar wants the approval of Integrated Finance Division for commencement of each project be simplified to ensure commencement of projects in time. Like Iyer he also considers mandatory imposition of solar thermal in industries vital and commence with public sector undertakings considering the direct savings of fuel oil/coal. Interestingly he brings an observation why solar thermal process heat not be bought under Renewable Portfolio Obligation (RPO) as it saves power and power saved is multiple time power generated.

Officials at Thermax Limited demand for clear excise exemption on complete solar thermal system and not just the collector. Even mirrors classified for use of solar energy must get customs exemption.

All hopes are pinned when the Hon'ble Finance Minister unveils his plans on 28th February 2015.

<http://indiabudget.nic.in/>

Obama backs India's solar energy ambitions



(Photo courtesy: Reuters, India)

U.S. President Barack Obama offered to help finance India's ambitious solar energy target and sought Prime Minister Narendra Modi's support at global climate talks in Paris later this year. "We very much support India's ambitious goal for solar energy, and stand ready to speed this expansion with additional financing," Obama said in a joint press conference with Narendra Modi on 25th January 2015 during his visit to India. Modi has made it a priority to expand India's renewable energy capacity and lessen the need for polluting fossil fuels.

The United Nations asked governments on Thursday to submit plans to cut greenhouse gas emissions as the building blocks of a deal due in Paris in December to limit global warming, after scientists said 2014 was the hottest year on record. Modi said a deal between Washington and China committing to a peak year for emissions did not put pressure to do the same on India, where industrialization is far behind its larger neighbor and where hundreds of millions have no electricity. He further said a deal between Washington and China committing to a peak year for emissions did not put pressure to do the same on India, where industrialisation is far behind its larger neighbour and where hundreds of millions have no electricity.

The United States will provide funding assistance to boost India's solar energy capacity that can help the country lower its carbon emissions. To ramp up its ambitious solar energy plans it requires investments of \$100 billion. The U.S. Export-Import Bank is exploring projects \$100 billion in clean energy financing for companies willing to ship equipment from the United States to India.

To further mobilize private capital for the clean energy sector, the U.S. Agency for International Development will install a field investment officer in India this summer, the White House Press Office said in a statement after the summit.

India is the world's third-largest greenhouse gas emitter and often acts as the voice of the world's developing countries in United Nations talks on everything from climate change to economic cooperation.

In the solar thermal sector the country has an impressive cumulated installed capacity of 40,418 m² from 163 projects of concentrated solar systems and 8.63 million m² of solar collector area until December 2014 and is amongst the top 5 markets in the world. There is still adequate scope to make better the existing technologies and the USAID funds under clean energy financing can be useful for carrying R&D.

<http://pmindia.gov.in/en/>
<http://www.usaid.gov/>

Workshop on CSH systems charms participants



With the objective of penetrating the community cooking and process heat industries and promoting concentrating solar thermal systems and also overlooking the myths ATE Enterprises Pvt. Ltd. (ATEEPL) organized a workshop for potential clients drawn from educational institutions and industries from Maharashtra.

Dr. Vishal Sardeshpande of ATEEPL in his presentation presented with a case study on optimal utilization of concentrated solar thermal systems for meeting heating requirements. Somesh Shah, technical officer in the UNDP-GEF CSH project presented overview of their programme. He mentioned that 53 projects were sanctioned so far under the programme totaling an area of close to 16,000 m² and it was a unique feat achieved in the world by any country. The various knowledge documents and publicity measures like newsletter, magazine and Helpline were key to awareness generation and as a result the country is witnessing growth in the concentrated solar thermal heating applications.

An interesting experience shared by one of the end user Dr. Patricia Gokhale of Girivanvasi Educational Trust in western Maharashtra was that the concentrated solar thermal system enabled faster cooking of the evening meals. The cooking time of evening meals using firewood would continue until 6:30 pm but the solar thermal system finishes cooking by 4:30 pm. As a result the workforce involved for cooking meals were able to have spare time and could carry extra activities.

Another beneficiary Pramod Wakodkar who runs a laundry business shares that the hassle of fetching wood has considerable reduced. In present circumstances fetching wood is highly cumbersome and drying for removing moisture jungle wood is an extensive situation. He praised the technology provided by ATE as it was able to even sustain hailstorms and by no means damaged the mirrors.

A miserable story shared by one of the participants Chandrakant Bhogale of Sky Clean drycleaners who had commissioned a concentrating solar thermal system for their cooking requirements in March 2015 and informed since then that the system never delivered required hot water owing to faulty installation. The investment was around Rs. 20 lakh and they had to dispose the system at throw away price. Their objective to attend the event was to get first hand information about the technology from ATE and returned satisfied sharing a positive feedback.

Finally a field trip to the R&D centre of ATEEPL was highlight of the event as it enabled the participants get practical information on the actual working of the system.

<http://www.cshindia.in>

<http://www.ategroup.com>

Novel concentrating solar thermal cooling system designed



(Photo courtesy: University of California)

Researchers at University of California (UC) Merced have designed and patented the next-generation non-tracking solar thermal collector—the Internal Compound Parabolic Concentrator (ICPC), which combines the thermal receiver and the non-imaging concentrator into a single vacuum tube. “The XCPC is a research highlight so far in UC Solar’s nearly two years of operation” said Roland Winston, director of UC Solar and a professor of engineering and natural sciences at UC Merced.

A solar thermal cooling system using novel nontracking external compound parabolic concentrators (XCPC) has been built at the University of California, Merced and operated for two cooling seasons. Its performance in providing power for space cooling has been analyzed.

This solar cooling system is comprised of 53.3 m² of XCPC trough collectors which are used to power a 23 kW double effect (LiBr) absorption chiller. This is the first system that combines both XCPC and absorption chilling technologies. Performance of the system was measured in both sunny and cloudy conditions, with both clean and dirty collectors. It took, on average, about 2 hours for the collector system to reach operating temperatures between 160 to 180 °C. When operated in this temperature range, the XCPC collector array collected solar energy with an average daily efficiency of 36.7% and reached instantaneous efficiencies up to 40%. The thermal coefficient of performance (COP) of the system (including thermal losses and COP of absorption chiller) averaged at 0.99 and the daily solar COP of the entire system averaged at 0.363.

It was found that these collectors are well suited at providing thermal power to drive absorption cooling systems and that both the coinciding of available thermal power with cooling demand and the simplicity of the XCPC collectors compared to other solar thermal collectors makes them a highly attractive candidate for cooling projects.

The XCPC has been successfully tried and tested at Ulan Bator, Mongolia, coldest capital in the world and Al Khaleej Sugar Refinery in Jabel, UAE.

B2U, a Silicon Valley startup, collaborated with the UC Merced solar group to develop the XCPC and is applying the technology in the United States, India and China for solar process heat and air conditioning.

The XCPC's numerous potential applications include solar heating, cooling, desalination, oil extraction, electricity generation, and food processing. The development has led to lowering of cost, made the system lighter in weight and also increased thermal efficiency as claimed by the developers.

<http://research.universityofcalifornia.edu/stories/2011/10/solar.html>