Scheme on

Standard Package offers on Energy Efficient Solutions for MSMEs

under

Promoting Market Transformation for Energy Efficiency in MSME Project

Developed by

Energy Efficiency Services Ltd. (EESL)
(A JV Company of PSUs of Ministry of Power, Govt. of India)
NFL Building, 5th & 6th Floor, Core – III, SCOPE Complex,
Lodhi Road, New Delhi – 110003
www.eeslindia.org

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1.0 Name of the Scheme

Standard Package offers for MSMEs on Energy Efficient Solutions under Promoting market Transformation for Energy Efficiency in MSME sector (MSME-UNIDO-EESL project)

2.0 Scheme Administrator

General Manager (Tech)
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3.0 Project Partners

Ministry of MSME (Office of Development Commissioner): *Executing Ministry*
United Nation Industrial Development Organisation (UNIDO): *Implementing Agency*
Energy Efficiency Services Limited (EESL) : *Implementing partner*
Bureau of Energy Efficiency (BEE) : *Guiding agency*
Small Industrial Development Bank of India (SIDBI) : *Financial guide and Partner*

4.0 Participation by Industries

i. The scheme is applicable to all Micro, Small & Medium Enterprises (MSME) of India
ii. The scheme is voluntary in nature

5.0 Technical Specifications:

Under this package, two sets of technologies are offered. In the first set, technologies identified under the UNIDO-EESL-GEF project have been listed and in the second set, technologies covered under various program of EESL have been listed.

Summary of all the technologies are placed below. The technology details can be accessed at www.msme.eeslindia.org or www.eeslindia.org

Sl. No.	Technologies	Average Investment (in Lakhs)	% Saving	Simple Pay back (in years)
Cluster Specific Technologies				
Surat(Textile Cluster)				
1	Replacement of reciprocating compressor with screw compressor	12	20-25%	1.5
2	Installation of 100% flash steam and condensate recovery system	10	20-25%	1.43
3	Installation of PLC based automation & control system for Jet Dyeing Machine	1.67	15%-20%	1.39
4	Installation Of Automation And Control System In Boiler	12	15%-20%	1.09
5	Installation Of Micro-Turbine For Power Generation	35	15%-20%	1.54
Ankleshwar (Chemical , API & Dyes)				
6	Replacement of reciprocating chiller with EE scroll chillers	6.1	20-25%	1.91
7	Installation of vertical agitator system in reaction vessel	19.8	10-15%	1.75
8	Installation of IBR Boiler	12	10-15%	1.5
9	Installation of Agitated Nutsche Filter Dryer (ANFD)	20	10-15%	1.5
10	Installation of Fitch fuel catalyst	4	5-10%	1.5
Howrah (Mixed Cluster)				
11	Installation of high efficiency metallic recuperator	20	20-25%	0.69
12	Automation and control system in steel reheating furnace	12	10-15%	0.48
13	Energy Efficient divided blast cupola	15	20-25%	0.95
14	Swirl burner for pulverised coal based steel reheating furnace	1.5	5-10%	0.65
BJL (Forging &Foundry)				
15	Replacement Of Conventional Lathe Machines With Special Purpose Machines	15	10-15%	2.83
16	Installation of induction billet heater	40	20-25%	0.91
17	EE Servo drive in power press	2.5	10-15%	2.08
Jorhat (Tea Cluster)				
18	Installation of automation & control system of withering process	2.25	5-10%	2.05
19	Replacement Of Steel / Aluminium Blade With FRP Blades In Withering Fan	0.6	15 -20%	2.22
20	Installation Of Energy Efficient Modulating Burner With Temperature Based Control System In Natural Gas Fired Dryer	3.5	5 -10%	1.68

21	Automation and control system in tea dryer	4	5%-10%	1.74
Muzaffarnagar (Paper Mfg. Cluster)				
22	Installation Of Energy Efficient Vacuum pump instead of old vacuum pump	40	15%-25%	1.31
23	Installation of direct coupled agitator system with VFD	2.5	15-20%	1.39
Vellore (Rice Mill Cluster)				
24	LSU/port dryers for rice manufacturing units	25	20-25%	2.27
25	Replacing Existing Non-IBR Boiler With IBR Pressure Boiler	50	25-30%	2.18
Varanasi (Textile/Carpet Cluster)				
26	Installation Of Combustion Control System	12	10-15%	1.01
27	Low Grade Waste heat recovery	8	15-20%	2.5
28	Automation of carrier and Jet dyeing	24	20-25%	1
Medak (Bulk Drug & Pharma Custer)				
29	Chiller condenser on-load automatic tube cleaning system	15	10-15%	1
30	Installation of Side Stream Filtration for Cooling Tower	8	10-15%	1
31	Replacement of Steam Vacuum Pump with Electric Vacuum Pump	18	10-15%	1.5
32	Installation of Mist Cooling Towers in place of Natural/Draft Cooling Tower	18	15-20%	1
Aurangabad (Mixed- Rubber, Forging & Metal)				
33	Replacing Mixers and Hot Feed Rubber Extruder with Cold Feed Extruder	28	40%	1.5
34	Replacing Transformer based Welding Machine with Inverter (IGBT) based Welding Machine	0.60	35%	2
35	Replacing old Technology Tyre Re-treading Line with Energy Efficient Tyre Re-treading Line	15	35%	2
36	Replacing Single Spindle Drilling Machine with Semi/ Fully Automatic Multi Spindle Drilling Machine	15	40%	1.5

