GEF-5
"Promoting Market Transformation for Energy Efficiency in MSMEs"
Workshop Proceedings
at
Muzaffarnagar Paper Cluster
On
12th September 2018

Project Title	Technical meet on "promoting market transformation for energy efficiency in MSME paper cluster in Muzaffarnagar under GEF-5 project"
Time	10:30 a.m. – 2:30 p.m. (IST)
Date	12 September 2018
Venue	Hotel Solitaire Inn, Muzaffarnagar
Attendees	**United Nations Industrial Development Organization (UNIDO):** Mr. D. Das, National Project Coordinator **Energy Efficiency Services Limited (EESL):** 1. Mr. Girija Shankar, AGM (Tech) 2. Mr. Ayan Ganguly, Sr. Technical Expert 3. Mr. Bonam Ashok, DM (Tech) 4. Mr. Prabhat Sharma, Cluster Coordinator **Central Paper & Pulp Research Institute (CPPRI):** 1. Dr. B. P. Thapliyal, Director 2. Dr. A. K. Dixit, Scientist & Nodal Officer **Guest of Honor:** Mr. Pankaj Aggarwal, MD, Bindlas Duplex Limited **Dignitary:** Mr. Rajesh Jain, Director, Garg Duplex Ltd **Representatives (34 personnel) from 13 paper units (names of units is provided in Appendix 1)** **Deloitte Touche Tohmatsu India LLP** 1. Mr. Charu Gupta, Senior Manager 2. Mr. Avinaw Prasad, Manager 3. Mr. Prakhar Dixit, Consultant
Agenda	**Sessions in the technical meet:** 1. Introduction and key note address 2. Technical session 3. Open house discussion/ question and answer session 4. Feedback session on willingness to participate in the project and adopt identified technologies session

1. Introduction and key note address	The technical meet started with introduction and welcome address for dignitaries on the dais. Representatives from UNIDO, EESL, CPPRI, Guest of Honour and dignitary from the paper cluster each gave keynote address, explained importance of the GEF-5 project, and stressed upon its objectives of promoting market transformation for energy efficiency cluster in Muzaffarnagar. Listed below are highlights of the keynote address 1. A brief was provided about EESL, important projects of EESL, description of GEF-5 project and its objectives. Implementation model of this project was explained and role was defined for different entities associated with this project. Participants were encouraged to join this project, reap benefits of the financial model of implementation, and contribute towards national and global goal of reducing energy consumption and greenhouse gas (GHG) mitigation. It was explained how business model for implementation shall be developed by taking care technical due diligence required to ensure technology integration and maximum replicability in the cluster. Emphasis was laid on creating sustainable revolving fund with an aim of achieving scaled up EE measures in the MSME sector in India 2. A brief was provided about UNIDO, its work on industrial development in India, GEF-5 project and its objectives. Emphasis was laid on the need to identify the appropriate Energy Efficiency (EE) technology for the cluster. It was further explained how GEF-5 project is designed to minimize financial and technical risks associated with implementation of EE technologies in the identified 10 clusters. Emphasis was also given to the importance of demand aggregation of identified technology, bringing the identified technology at competitive price, and bringing down transaction cost associated with implementation. Participants were encouraged to share opinion on proposed EE technologies for the cluster, foreseeable challenges in implementation, opinion on the proposed financial model and expression of capacity building needs required for implementation 3. Unit representatives on dais greatly appreciated the project objectives and called upon on other unit representatives to come forward and align themselves with the implementation model. Emphasis was given on how savings in energy consumption not only increases profitability but also contributes towards national savings of energy and resources and minimization of losses 4. A brief about CPPRI and its role in the paper and pulp industry was explained. CPRI representatives expressed optimism that the project will see widespread implementation in the cluster and CPPRI shall extend all support in its implementation 5. Guest of honor, called out to the unit owners present to reap benefits from such project and strive towards resource efficiency and GHG mitigation. He explained impact of energy efficiency measures on the bottom line and its link towards achieving global competiveness. He shared key data points and some replicable technologies and broad energy saving potential that exists in the cluster. He urged his peers to come forward and join hands in the project

