

Minutes of Meeting

The first expert panel meeting for Space Conditioning and Pumps for the BEE UNIDO GEF Project on Facility for Low Carbon Technology Deployment (FLCTD) was held at the Bureau of Energy Efficiency (BEE), 4th Floor, Sewa Bhawan on 27th March 2018.

List of participants

S. No.	Name	Organization
1.	Mr. Abhay Bakre	Director General, Bureau of Energy Efficiency (BEE)
2.	Dr. Dinesh K Goyal IAS (Retd.)	Retd. Additional Chief Secretary to Govt of Rajasthan and Principal Secretary of Horticulture Department
3.	Dr. R. S. Agarwal	Senior Advisor and Coordinator of Sector Phase-out Plan Unit (SPPU), Ozone Cell, India
4.	Mr. G. C. Modgil	Ex ISHRAE and ASHRAE president, founder – Sterling India
5.	Mr. V. Krishnakumar	Vice President of Southern India Engineering Manufacturers' Association (SIEMA)
6.	Dr. Alok K Sikka	Deputy Director General Indian Council of Agricultural Research (ICAR) and India representative of the International Water Management Institute (IWMI)
7.	Mr. R. K. Mehta	Executive Secretary, Refrigeration and Air Conditioning Manufacturers Association (RAMA)
8.	Dr. Prosanto Pal	Senior Fellow, The Energy and Resource Institute
9.	Mr. Sandeep Tandon	National Project Manager, FLCTD project, UNIDO
10.	Mr. P. V. Kiran Ananth	Principal Counsellor, Confederation of Indian Industries
11.	Ms. Reshmi Vasudevan	Programme Expert, FLCTD project, UNIDO
12.	Ms. Nisha Jayaram	Senior Counsellor, Confederation of Indian Industries
13.	Mr. Bibek Ranjan Patnaik	Project Engineer, BEE

1. The meeting began with welcome remarks from Sh. Abhay Bakre, Director General, Bureau of Energy Efficiency and a round of introduction by the participants. This was followed by a presentation by the National Project Manager about the BEE-UNIDO project on the Facility for Low Carbon Technology Deployment (FLCTD). The presentation highlighted salient features of the project, its structure and implementation modality, three verticals, and the focus of innovation challenge on scalability and replication the innovative technologies/solutions which are more energy efficiency than the solutions available in the market. The presentation also covered about the role of expert panel in the project in defining the 'terms of reference' of the innovation challenge, selection criteria and evaluating the applications for final selection. Experience of conducting the Waste Heat Recovery challenge was presented

and a plan for conducting the innovation challenge for space conditioning and pumps in 2018 was shared. DG, BEE noted that a greater number of applications would ensure that more technologies are evaluated and promoted.

2. A presentation was made by CII to highlighting the outreach effort which CII will undertake once the challenge is announced. Feedback was sought from the members of the expert panels on the cities and target institutions for conducting the road shows. For the two areas of Space Conditioning and Pumps, CII will conduct roadshows in 10 cities and sought feedback on the selection of the cities. The expert panel members advised that the focus of campaign should be on the 'innovators' and wherever possible 'technical institutions should be involved. The experts pointed out that it was important to understand the demand for innovative technology interventions and hence focused outreach efforts were advised in reaching out to Innovators and Stakeholders in R&D labs with Manufacturers, Local Service providers, Industry Associations, Institutions working with technology innovations. For the outreach in the pumps sector, it was advised that cities of Rajkot, Indore and Ahmedabad should be considered.
3. Dr. Agarwal reemphasized the need to effectively reach out to technology institutes like IITs, IISc and CSIR laboratories, as well as the importance of reaching out to the right/ relevant persons. These technology specialists and others will be important in helping the FLCTD programme to fine tune the specifications for the Innovation Challenge in the future rounds.
4. Mr. G. C. Modgil, Sterling India, shared that it was critical to understand what work is currently being undertaken in each of three verticals. He pointed out that technologies at nascent stage like Adsorption and Desiccant Cooling technologies should be brought into the challenge. In his capacity of working with ISHRAE/ASHRAE, he suggested the need to understand the areas of innovations being held under the R&D initiatives in these agencies, especially in Space Conditioning and to dovetail these requirements to FLCTD objectives, for greater impacts.
5. The experts deliberated on the need to bring efficiency in pumps given the fact that often most efficient pumps in the country were imported from Europe and Canada. While the casting for these pumps were sourced from India. Thus, India had the potential for developing highly efficient pumps. It was mentioned that over the past two decades the pumping efficiency enhancements have been rather stagnant, with poor progress in the efficiency improvements achieved. One of the reason attributed to low efficiency is that the pumps (especially for agriculture sector) were designed to withstand wide voltage fluctuations which compromises the efficiency.
6. Dr. Dinesh Goyal (Retd. IAS), brought focus on the need to widen the scope of innovations in Pumping Systems. With 24 million agri-pumps in use, he said that the innovation challenge should include Pumps and Pumping Systems. He also shared that

it was important for the FLCTD Innovation Challenge to clearly indicate the key thrust areas for the innovations in Pumps, as highly efficient imported pumps were already available in the country.

7. Based on the implementation plan for the year the PMU team mentioned that in order to launch the innovation challenge in the 1st week of May, the next step is to convene meeting of the expert panel to deliberate and define the 'terms of reference' of the innovation challenge and a selection criterion which will be applied by the experts to select the innovations.
8. The meeting ended with a vote of thanks to the panel members.