

Energy Management Solutions for SMEs: WSDS 2020 Thematic Track

29th January 2020 | TERI, New Delhi

IGES and TERI collaborated to organise a thematic track on Energy Management Solutions for SMEs on 29th January 2020, at the World Sustainable Development Summit (WSDS) 2020, held in New Delhi. The objectives of the thematic track were the following:

- Lessons learnt by different stakeholders undertaking energy efficiency activities among SMEs
- Discuss strategies to develop and replicate cluster-level energy management models for SMEs

The key points from presentations and discussions at the thematic track are summarised below.

Mr Girish Sethi, Senior Director, TERI

- This event reflects the successful cooperation between Japan and India over many years in the field of energy, including improving energy efficiency (EE) in the Indian MSME sector, and provides a platform for the delegates to share their experiences, insights and ideas. The discussions would throw light on the capacity building needs of MSMEs and business models for accelerating the adoption of new technologies.

Prof. Kazuhiko Takeuchi, President, IGES

- EE in the industrial sector has a key role to play in helping India achieve its NDC targets for carbon emission reductions.
- Among large-scale industries, the PAT scheme is an outstanding success story in comparison to other similar schemes elsewhere in the world. Key to the success of PAT is its unique model of setting targets for EE based on specific energy consumption (SEC), providing incentives for maximizing EE through a market trading mechanism for 'excess' energy savings, and Monitoring and Verification (M&V) of actual energy savings.
- The sheer diversity of the MSME sector presents a challenge for promoting EE on a large scale. The 'Energy Conservation Guidelines for MSMEs' prepared by BEE and TERI is a significant initiative to overcome this challenge.
- In Japan, free energy audits and subsidy for EE equipment have promoted energy savings among SMEs.
- He mentioned the JITMAP (Japan India Technology Matchmaking Platform) launched by IGES and TERI to promote cleaner technologies, and also acknowledged the support received from JICA to promote cleaner technologies under SATREPS project. Citing the meeting of the G20 Ministerial Group on Energy and Environment which he attended the previous year, he said it is encouraging

that the world is now recognizing that experts and stakeholders in both energy and environment have to work together to address the issue of global climate change.

Mr Milind Deore, Director, BEE

- EE and energy conservation initiatives will together help meet over 50% of India's NDC targets.
- The contributions and support of Japan have helped in formulating and implementing PAT and other EE initiatives in Indian industry.
- The PAT scheme's 'carrot-and-stick' approach will not work in the MSME sector, where EE interventions have to include components of energy mapping, technology development and demonstration, awareness generation, and capacity building. BEE is exploring a mechanism under which, even if EE standards cannot be made mandatory for MSMEs, units can be incentivized to achieve the set standards—for example, through tradable 'Energy Saving Certificates (ESCerts) as offered under PAT.
- With ongoing inputs from Japanese stakeholders, BEE with support from TERI developed the two Manuals for Energy Conservation (EC): one for large industries and the other for MSMEs.
- He made a detailed presentation on the EC Guidelines for MSMEs and sought the help of TERI and IGES in implementing the EC guidelines

Mr Toshido Maeda, Deputy Director of Kansai Research Centre, IGES

- PAT is noteworthy as being the only scheme of its kind in the world where, after a target for EE is set based on SEC, the energy performance is actually measured, monitored and verified.
- He underlined that an energy audit (EA) is the first vital step to promoting energy conservation and EE in an industrial unit; but the cost of an EA is usually a major barrier for SMEs. To overcome this barrier, Ministry of the Environment, Government of Japan (MOEJ) as well as Energy Conservation Centre, Japan (ECCJ) are providing support to promote energy efficiency among SMEs in Japan. He elaborated on the schemes in Japan. For instance:
 - Free EAs for SMEs. About US \$ 10,000 is the subsidy provided. About 1000 SMEs are covered every year under the scheme.
 - Subsequently, financial subsidy up to 30–50% of the capital equipment cost is also provided (subject to maximum of US \$ 200,000) to those industries that implement the EE measures identified through the EAs.
 - The success of the program is evidenced by the fact that the compliance rate is quite high (70–80%) in terms of implementing EA recommendations.
- He outlined the ongoing cooperation between IGES and TERI through the 'JITMAP' platform, under which free feasibility studies are conducted in Indian industries to facilitate the transfer, adaptation and adoption of Japanese low-carbon technologies (LCTs) such as air compressors, steam systems, etc. He said IGES would be keen to team with BEE in implementing the measures outlined in its manual on 'Energy Conservation Guidelines for MSMEs'.