Sl. No.	**Technologies**	**Average Cost of technology*** **(Rs)**	**%Saving**	**Simple Pay back (in years)**
Cross Cluster Technologies				
1	1-75 kW Energy Efficient (IE-3) Motors	For (2-4-6 pole motor)	5-15%	1.5 – 2 Yrs

2	Super-Efficient Air Conditioners (SEACs)	INR 41,300/- (For ISEER 5.4)	5.4 ISEER, 20% more efficient than BEE 5 star rated and 50% more efficient than BEE 3-star rated air conditioners	3-4 Years
3	LED Lighting Fixtures (Industrial)	-	80-90% efficient than Incandescent Lights	5-6 Months
4	32-35 watt BLDC fan 1200 mm sweep	2399/-	>40 %	8-9 months

*Technology cost may vary as per the cost discovery during procurement

6.0 Procedure of Participation

1. For technologies identified GEF-UNIDO-EESL project

For MSME units

i. Interested participants may approach EESL directly as per the address is given in *Section 2* or reach out to the nearest EESL office to their cluster. Details of the EESL state offices can be downloaded from www.eeslindia.org. Alternatively, MSME unit can reach to EESL through email or through gef5 web-portal www.msme.eeslindia.com.

ii. The scheme is voluntary and there is no participation fee for showing expression of interest (EoI) or submission of inventory to EESL.

iii. MSME unit can avail the facility of "Quick Estimator Tool" which is accessible for all users at www.msme.eeslindia.com to check the feasibility of the listed technologies at their unit.

iv. Once MSME unit agrees to participate in this project, EESL will discuss and explain to them about the package of offer as per their requirements. Once requirements are finalised, EESL will conduct baseline study to finalise the specifications for the technology. EESL will charge Rs. 10,000/- per day for conducing baseline and M&V per day. It is to mention here that Baseline audit charges will be adjusted in the PMC charges in case unit agrees to implement the technology. In case of non-feasibility of the technology in the unit after conducting the baseline audit, the baseline charges will be waived off.

v. The repayment schedule will be assessed based on measurement carried out by the vendor during the installation or on the performance certificate of the equipment. No fee will be charged from the MSME unit for establishment of energy savings. However, if the MSME unit wants to carry out the M&V study post commissioning of the equipment, EESL will facilitate the study on chargeable basis and shall be separate from the project and paid upfront. EESL will facilitate M&V through empanelled agencies and/or IOT based M&V platform and follow the M&V protocol prepared for the identified technologies. Steps for project execution are as below

For ESCO

- EESL will facilitate the development of partnership model for implementation of EE solutions. Partnership model covers the roles, responsibilities in implementation and clear demarcation of risk sharing between the borrower and private sector ESCOs.
- EESL may also utilise following services from ESCO on payment basis through empanelment process.
    - Inventory collection
    - Demand aggregation
    - Pre & post measurement
    - Technology standardisation
    - Training and capacity building.
- ESCO can also participate in the project by investing on the energy efficient solution under the standard package at the MSME unit. ESCO can enter into tri-partite agreement with EESL and MSME unit and also share the necessary information related to the project. EESL will ensure the project performance and warranty obligations if the technology procured through EESL.
- EESL will facilitate financing to ESCOs through PRSF empanelled PFI

For PFI/Banks

- EESL will conduct the consultation meetings with the private sector ESCOs/other stakeholders for development of partnership model for financing of EE solutions.
- EESL will facilitate financing to ESCOs/MSME unit through PRSF empanelled PFI
- EESL will facilitate financing of energy efficient technology by Banks/FI through common platform, exhibitions, workshops at cluster level and at national level.

