

AEEE HIGHLIGHTS : 2016



***Enabling a Vibrant
Energy Efficient India***

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AEEE Members

AEEE members represent various segments of the energy efficiency (EE) industry - technology, equipment and service providers, consulting companies and varied energy end-users committed to energy efficiency and clean energy. AEEE members also include reputed research and academic organisations. AEEE has a participatory approach involving members and seeking guidance from its knowledge partners and peer organisations.

AEEE supports its members to increase their credibility in the area of energy efficiency by providing a bouquet of value-added, customised services. AEEE creates opportunities for its members that enable scaling of energy efficiency products and services, and also catalyse EE financing.

AEEE currently has over 40 members from diverse sectors, and plans to substantially scale up membership in 2017. AEEE is working towards developing and providing customised services and opportunities readily available to its members and partners, and also accessible to the EE community in general as per the Alliance's policies and guidelines.

PREMIUM MEMBERS

This year, AEEE added 2 premium members: Danfoss India and Saint-Gobain India, taking the total to 8 members in the premium category. All premium members are industry leaders in their domain.

The premium members are (in alphabetical order):

1. Carrier Airconditioning & Refrigeration Ltd. (UTC Group)
2. Danfoss India
3. Grundfos Pumps India Pvt. Ltd.
4. Infosys Limited
5. Saint-Gobain India
6. Schneider Electric India Pvt. Ltd.
7. Siemens Limited
8. SKF India Limited

AEEE has inked MoUs, strategic partnerships & collaborations with key organisations:

1. MoU with:
 - a. American Council for An Energy Efficient Economy (ACEEE)
 - b. Center for Study of Science Technology and Policy (CSTEP)
 - c. CEPT University
 - d. Energy Efficiency Services Limited (EESL)
 - e. Lux Veritas
 - f. NITI Aayog

2. Bureau of Energy Efficiency (BEE)
3. Department of Science and Technology (DST)
4. Efficiency Valuation Organisation (EVO)
5. Federation of Indian Chambers of Commerce and Industries
6. Indian Institute of Technology, Mumbai
7. International Institute for Energy Conservation
8. Lawrence Berkeley National Laboratory (LBNL)
9. Small Industries Development Bank of India World Bank (SIDBI)

Executive Council

Dr. Satish Kumar

AEEE Executive Chairperson

Mr. Upendra Bhatt, cKinetics

AEEE Vice Chairperson,

Mr. Ashish Rakheja, AEON Integrated Building Design Consultants LLP

AEEE Treasurer

Invited Members of Executive Council

Dr. Ajay Mathur

Director General-The Energy Resources Institute
Former Director General-BEE
Climate Change & EE Expert

Mr. S Padmanaban

Former Director - USAID SARI/E
Strategic Energy, Water &
Environment Expert

Former Chairpersons & Members

Mr. Ranganath N Krishna

AEEE Immediate Past Chairperson
Grundfos Pumps India

Ms. Hema Hattangady

AEEE First Chairperson
Schneider-Electric/Conzerv India

Mr. Devidas Kulkarni

Siemens Limited

Dr. Mahesh Patankar

MP ENSystems Advisory Services

Mr. Milind Chittawar

See-Tech Solutions Private Ltd.

Dr. Rahul Walawalkar

Customized Energy Solutions

Mr. Rajmohan Rangarajan

DESL Enviro-energy Services

Mr. Ravi Meghani

Wipro ECO Energy

Mr. Sanjay Dube

International Institute of Energy Conservation

Mr. Shishir Joshipura

SKF Limited

Dr. Koshy Cherail

Secretary to Executive Council

Activities at AEEE

AEEE is the only organisation in India which works towards creating awareness about energy efficiency as a resource. It is committed to positioning energy efficiency as the first fuel in India and to ensuring that every organisation in every sector has energy efficiency embedded as a core value and embedded in its mission.

As part of this quest, AEEE organised and facilitated a host of incisive activities that served as a stimulus to establishing new collaborations and incubating new projects. These activities benefitted from active participation from leading experts and decision makers from the private sector and the development community.

Foundation Day Celebration and AEEE New Office

AEEE has embarked on a growth curve to propel its ideas into action in enabling a vibrant energy efficient India. AEEE celebrated its 9th Foundation Day on November 7th in the presence of an august gathering that comprised partners, senior experts and leaders from the World Bank, USAID, SSEF, MacArthur Foundation, GIZ, among others. Dr. Satish Kumar outlined AEEE's new activities and introduced the team. The event also marked AEEE's move to its new premises.

