

# 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

<b>Name of the Technology:</b>	<b>Low-Grade Waste Heat Recovery</b>
<b>Expected Type of Major Energy Saving</b>	<input type="checkbox"/> Electrical <input checked="" type="checkbox"/> Thermal
<b>Old Technology to be replaced</b>	<p>The dyeing process requires water to be heated at a temperature of 85°C to 130°C. This temperature variation depends on the type of fabric being processed. The average temperature of water needed for dyeing process in Varanasi cluster is 95°C.</p> <p>Once the process is completed, this hot water is flushed out of the dyeing machine and is sent to effluent treatment plant for treatment. At the effluent treatment plant, this water is collected and is retained for 6 – 8 hours before it is treated. This retention time is for allowing the water to cool down to a temperature of 45°C - 50°C.</p> <p>In the existing system, the input water to the dyeing machine is at ambient temperature. This would mean that the temperature of water would vary from 20°C to 35°C. In different stages of dyeing process, the temperature of hot water required varies between 60°C to 130°C.</p>
<b>Brief about the New Technology</b>	<p>Installation of localized/ decentralized heat exchangers at each machine/ process area to recover the heat from hot water/condensate for heating up the water for next batch/ cycle or boiler feed water. This new system can raise the temperature of input water from 30°C at present to up to 55°C, thus, reducing the heating requirement of the system and corresponding fuel consumption</p>

## Success Story: Demonstration in MSME Clusters

<b>Year of demonstration</b>	:
<b>Location of MSME Cluster</b>	: Varanasi
<b>Type of Cluster</b>	: Textile
<b>Name of the MSME Unit</b>	:
<b>Amount of fuel required to generate required steam (Baseline)</b>	: 304.68 Kg/ day
<b>Amount of fuel required to generate required steam (Post Implementation)</b>	: 183.86 Kg/ day
<b>Annual fuel Saving</b>	: 36,246 Kg/year
<b>Annual Monetary Saving</b>	: Rs. 1,81,230
<b>Investment</b>	: Rs 5,00,000
<b>Simple Payback</b>	: 34 Months
<b>Warranty of the New Technology</b>	:



### Benefits Incurred from the Project

- Reduction in production time
- Reduction in fuel consumption
- Reduction in retention time at effluent treatment plant

<b>Availability of Technology Locally</b>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>Probable Technology Providers</b>	<ul style="list-style-type: none"> <li>• Radiant Group <a href="https://www.radiantengineers.com/">https://www.radiantengineers.com/</a></li> <li>• Mark Engineers <a href="https://www.heatexchangerindia.net/">https://www.heatexchangerindia.net/</a></li> <li>• Alfa Laval India Private Limited <a href="https://www.alfalaval.in/">https://www.alfalaval.in/</a></li> </ul>
<b>Supply &amp; Implementation</b>	<b>Typical Delivery time:</b> 3-5 Weeks
	<b>Ease of Implementation:</b> <input type="checkbox"/> High <input checked="" type="checkbox"/> Medium <input type="checkbox"/> Low
	<b>Is unit shut-down required:</b> <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Partial
	<b>Implementation by:</b> Jointly by Vendor & Plant, Packaged Product
	<b>Buy-back Option:</b> No
<b>Financing Options &amp; Models</b>	<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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