

Scaling Up of Investments through ESCO Mechanism in MSME Clusters by Deploying Standard Energy Efficient Technologies (SEET)

Federation of Indian Chambers of Commerce and Industry (FICCI) in association with Energy Efficiency Services Ltd. (EESL) is implementing a project funded by Global Green Growth Institute (GGGI) titled "Scaling Up of Investments through ESCO Mechanism in MSME Clusters by Deploying Standard Energy Efficient Technologies (SEET)". The project activities will be executed in 3 MSME clusters of Haryana (a) Rice Mill Cluster in Karnal (b) Textile Cluster in Panipat (c) Mixed Industry Cluster in Kundli, Sonipat

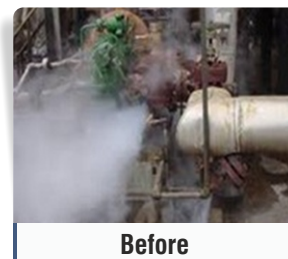
The overall project objective is to create an eco-system to accelerate adoption of Energy Efficient (EE) Technologies by MSMEs through innovative financing mechanism supported by ESCOs, Financial Institutes (FIs); deployment of Standard Energy Efficient Technologies (SEET) already identified under the EESL UNIDO MoMSME (GEF-5) Project in the targeted clusters; aggregation of demand of EE Technologies and developing suitable IT Tools for improving efficacy of the program implementation at large scale.

Brief Note on Technology

Name of the Technology:	Installation of Condensate Recovery System, to recover energy and water for reuse in the boiler
Expected Type of Major Energy Saving	<input type="checkbox"/> Electrical <input checked="" type="checkbox"/> Thermal
Old Technology to be replaced	<p>Steam at a working pressure of 3-4 kg/cm² is used in textile processing units in jet dyeing machines for indirect heating of water. A significant amount of steam is lost during the heating operation of the jet dyeing process, as the portion of the latent heat is transferred to the equipment line resulting in condensate formation. Also, a significant amount of steam is transformed to condensate during the cooling cycle of the jet dyeing process. In addition to these, heat available in exit water generated during the process is wasted during the water recycling process.</p> <p>Also in typical units, no traps or thermodynamics (TD) traps are used in these pressurized steam machines. TD traps for such applications are not suitable to remove condensate properly.</p> <p>In this process, a significant amount of water and energy is lost into the atmosphere.</p>
Brief about the New Technology	<p>Installation of condensate recovery system in the jet dyeing machines to reuse the water and sensible heat contained in the discharged condensate. The system includes a positive displacement condensate pump which can recover (suck) hot condensate and flash steam from the steam pipeline and feed the same into the boiler feed water tank. The pump may also be equipped with an in-built receiver for condensate which eliminates the need for a separate storage tank. The installation of the system will allow 80-100% recovery of condensate formed during the jet dyeing. The technology can be suitably modified for mechanical or sensor based control</p>

Success Story: Demonstration in MSME Clusters

Year of demonstration	
Location of MSME Cluster	: Surat
Type of Cluster	: Textile
Name of the MSME Unit	: Pashupati Prints Pvt. Ltd
Coal consumption in boiler (Baseline)	: 18 tonne/ day
Coal consumption in boiler (Post Implementation)	: 17.5 tonne/ day
Annual Coal Saving	: 178 Tonne/year
Annual water Saving	: 8,151 kL/year
Annual Monetary Saving	: Rs. 10,80,000
Investment	: Rs 6,50,000
Simple Payback	: 0.6 years
Warranty of the New Technology	:



Benefits Incurred from the Project

- Reduction in specific energy consumption by 2-3%
- Boiler Efficiency improvement 2-5 %
- Maintenance cost reduction 20-30%
- Reduction in breakdown 20-30%

Availability of Technology Locally	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Probable Technology Providers	<ul style="list-style-type: none"> • Thermax Global https://www.thermaxglobal.com/ • Forbes marshall https://www.forbesmarshall.com/ • Spirax Sarco https://www.spiraxsarco.com/ • Innovative Enerpro Pvt Ltd https://www.innovativeenerpro.in/ • Maxthermal (India) Pvt Ltd https://www.maxthermindia.in/
Supply & Implementation	<p>Typical Delivery time: 3-5 Weeks</p> <p>Ease of Implementation: <input type="checkbox"/> High <input checked="" type="checkbox"/> Medium <input type="checkbox"/> Low</p> <p>Is unit shut-down required: <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Partial</p> <p>Implementation by: Jointly by Vendor & Plant, Packaged Product</p> <p>Buy-back Option: No</p>
Financing Options & Models	<input checked="" type="checkbox"/> Self-Financing <input checked="" type="checkbox"/> Private ESCO <input checked="" type="checkbox"/> EESL <input checked="" type="checkbox"/> Local Bank

WAY FORWARD

Expression of Interest (Eoi):

The MSME Unit shall submit the Eoi as per the format to FICCI duly signed by the plant authority/ authorized representative

Baseline Study:

FICCI shall conduct the baseline study "Free of cost". The study consists of collection of relevant data from the industry and few technical measurements. The baseline study may take maximum "One Day".

Selection of ESCOs/ Technology Provider:

To be indicated later

Project Stakeholders



For further information, please contact:

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