Round-table on Envisioning the Increased Role of Energy Efficiency to Meet India's Growth Goals in the Context of Climate Change

AEEE, along with Sustainability Outlook, co-organised this event on November 24th at the 2016 Summit of the Sustainable Business Leadership Forum. This round-table brought together leaders from diverse sectors influencing the energy efficiency and policy agenda, who shared their outlook on the role of energy efficiency. The key participants included senior leaders from Danfoss India, Saint-Gobain India, EESL, Yes Bank, Schneider Electric, United Technologies, to name a few. The session touched upon:

- Increased role of demand side measures
- Impact of newer technology, smart-systems and data
- Evolution of standards and labelling
- Emerging use of energy productivity measures
- Evolution of business models (move from pure product models to service based models for technology providers)
- Public-Private sector collaboration to enable market demand aggregation

Discussion on HDV Fuel Efficiency Policies in India: Benefits, Costs and GHG Implications

AEEE organised a presentation of the results of a joint analysis by LBNL and the International Council on Clean Transportation (ICCT) on December 8th. The study focussed on the benefits, costs, oil dependency and greenhouse gas implications of improved heavy-duty vehicle (HDVs) fuel efficiency in India. This joint research project was undertaken as part of the

technical cooperation between the United States and India on heavy-duty vehicles that was agreed to by President Obama and Prime Minister Modi in January 2015. The presentation was followed by a robust discussion of the implications in the context of HDV fuel efficiency policy in India. The presentation was attended by key experts from CSE, TERI, SSEF etc.

Presentation on Energy Efficiency of Room Air Conditioners in India and the Costs, Potential and Policy Implications

AEEE organised a roundtable on December 27th, anchored by Dr. Amol Phadke, Scientist and Acting Group Leader in International Energy Studies at the LBNL. In this roundtable, Dr. Phadke shared LBNL's latest findings on the potential and cost benefits of accelerating room air conditioner efficiency improvement in India. He presented the cost effectiveness of doubling the rate of efficiency improvement and international experiences from Japan, Korea and the United States in accelerating improvement. Along with AEEE's Sustainable and Smart Space Cooling Coalition members, several leading non-profit groups of India joined this webinar and discussed the future steps that India could take to transition towards sustainable thermal comfort.

What's New at AEEE

Dr. Ajay Mathur, DG-TERI, is AEEE Executive Council member

A milestone in the AEEE journey is that Dr. Ajay Mathur has come on board the Executive Council of AEEE. Dr. Mathur is Director General of The Energy & Resources Institute (TERI), and a member of the Prime Minister's Council on Climate Change.

He was Director General of BEE in the Government of India from 2006 till February, 2016, and responsible for bringing energy efficiency into our homes, offices, and factories, through initiatives such as the star labelling programme for appliances, the Energy Conservation Building Code, and the Perform, Achieve and Trade programme for energy-intensive industries regulations and the role of the private sector.

His leadership, vision, and substantial achievements in energy efficiency, sustainable development and climate change will go a long way in contributing to the growth trajectory of AEEE.

Donor Agencies

Further reaffirmation of AEEE's credibility is that, in addition to Shakti Sustainable Energy Foundation, AEEE is being supported by these key agencies:

1. MacArthur Foundation
2. Oak Foundation
3. United Nations Development Programme-Global Environment Facility (UNDP-GEF)
4. United Nations International Development Organisation (UNIDO)

Advisory Services to DST

AEEE Chairperson, Dr. Satish Kumar has been invited to chair DST's research proposal evaluation committee under the IPHEE (Promotion of Habitat Energy Efficiency) project.

On the Anvil at AEEE

India Energy Efficiency Conclave

As part of a MacArthur Foundation project, AEEE brings to India the India Energy Efficiency Conclave 2017, a first of its kind in India, mirrored after American Council for an Energy Efficient Economy (ACEEE) eminent summer study. This event will bring together key players of energy efficiency in India and abroad to discuss energy efficiency progress, policies and best practices that will enable a vibrant way forward. This conclave is part of AEEE's ongoing efforts to put the spotlight on energy efficiency as a cost effective and alternate fuel.

The biennale 3-day event, is tentatively scheduled for November 29th to December 1st, 2017. The conclave will see participation by key policy-makers, researchers, advocates, energy-efficiency companies, government agency staff and stakeholders from demand sectors. The conclave will facilitate discussions on diverse topics, resulting in information sharing and the germination of many new ideas.

Highlighting and Supporting Energy Efficiency in Indian States

Implementation of energy efficiency initiatives at the state level is a major challenge. The Energy Efficiency Scorecard project aims to address this challenge via working closely with states through a state-level scorecard that will include sharing of lessons and best practices. This is another MacArthur Foundation project that AEEE and ACEEE will jointly implement. It is based on the highly successful ACEEE Scorecard in the United States, but adapted to the unique characteristics and data availability in the Indian states.

Energy Conservation Building Code (ECBC) Implementation in States

AEEE is soon commencing implementation of fast-tracking ECBC in states through regional dialogue. This project is in partnership with UNDP GEF, BEE and NITI Aayog. The ECBC rollout exercise in India has highlighted the need and importance of adequate planning and interventions at the state level. The dialogue would be a call for action by BEE and NITI Aayog to facilitate commitment from the state and city governments to undertake building energy efficiency policy implementation on a priority basis.