2. Technical session	1. Deloitte representative presented key EE technologies identified for the cluster. He further explained potential savings, payback period and technology providers for the following identified technologies. i. VFD on air compressors ii. VFD/ direct drive on agitators iii. High efficiency vacuum pumps iv. Hood and pocket ventilation v. Steam and condensate recovery system – cascading type vi. Replacing stationary syphons with rotary syphons/ joint 2. EESL representative presented different projects undertaken by EESL and their outcomes. He shared an overview of new projects by EESL with special focus on National Motor Replacement Program (NMRP) 3. EESL representative presented an overview of GEF-5 project, explained the project objectives, project components, expected outcome from the project, clusters in focus, project mechanism, and financial model for demonstration projects. Tentative business model was explained for technology implementation requiring investment of (a) less than five lakhs, and (b) between five lakhs and 15 lakhs. Emphasis was laid on creating a sustainable revolving fund with aim of achieving scaled up EE measures in MSME sector in India
3. Open house discussion/ question and answer session	Key questions were asked by unit owners related to modalities of implementation of demonstration projects, specification of the identified technologies, its feasibility vis-à-vis scale of operation/size of units, monitoring and verification protocols, baseline and post implementation data collection etc. Representatives present answered all questions. A suggestion was made by one of the unit representatives to ensure quarterly or semi-annual monitoring of proposed savings within the repayment period owing to the fact that there is possibility of efficiency depreciation post implementation Listed below are key points from the closing remarks from dignitaries on the dais: 1. Appreciation for participants who came to this technical meet and optimism was expressed for wide spread implementation in Muzaffarnagar cluster 2. It was proposed by the guest of honour to start 'Green Award Program' for energy efficient units in the cluster 3. Gratefulness was expressed towards UNIDO and EESL for selecting Muzaffarnagar as one of the clusters for this project 4. Uniqueness of the project was reiterated and participation from all units was solicited 5. Vote of thanks was given
4. Feedback session on willingness to participate in the project and adopt	Key highlights from the feedback session on willingness to participate in the project and adopt identified technologies are listed below: 1. Among 34 participants who attended the meet, 22 participants responded representing 13 units

identified technologies session	2. 64% of the respondents have implemented some EE measures in their units in the past 3. The respondents were also enquired about the identified EE technologies they were willing to install in their unit i. 91% of the respondents wanted to install high efficiency vacuum pumps ii. 73% were in favor of installation of steam and condensate recovery system - cascading type iii. 80% felt there was a need for installation of good quality rotary joints in their units iv. 43% desired ventilator for hood v. 62% wanted VFD on air compressor, and vi. 56% preferred VFD/direct drives in agitators 4. Respondents were also asked to suggest other EE measures they think is suitable for their unit. Following suggestions made by the respondents in this regard i. Two respondents suggested proper insulation and level alignment ii. Three respondents pointed out need for machine chart on pumps, agitators, fan pumps etc. iii. Few of them also recommended adoption efficient equipment such as motor, pump, blowers for Ariation tank etc. iv. There were also suggestions for increasing the effectiveness of operations of processes 5. Lastly, when enquired if they were interested to participate in financing scheme under GEF-5 project, 91 % of the respondents replied affirmatively

Appendix 1: List of participants

There were 34 participants. Among them 22 participants responded representing 13 paper units

Sr. No.	Organisation	Number of respondents
1	Bindlas Duplex Limited	-
2	Disha Industries Pvt. Limited	1
3	DLS Papers Private Limited	2
4	Galaxy Paper Pvt, Ltd.	1
5	Garg Duplex and Paper mills Pvt Ltd.	2
6	M/S Agarwal Duplex Board Mills	1
7	M/S Silverton Pulp and Paper P. Ltd.	6
8	Mahalaxmi Craft and Tissue Ltd.	1
9	Meenu Paper Mills QS Ltd	1
10	Shakti Krafts and Tissues	1
11	Shakumbhri Pulp and Paper Mills Ltd.	2
12	Siddhidwari Industry P. Ltd	1
13	Suyarh Kraft and Papers Ltd.	2
14	Tehri Pulp and Paper Ltd.	1
	Grand Total	**22**