

# 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, Sonapat

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>Programmable Logic Controller (PLC) based automation &amp; control system for Jet Dyeing Machine</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>	In MSME textile processing units, the jet dyeing machine is mostly operated manually. It is used for dyeing the cloth by forcibly contacting the jet flow of dyestuff chemical. It is done in such way that the cloth gets dyed evenly with a relatively less quantity of chemical without applying much tension on the cloth in order to keep the quality of the cloth intact. Other than that, the steam is used to raise the temperature of the dyeing solution through the heat exchanger this process under goes both heating and cooling cycle. In the present system, this operation is done manually where in the batch time depends on the skill of the person. More over the amount of water and chemical required for completing the process also depend of the individual operator's skill set
<b>Brief about the New Technology</b>	<ul style="list-style-type: none"> <li>The package of PLC based automation &amp; control system for Jet Dyeing Machine offers flexibility to operate &amp; the automation system will optimize and reduce the batch time of the existing Jet Dying Machine process. In enhances the overall production capacity. It automatically selects the heating and cooling cycle as per the process requirement and it also optimize the temperature as per the system requirement.</li> <li>This PLC based automation system optimizes the chemical, energy and time requirement of the batch:             <ol style="list-style-type: none"> <li>1) Less man power needed.</li> <li>2) Less time required for completing the batch.</li> <li>3) Less energy requirement for batch completion.</li> <li>4) Amount of water and chemical required is less.</li> <li>5) Reduction in steam consumption.</li> </ol> </li> </ul>

## Success Story: Demonstration in MSME Clusters

<b>Year of demonstration</b>	:	Surat
<b>Location of MSME Cluster</b>	:	Textile
<b>Type of Cluster</b>	:	Annapurna Industries Pvt. Ltd.
<b>Name of the MSME Unit</b>	:	320 kL
<b>Total water requirement</b>	:	128 kL
<b>Total water requirement for heating cycle</b>	:	14,400 kL/y
<b>Total water saving</b>	:	345 t/y
<b>Annual Coal saving</b>	:	₹ 17,40,000
<b>Annual Cost Savings</b>	:	₹ 18,00,000
<b>Investment</b>	:	12 month
<b>Simple Payback</b>	:	
<b>Warranty of the New Technology</b>	:	



### Benefits Incurred from the Project

- Water intake during each cycle is optimized
- Batch time is optimized and reduced.
- Steam for raising the temperature for extra water is saved, thereby reducing the fuel consumption.

<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>• R. B Electronic and engineering Pvt. Ltd. <a href="https://www.rbelectronic.in/">https://www.rbelectronic.in/</a></li> <li>• Sun Instrumentation and control <a href="https://www.suninstrumentation.com/">https://www.suninstrumentation.com/</a></li> <li>• S K Controls <a href="https://www.skcontrols.in">https://www.skcontrols.in</a></li> <li>• Reckon Industries <a href="http://www.reckonindia.in/">http://www.reckonindia.in/</a></li> <li>• Apex Engineers <a href="https://www.jetdyeingmachine.com/">https://www.jetdyeingmachine.com/</a></li> <li>• R B Electronic &amp; Engineering Pvt Ltd <a href="https://www.rbelectronic.in">https://www.rbelectronic.in</a></li> </ul>
<b>Supply &amp; Implementation</b>	<b>Typical Delivery time:</b> 5-7 Weeks
	<b>Ease of Implementation:</b> <input checked="" type="checkbox"/> High <input 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
<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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