MSMELINE

GEF-WORLD BANK PROJECT

Financing Energy Efficiency at MSMEs

Jointly Executed by BEE and SIDBI

Issue 6 Jan - Mar 2014 e-newsletter

INSIDE

Mr. Shashi Shekhar, Additional Secretary and GEF Focal Point, MoEF

It is indeed a matter of great pleasure to interact with MSMEs and associated stakeholders through this issue of MSME Line, the quarterly e-newsletter of the Global Environment Facility (GEF) – World Bank project Financing Energy Efficiency at MSMEs. The GEF, set up in 1991, is today one of the largest global Multi-lateral Funding Agency, with 182 country governments as its members. GEF provides project grant to the developing countries on global environmental issues with local benefits.

In India, energy efficiency projects in MSMEs need to incorporate, in a balanced way, a function that efficiently packages project design, development and technical scoping with a financing function. This GEF – WB project seeks to bridge the current gap between those two functions, providing support to actors on both sides to enable successful delivery of financing for identified EE investments.

I am happy to learn that through this GEF-World Bank project, implementation of energy efficiency measures is underway in more than 400 MSME units. Success for this can be attributed to the innovative approach adopted by the project that includes collaboration with International agencies for industrial best practices, demonstration of newer energy efficient technologies and provision of hand holding support to the participating units for implementing EE measures. Further, Financial tools like Performance Linked Grants have helped in accelerating the decision of entrepreneur for energy efficiency investments.

Awareness and capacity building initiatives targeting technology suppliers, local service providers, energy professionals, banks/FIs, industry associations and MSMEs themselves, have helped in eliminating some of the actual and perceived barriers pertaining to energy efficiency adoption. Moreover, the learning from this project is helping other MSME clusters to take inspiration and replicate relevant energy efficiency measures in their units as well.

Under this project, a dedicated web portal will be launched soon wherein all the stakeholders within MSME ecosystem shall have access to knowledge products developed as part of project activities. The web portal will be supplemented by a toll free helpline where stakeholders can dial-in to seek solutions to their queries on various technologies as well as financing function of energy efficiency in targeted project clusters.

Together we hope to work towards a low carbon economy where MSMEs will play a pivotal role in realising this dream and set an example for other developing economies to emulate.

The World Bank | Global Environment Facility | Small Industries Development Bank of India (SIDBI) | Bureau Of Energy Efficiency

Success Stories from Clusters

Replacement of DG Set by Uninterrupted Power Supply saves Rs 12 lakhs per year

CMI Ltd, Faridabad, manufacturer of wires and cables for various conductors and instrumentation needs has monthly energy bill of Rs 11 lakhs towards electricity (from grid) and HSD (for captive power generation). The unit has installed 3 DG Sets which provide almost ¾ of the total electricity consumption of the plant. During the detailed energy audit conducted at the unit as part of project activities, it was observed that 380 kVA DG Set runs continuously to provide uninterrupted power to critical process machines. The DG Set is operated even during availability of grid electricity to ensure continuous operation of critical machines, and consumes almost 6,500 litres of HSD every month.

Detailed measurement and analysis of load profile on the existing 380 kVA DG Set was carried out and the unit is recommended to replace the DG Set with 200 kVA UPS.

Savings by reduction in energy consumption: **Rs 12 lakhs/year**
Energy Savings: **76 kL of HSD/year**

Replacement of DG Set with UPS will cost Rs 18 lakhs and pays back from energy saving in about 18 months!

Economiser and Condensate recovery to save Rs 3.25 lakhs/year

Another MSME unit at Ankleshwar has installed a 1 TPH steam boiler for indirect heating application in its process. The boiler is fired with PNG fuel and the estimated PNG consumption is 160 SCM/day. A detailed Energy Audit was conducted at the unit and following energy performance improvement measures were recommended:

- The flue gas from boiler was leaving at about 150 oC. It was recommended to install an economiser to preheat boiler feed water.
- The condensate from jacket heating section was not recovered. It was recommended to recover this condensate.

Savings by reduction in PNG consumption: **Rs 3.35 lakhs/year**
PNG Savings: **9,400 SCM/year**

Installation of economiser and condensate recovery channels will cost Rs 75,000 and pays back from PNG saving in about 3 months.

Improved Melting Practices save Rs 7 lakhs/year in Foundry

FIE Spherotech, a foundry unit in Kolhapur, specialises in production of CI castings. A Detailed Energy Audit was conducted at the unit to identify areas of potential energy savings in a cost effective manner. Apart from measuring energy performance of major plant areas, the Energy Audit also focussed on identifying such areas where significant energy savings could be achieved without any major investment. Following results came out:

Reducing tapping temperature

The unit was tapping melt from induction furnace at 1504 oC. The standard recommended tapping temperature for CI casting, particular for the unit's operations, was a maximum of 1490 oC. Therefore, the unit was recommended to avoid super-heating and reduce the tapping temperature to recommended value of 1490 oC. The move resulted in savings of Rs 1.7 lakhs/year equivalent to electricity saving of 19,600 kWh/year.