Mr Kengo Akamine, Senior Representative, JICA

- He summarized JICA's activities in the Indian energy sector through ODA loans, such as for new generation projects and new/upgraded transmission and distribution systems in power sector; and for promoting EE in MSME sector via lines of credit to SIDBI for supporting refinance schemes in regard to EE lending by banks and NBFCs.
- He also presented the profiles of three Japanese companies that have tied up in public-private partnerships with Indian counterparts to promote their innovative energy conservation technologies/strategies:
 - Temperature-controlled solar-powered warehouses (Kawasaki Rikuso Transportation Co. Ltd, Japan & Sufal Bangla Project, Department of Agricultural Marketing, Singur, Bengal, India)
 - EE and RE package for buildings (Advantec Co. Ltd, Japan & EESL, India)
 - Solutions to air pollution using lithium-ion batteries (ITSEV Inc., Japan & Government of Andhra Pradesh, Hyderabad)

Dr Ajay Mathur, Director General, TERI

- He reiterated the challenge of promoting EE among MSMEs, which by their very nature have a low 'bandwidth of risk' and are unable and/or reluctant to consider adopting new/improved technologies and processes due to barriers such as constraints in time and ready financial resources; low awareness levels, lack of technical capacities, and so on.
- The primary need is to evolve and demonstrate successful business models for EE that bring benefits to the end-users as well as to the EE technology suppliers. In this regard, BEE has acquired a huge amount of experience through its various initiatives. The TERI-IGES cooperation through JITMAP, too, shows great potential to scale up the transfer of LCTs from Japan to India. The aim is to develop a program (with IGES and other Japanese and Indian partners) for conducting a 'deep-dive' intervention with Japanese LCTs in the Indian MSME sector.

Roundtable discussions

Dr Anand Shukla, Senior Thematic Advisor, SDC

- He mentioned the successful 'deep-dive' initiative conducted by TERI with SDC's support in the Rajkot foundry cluster. Under the initiative EAs were conducted in 110 foundry units, and in all over 1000 energy conservation measures (ECMs) were recommended for implementation. Most of these ECMs have since been implemented; over 80% of them have a payback period on investment of less than two years, with many requiring no or low investment.

Mr. Yuki Yoshida, Second Secretary (Environment), Economic Section, Embassy of Japan in India

- He outlined the 'Japan's Blue Sky Initiatives', launched by Embassy of Japan in India in 2018. The initiative aims at promoting cooperation in controlling India's air pollution by making full use of Japanese knowledge and technology. JITMAP could provide a platform for taking this initiative further, in cooperation with Japanese companies and organizations.

Dr Nanda Kumar Janardhanan, Research Manager, IGES

- IGES is planning a new initiative which would aim at customizing the Japanese technology to Indian conditions before promoting them.

Dr Debalina Sengupta, Associate Director, TEES Gas and Fuels Research Center, Food, Energy, Water Nexus Coordinator, Texas A&M Energy Institute

- A 'one-solution-fits-all' approach would not work for SMEs due to their diversity. A diversified approach to transform the market is needed. The approach should combine capitalizing on low hanging fruits with deep-dive, development of innovative technology solutions and innovative financing (ESCO). Clearly, more hand-holding is required for the sector.

Mr A K Asthana, Senior Technical Specialist, GIZ

- GIZ is working with BEE on a scheme to improve the efficiency of industries—initially, in the paper and secondary steel industrial sub-sectors. The scheme would explore energy saving opportunities by blending of coal, and voluntary energy savings by a PAT-like scheme.

Mr A Chandra Sekhara Reddy, CEO, APSECM

- He mentioned the work on energy efficiency done by APSECM and TERI in SME clusters. As SMEs are not aware of how to save energy, there is need for more programs focusing on SMEs in India.

Ms Disha Sharma, Energy Efficiency Analyst- India, International Energy Agency (IEA)

- India has adopted an innovative cluster-based approach to save energy among SMEs. There is need to work together with various cluster-level stakeholders like electricity distribution companies, NGOs etc. to effectively implement EE projects.

Mr Ajay Kaundal, HOG (Demand Side Management), Tata Power DDL

- Tata Power DDL has recently conducted EAs of 100 industrial customers with the help of TERI. The EAs reveal that there is lack of awareness about new technologies such as IE3 motors. 96% of all the installed electric motors studied were of low efficiency.
- Lack of financial resources acts as a major barrier for MSMEs to adopt the identified ECMs. A possible solution is to support not only EAs but also the implementation of identified ECMs through subsidy schemes, as is being done in Japan (under the MOEJ program).

Mr Sambit Nayak, Mitigation Specialist- Asia Pacific, Climate Technology Centre & Network (CTCN)

- CTCN is supporting developing countries such as Pakistan, Bangladesh and in the Pacific region on capacity building and on developing new business models.

Mr Debdas Goswami, Senior Advisor, International Copper Association

- In order to scale up EE among MSMEs, three elements must be integrated: ‘man, machine and money’. In essence, it requires the right technology, the right business model to promote the technology, and the right (i.e. enabling) policy environment to spread and sustain replications of the technology.

Mr Subrata Chakrabarty, Manager, Climate, WRI

- He spoke on the work being done under the Corporate Green Leadership Alliance, an initiative by the British High Commission.

Dr Ajay Mathur, Director General, TERI

- Summing up the event, he said that the recipe for successful adoption of EE technologies among SMEs consist of a mix of ‘Right Technology’ with ‘Right Business Model’ and ‘Right Policy’.