2. <u>For Technologies under EESL program</u>

For MSME

i. Interested participants may approach EESL directly as per the address is given in *Section 2* or reach out to the nearest EESL office to their cluster. Details of the EESL state offices can be downloaded from www.eeslindia.org. Alternatively, MSME unit can reach to EESL through email or through web-portal www.eeslindia.org

ii. Same as Section 6.1.ii and only the technology will be differed as per section 5

iii. Same as Section 6.1.iii.

iv. EESL will submit the proposal containing all details like baseline energy consumption, energy saving potential, cost-benefit analysis etc. After mutual consent of the industry and EESL, an agreement shall be signed between respective industry and EESL/channel partners/Demand aggregators. Only one agreement will be signed with the MSME unit covering all the technologies for GEF-MSME-UNIDO and EESL projects.

v. The repayment schedule will be assessed based on deemed saving approach and will be finalised during the agreement signing. If the MSME unit wants to carry out the M&V study post commissioning of the equipment, EESL will facilitate the study on chargeable basis and shall be separate from the project and paid upfront.

For ESCOs and PFI, the process for participation will remain same for both set of technologies.

7.0 Roles and responsibilities

i. EESL will provide solutions covering energy efficient and clean energy technologies and services.

ii. EESL will provide support in standardisation, specifications, procurement, implementation, warranty services, training, M&V services, etc.

iii. EESL will provide support for demand aggregation, bringing investment, financing solutions to ESCO/MSME units.

iv. EESL will facilitate coordination with FIs, NBFC, ESCO, MSME units, cluster associations and DI MSME office.

v. For technologies under GEF-UNIDO-EESL project, implementation support will be provided by EESL along with warranty and AMC obligations.

vi. For technologies covered under EESL program (i.e. set 2), Only supply will be in the scope of EESL, however; installation should be done by MSME unit itself

vii. Procurement of technologies will be done by EESL and benefit of economy of scale will be pass on to MSME units

viii. Once agreed upon the repayment schedule, MSME units need to provide timely re-payment to EESL/ESCO through Equally quarterly instalments

ix. MSME unit need to sign an agreement with EESL or ESCO covering the detailed parameter of technology, energy saving details, technology finance details and repayment details.

x. MSME need to provide payment security of the investment made by EESL/ESCO through Letter of credit /Bank guarantee/post-dated cheque/ESCROW account/ECS mandate.

xi. MSME may avail loan from Banks/FI which is empanelled with PRSF.

8.0 Benefits to the MSME

i. Improved Productivity & Specific power Consumption
ii. Monetary Savings in Energy Bills
iii. Competitive prices as compared to market
iv. Single point of contact and one-stop project management
v. Comprehensive improvement in EE
vi. Less or no upfront cost in case of ESCO mode
vii. The warranty is extended up to 36 Months compared to typical 12 months offered by manufacturers/suppliers.
viii. The actual warrantee period will be decided as per the terms and condition of the LoA issued to the OEM for the respective technology.
ix. Substantially less price of technologies as compared to market price with quality product from reputed manufacturers.

9.0 Financial Models

For GEF-UNIDO-EESL project

The key features of the business model are shown below:

- 20% payment of the project cost shall be taken from MSME units on upfront to initiate procurement process. Later this 20% shall be adjusted in the repayment schedule.
- EESL will charge one time Project Admin Cost (PAC) which is 6% of the project cost and shall be collected from the MSME units to take care of administration and management of the project.
- A 'Performance Guarantee Fee' shall be obtained from MSME Units which will be up to 10% maximum annually for all ESCO based projects. This fee will not be applicable in case the MSME unit pay upfront the whole project cost.
- EESL/ ESCO shall recoup the entire investment from the MSME within a stipulated time frame.
- A payment security mechanism shall be integrated to ensure timely repayment. Mechanism will be incorporated during agreement signing. Mode of payment security mechanism may be in the form of bank guarantee (BG), letter of Credit (LC), ESCROW account linked with prime revenue bank account of the organisation or similar instrument.
- The MSME units need to pay EQI to EESL as per the terms and condition of the agreement.

The business model can be broadly divided into two categories:

- **Model # 1: Shared Saving/ESCO Model**

i. In this model, the entire upfront investment will be done by EESL in addition to the PMC activities which includes procurement, supply and ensuring warranty obligation of the technologies during the project period. The project cost includes the technology cost plus the PAC charges and performance guarantee fee. MSME unit shall provide 20% of the project cost as upfront advance during signing of the agreement. The same will be adjusted during the repayment schedule. The repayment to EESL by the MSME unit will be done through Equated Quarterly Instalments (EQIs) for up to three-year period i.e. 12 quarterly payments. EESL will raise necessary invoice at the beginning of the

EQIs cycle. The MSME unit will ensure the payment to EESL through robust payment security mechanism as mentioned din previous section.