Use of bundled scrap instead of loose scrap

The unit procured loose scrap as feedstock for the induction furnace. Loose scrap has relatively lower bulk density and requires longer melting cycle duration, thus, leading to increased specific electricity consumption (electricity units per tonne of melt). The unit was recommended to use compact bundled scrap of higher bulk density to improve melting cycle time and reduce electricity consumption per melt. The move resulted in saving 5.3 lakhs/year equivalent to electricity saving of 44,000 kWh/year.

It can be seen from above examples that the foundry unit gets to save Rs 7 lakhs/year by improving the operating practices. Since no capital investment is required, the unit starts saving money from day 1.

Project progress and outcomes in Clusters

Energy Efficiency Investments, Tons of CO2 Saved

We have come a long way since commencement of the project and this would be an apt juncture to take stock of the milestones that we have crossed, and our achievements along the way.

A total of 1087 walkthrough audits have been conducted in the various clusters, which have resulted in identification of potential areas for energy saving and laid the foundation for detailed energy audits in various units. Detailed energy audits have been completed in 604 Units resulting in 553 detailed projects reports thus far and still counting. Of these implementation of energy saving measures are already in progress in 268 Units and many more are to follow. Some of the case studies in this issue are drawn from among these implementations.

The cluster wise breakup of the progress and outcomes are tabulated below:

Achievements and Outcomes	Ankleshwar	Faridabad	Kolhapur	Pune	Tirunelveli
Walkthrough Audits (WTAs)	423	383	154	102	25
Detailed Energy Audits (DEAs)	186	256	91	65	6
Investment Grade Detailed Project Reports (IGDPRs)	177	220	91	68	0
No. of Units where Implementation of measures are in progress	61	148	16	21	5
Investments Already Made by Units (INR lakhs)	421	912	400	686	8.6
Tons of CO2 saved (over lifetime of 10 years)	*34564*	*8581*	*48110*	*35896*	*4380*

A new project component that has recently commenced, seeks to Measure and Verify the extent to which the proposed energy savings have been realized. Project execution partner CII, who has been recently awarded this project component, has already conducted M&V studies in 72 MSME units. In a significant achievement, these independent M&V studies have confirmed that about 85% to 95% of the energy savings estimated in these units and reported in the IGDPRs by the project development consultants has been actually realized and verified.

Awareness and Capacity Building

Various awareness and capacity building activities have been undertaken consistently throughout the project period in the various clusters, thus reaching out and sharing insights not only with MSMEs in all clusters, but also with various other stakeholders like Banks and Financial Institutions, Energy Professionals, Industry Associations etc.

- A total of *55 Awareness and Capacity Building workshops* on various technical and financial aspects of energy efficiency for MSMEs and other stakeholders were conducted covering over *2690 participants* among all five clusters
- A total of *XX 2 day Hands-on training programs* covering *more than XX participants* from all the clusters were conducted at the fully equipped Center of Excellence for Training in Energy efficiency (CETEE) at NPC , Chennai
- A total of *10 technology exhibitions* were conducted that attracted participation from more than 975 participants including MSMEs and other stakeholders. Each exhibition showcased technologies from more than 25 technology and solution manufacturers and suppliers relevant to the MSME clusters.
- A total of *14 2-day training programs* including industrial site visits for energy professionals covering *more than 550 participants* conducted in all five project clusters and beyond
- A total of *7 site visits to industries* for demonstration of energy efficient technologies or energy saving measures were conducted covering more than 150 participants from various clusters.
- A total of *32-day training for financial institutions and banking professionals covering more than 94 participants* from all five clusters and beyond.
- At total of 6 training programs on Environmental and Social benefits of energy efficiency covering around 342 participants from various clusters

Integrated Green Credit Ratings for MSMEs

Under a recently awarded project component, Integrated Credit Ratings are being developed for MSMEs incorporating green parameters including energy efficiency, renewable energy, environmental and social aspects, waste minimization practices, green energy sources, clean production, green supply sources etc. The component is being executed by a JV consisting of Credit

Analysis and Research Ltd., Ahmedabad, with CARE Kalypto Risk Technologies and Advisory Services Pvt. Ltd., Navi Mumbai, and Emergent Ventures India Pvt. Ltd., Gurgaon.

WB-GEF project in Ankleshwar Expo' 2014

Ankleshwar Industries Association (AIA) organized a mega industrial exhibition "Ankleshwar EXPO 2014" at Ankleshwar GIDC from 9 to 12 January 2014. The event was also supported by other industry associations including Panoli Industries Association, Jhagadia Industries Association, Laghu Udyod Bharati and Dahej Industries Association. The four day event hosting more than 250 exhibitors, was designed to showcase the most competitive technologies being utilized in chemical and other industries.