Providing Affordable Thermal Comfort with Energy Efficient Design in the Indian Residential Sector

AEEE plans to undertake a residential sector characterisation study that will lead to identification of research areas and policy interventions needed in this important sector.

Ongoing Projects at AEEE

Sustainable and Smart Space Cooling Coalition

In India, with a population of 1.25 billion, room air-conditioner penetration is less than 10% but expected to grow rapidly. India has recognised the fact that its growing population is just beginning to afford air conditioners to combat extremely hot weather.

However, there has not yet been a focused effort in bringing together these sustainable and smart space cooling elements in the form of policy recommendations that promote the use of energy-efficient and environmentally sustainable cooling design strategies and technologies. To address this, AEEE, with support from SSEF, has taken the initiative to form the Sustainable and Smart Space Cooling Coalition with twelve leading non-profit organisations and research institutions.

The project recommends and promotes adoption of lean, mean and green space cooling strategies to meet India's thermal comfort needs. It aims to lead India's transition to a sustainably cooled built environment with:

- Advanced Research & Analysis
- Joint Policy Recommendations
- Facilitating Market Transformation

ESCO Market Assessment and Scaling Energy Efficiency Investments in India

AEEE, supported by SSEF, conducted five regional workshops in partnership with SIDBI, to promote the model ESCO EPC and associated Measurement & Verification (M&V) template for adoption by ESCOs, Micro, Medium & Small Enterprises (MSME), Financial Institutions (FIs) and other key stakeholders.

A significant learning that emerged is that ESCOs have started utilising the Energy Services Performance Contract (ESPC) developed by AEEE, and customised by SIDBI for their Partial Risk Sharing Facility (PRSF) created for Banks and FIs. While this has helped in building confidence and credibility with their customers, they still face obstacles in getting financing for EE projects.

To plug this gap and scale up investments in energy efficiency, AEEE has embarked on an ESCO Market Assessment Report that ESCOs, their customers and FIs could use to identify business opportunities for Energy Efficiency projects. AEEE will also identify ten Energy Conservation Measures (ECM) and develop a structured financing framework for some of these ECMs in discussions with the FIs.

Significantly, Yes Bank, through its MOU with SIDBI to increase its lending to ESCOs and EE projects, has reached out to ESCOs through AEEE, and is partnering with AEEE to increase its lending to this sector.

Workshops

Enhancing Energy Efficiency in Operation of HVAC Systems

The workshop, held on December 6th at Ahmedabad, provided training on improving the efficiency of HVAC systems by applying Measurement & Verification (M&V) techniques to measure, monitor and manage the performance of HVAC systems.

A similar workshop was held jointly with CAHO for the Hospital sector in Delhi on October 8th.

Training on Certified Measuring and Verification Programme

AEEE conducted 2 trainings, one from May 26th to 28th at Chennai and the other from December 15th to 17th in Delhi. This was jointly designed by EVO and the Association of Energy Engineers (AEE). AEEE is the only partner organisation of AEE in India to conduct CMVP training. The training in December was the twelfth such in the series conducted by AEEE.

Webinars

AEEE webinars are a convening platform to engage in dialogue with policy makers, associations, institutions and multilateral/bilateral organisations for wider market transformation centred exclusively on energy efficiency in India.

Two webinars on PAT were co-hosted with Sustainability Outlook, one on November 8th “Asset Optimization to Drive the Next Wave of Energy Efficiency in India” and the other on December 6th, “Financing Energy Efficiency in India”. Both webinars saw active participation from EE practitioners.

Past Projects

Perform-Achieve-Trade (PAT) Project

AEEE and Sustainability Outlook developed four PAT briefs, *PAT Pulse*, to capture the pulse of the energy efficiency market in India. This not only provided evidence-based market assessment to present the stakeholder view point, but also enabled higher uptake of PAT through peer learning and incubate industry and policy action on energy efficiency. *PAT Pulse* is emerging as a key reference document for industry, particularly the Designated Consumers

Core Team@AEEE

AEEE has on board domain experts and dedicated professionals who are actively engaged in taking AEEE to the next level.

- Dr. **Satish** Kumar, Chairperson
- Dr. **Koshy** Cherail, President
- **Sangeeta** Mathew, Programme Manager
- **Sudha** Setty, Director
- **Aparna** Banerjee, Senior Communications Manager
- **Aastha** Kukreti, Advocacy and Outreach Manager
- **Sandeep** Kachhawa, Senior Researcher
- **Vaibhav** Rai Khare, Research Associate
- **Nidhi** Sharma, Research Associate
- **Bhairav** Sharma, Executive Officer
- **Sumit** Sharma, Accountant
- **Narendra** Kumar, Senior Consultant
- **Sarbojit** Pal, Consultant
- **Mohini** Singh, Consultant
- **Neha** Yadav, Consultant