- **Models # 2: Supply Contract / Project Management Consultancy (PMC) Model**
  i. The project cost in PMC model includes technology cost and PAC charges only.
  ii. The upfront investment for the project will be borne by client. In lieu of the PAC fee, EESL takes the responsibility of doing procurement process; ensuring supply & installation of appliances, warranty obligations till project period.
  iii. The .

EESL is conceptualising the EESL MSME Revolving fund (EMRF) in consultation with MoMSME and UNIDO which will provide support for investment of EE project in MSME sector. Till the development of EMRF, EESL and ESCO will arrange funding from their own sources. Once EMRF will be established, funding arrangements will be streamlined as per the incorporation of the fund. ESCO/MSME unit may also seek funding arrangement from empanelled PFI under the PRSF project. MoMSME and EESL will seek possibility of linking the Govt schemes and support.

For EESL projects

Business model for the technologies covered under EESL program will follows the terms and conditions of the EESL program.

10.0 Project Period

1-3 Years

11.0 Warranty

i. The technologies shall be provided with a Comprehensive Warranty as per the terms and conditions of the respective LoA issued for concerned technologies.
ii. EESL also ensure to maintain the efficiency level of the technologies during the project period
iii. EESL shall be wholly and fully responsible for the warranty in respect of quality and workmanship of all material covered under this scheme.
iv. EESL warranties against any manufacturing defects during the Warranty Period.
v. During the warranty period, EESL shall repair/replace all the defective components at no additional charge whatsoever, unless there is damage due to negligence, inappropriate use, or unauthorized service by the MSME unit, the conditions of which shall be specified in the Owner's Manual.
vi. If MSME unit desires, additional service and the costs of replacement of insulation, electrical wiring, and other ancillary components, etc. can be levied by EESL.

12.0 Supply Schedule

- For GEF-UNIDO-EESL program: Four weeks (04) to twelve weeks (12)
- For EESL based program:

- IE 3 motors: Between six (6) to twelve (12) weeks from the agreement signing between EESL and MSME unit
- For BLDC Fans: One (01) week from the agreement signing between EESL and MSME unit
- For SEAC and industrial LED light: three (03) weeks from the agreement signing between EESL and MSME unit

13.0 Buy-back of the technologies

There is no buy-back provision of the technologies except super-efficient AC.

14.0 Further Queries and Clarification

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15.0 About the GEF-UNIDO-EESL Program

The project titled "Promoting Market Transformation for Energy Efficiency in Micro, Small & Medium Enterprises" is supporting the industries across 10 energy-intensive clusters to become energy-efficient, cost-competitive, and sustainable. The project targets the accelerated adoption of energy-efficient technologies by deploying 33-35 potential and replicable technologies in the selected clusters. The project aims to transform the energy efficiency market by adopting various innovative business models of ESCO (Energy Servicing Company) based financing wherein the MSME units are expected to repay from their monetized energy saving in a stipulated period of time. Project Objectives are:

- To promote, implementation of energy efficiency in the MSME sector by addressing technical and financing barriers, including through creation of a revolving fund mechanism
- Replication of standardised energy efficient technologies in the sector through aggregation of demand to reduce the transaction cost and thereby promote a cleaner and more competitive MSME industry in India

16.0 About EESL's Scheme

16.1 National Motor Replacement program (NMRP) : EESL has designed the Motor Replacement Programme to encourage the use of energy efficient - motors adhering to IE-3 standard by the end users. The motors replacement program offers appropriate technical specifications (as per IS-12615) keeping in mind key customer pain points i.e. high initial costs, high operating and maintenance costs and quality of the products. EESL has released the second phase of NMRP with motors range from 0.75 kW to 75 kW (Pole— Mounting-Foot, Flange).

16.2 Super-Efficient Air-Conditioner (SEAC) Program: Currently the average efficiency level of room ACs in the Indian market is around 32 ISEEP% which is way below the current 5-Star efficiency levels of 4.5 ISEER available in the Indian market. EESL has procured 50,000 1.5TR Inverter ACS with ISEER rating of 5.4 under its Super-Efficient Air-conditioning program and these ACS are 20% more efficient as compared to normal 5-star ACS Rare available at affordable prices.

16.3 LED Based Industrial lighting solution: EESL's LED lighting programme has addressed retrofitting of LED based lighting in buildings as well as in industries. The typical intervention includes replacement of conventional bulbs, tube light, panel light, down lighter, high bay lights, flood light and streetlight etc. EESL has successfully implemented lighting projects in various plants of PSUs, Airports, Railway Stations and in more than 10,000 government buildings across the country

Stakeholders

ENERGY EFFICIENCY SERVICES LIMITED
A JV of PSUs under the Ministry of Power