AIA has been actively involved in supporting the GEF-World Bank project activities in the Ankleshwar Chemical Cluster since the inception of the project. With a view to further increasing visibility of the GEF-WB project in the cluster and to reach out to a broader audience, BEE showcased the achievements and contribution of the project through a stall in the four day exhibition.

Among the project achievements and interventions displayed were various case studies on successful implementations across the cluster, and posters conveying best practices on Energy Efficiency relevant to chemical industries. Some case studies as well as key highlights and milestones of the project in Ankleshwar were also showcased as an audio visual film which was a centre of interest for the visitors.

The team including PwC, BEE, SIDBI, TERI, CII and Cluster Pulse were present at the stall and attended to the queries from interested visitors. Several visitors took keen interest in the project details and its achievements in Ankleshwar Chemical cluster. Several chemical units in Ankleshwar also expressed interest in conducting energy audits under the project. The stall attracted a broad spectrum of visitors including large, medium and small units from Chemical, Pharma, Paper, Rubber, Engineering industries, service providers etc. from Ankleshwar, Panoli and nearby regions like, Jaghadia, Baroda, Vapi, Ahmedabad etc. More than 240 visitors participated in discussions at the stall.

The event has helped in reaching out and generating greater visibility for the GEF-WB project, enabling BEE to share the learnings and achievements with a broader interest group, to encourage replication.

Cluster News

2 Day Training of Energy Management Professionals on Financing Energy Efficiency projects

A 2 Day Training of Energy Management Professionals on Financing Energy Efficiency projects was conducted by M/s. Devki Energy Consultancy Pvt. Ltd. in close association with Federation of Small Scale Industries (FSSI), Vadodara. The event was held on 07 and 08 March 2014 at Hotel Express Residency, Vadodara, with an objective of dessimenating the learnings gathered from the . The training focussed on energy conservation in chemical processes, typical energy saving opportunities in chemical industries and related utilitites, as well as financing energy efficiency processes, and preparation of DPR with case study. The second day concluded with a site visit to a chemical unit in Nandesari. The participants attended and interacted in each session with keen interest and enthusiasm. On the special request of FSSI, the programe also included a repeat of the course in a condensed version for an audience consisting majorly of MSME members of FSSI in and around Vadodara, on the second day of the event. The response to the event was excellent with over XX participants attending the various sessions of the event.

Hands-on Training of Energy Management Professionals on EE Technologies at CETEE, Chennai

Hands-on Training Programme at CETEE, Chennai, was organised for personnel from Hot-Forging industry on March 20 – 21, 2014. XX participants from Forging sector participated in the training programme to gain practical experience on energy efficient operation of Forging sector related equipments. This takes the total tally of participants trained through these hands-on training programmes to 144. The feedback received from the participants has been encouraging. Some of the participants have shared their experiences on energy efficiency implementations taken up after attending the programme.

Participant's feedback can be viewed on:
https://www.youtube.com/watch?v=P3LO1zxtguk and https://www.youtube.com/watch?v=eDPnxFo5Ing

Cluster Speaks

Mr. Prem Singh, Works Manager, Omega Bright Steel Pvt Ltd, Faridabad

Being a leading name in steel bright bar industry, we have adopted state-of-the-art technology in our manufacturing plants. Environmental friendly practices have always been our prerogative to implement. After the energy assessment study was conducted we were expecting minor saving opportunities. But, the savings projects proposed exceeded our expectations. We have already begun the implementation on few projects which will provide immediate energy savings. We are glad to be included in this project.

Mr.Amitabh Chandra, Secretary General, Association of Indian Forging Industry, Pune

The GEF - World Bank project with its multipronged approach has helped in creating an enabling environment for the adoption of energy efficient (EE) technologies among the forging units in and around Pune. The demonstration of EE technologies to instill confidence, and the availability of support during the implementation of EE measures are indeed welcome steps. Further, the sector specific hands-on training programmes held at CETEE,Chennai have helped people in identifying the loss in their units and the means to plug them. Various awareness creation and outreach activities have also complemented these efforts.

On behalf of the Association of Indian Forging Industry (AIFI), I invite more and more forging units to come forward and take advantage of the project.

Quiz

1.How many implementations does the ambitious GEF WB project target? In how many units are the implementations already in progress?
2.What is the full-form of the acronym GEF?
3.How much money per annum will CMI Ltd., Faridabad save by replacement of DG Set with Uninterupted Power Supply?
4.How much money will improved melting practices at FIE Spherotech, Kolhapur save in a year?

Readers are invited to send in their responses to above quiz at save-energy@beenet.in till 15 May, 2014, 5 pm.
*Three correct entries (based on random selection) shall stand a chance to win a prize (like solar cap/solar calculator). Project executing agencies/ their representatives/BEE staff/other consultants involved in the project are not entitled for participation in this quiz.**

*conditions apply

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