Terms of Reference (ToR)
for
Technical support to MSMEs for implementation of Energy Efficient Technologies

1. KEY DATES AND DETAILS

Event	Dates
Closing Time for Submission of Proposals	26/03/2025
Pre-bid Queries from Bidders	18/03/2025 at 17:30 hrs IST. Please send your queries to the following email ID only: procurement_gef6@iiec.org Pre-bid queries received after this deadline shall not be considered.
Method to Submit Proposal	**Proposals must be submitted to:** Ms. Aungsanant Thiptaweecharn Program Manager International Institute for Energy Conservation (IIEC) 944 Mitrtown Office Tower, 27 Floor, Suite no. S27089, Samyan Mitrtown, Rama IV Road, Wangmai, Pathumwan, Bangkok 10330, Thailand. ***E-mail:*** procurement_gef6@iiec.org The Bidder shall submit only an electronic version (in PDF format) of the proposal strictly in separate attachments as mentioned below – **Subject Line: Proposal *For Technical support to MSMEs for implementation of Energy Efficient Technologies*** **File 1: Technical Proposal (not more than 25 pages)** including expertise of firm/organization, approach, methodology, implementation/work plan and team members' CVs. The CV of each team member should not exceed 3 pages. However, CVs do not count as a part of 25 pages limit. **File 2: Financial Proposal (not more than 2 pages)** **File 3: Copy of Work Orders showcasing relevant experience. (not more than 15 pages)** **File 4: Certificate of Registration (legal status), Financial audited statement of last 3 years (not more than 15 pages)**

	(The proposal document should be single-spaced, 12-point Times New Roman font in Microsoft Word, at least one-inch margins) Proposals with conditional offers or variables, submitted in any manner other than as detailed in this section or submitted after the deadline, shall be deemed invalid and may be excluded from consideration.
Expected execution date of Contract	04/04/2025

2. BACKGROUND

As part of its climate commitments, India has taken up an ambitious NDC target of reducing the emissions intensity of its GDP by 45% by 2030 and achieving net zero by 2070. As India gears up to retrace the high growth path towards Net Zero, the Micro, Small and Medium Units (MSMEs) sector is pivotal in driving the growth engine. The share of MSME manufacturing output in all of India's Manufacturing output during the year 2019-20, 2020-21, and 2021-22 was 36.6%, 36.9%, and 36.2%, respectively. While the MSME units continue to grow, a large number of MSMEs continue to depend on conventional, less efficient technologies that result in wasteful energy consumption and reduce profitability and competitiveness. Hence, energy efficiency improvement through the adoption of EE technologies and practices offers great potential for reduction in CO2 emissions as well as improvements in product quality and profitability.

The secondary steel and the textile production processes are two such energy intensive, have a high dependence on fossil fuel and are major contributors to carbon emissions. Advancing energy efficiency is crucial in the textile and steel sectors due to their high energy consumption, making it a key factor in reducing production costs, minimizing environmental impact by lowering greenhouse gas emissions, and enhancing overall competitiveness by optimizing resource utilization within these industries.

Secondary Steel Sector

The secondary steel sector, accounting for 54% of India’s crude steel output, uses the Direct Reduced Iron (DRI)–Electric Arc Furnace (EAF) and Electric Induction Furnace (IF) routes. This "electric route" primarily depends on sponge iron or steel scrap as feedstock. It includes decentralized units such as Steel re-rolling mills (SRRM) and foundries, offering flexibility and lower capital intensity but grappling with outdated technologies and higher emissions.

While the primary steel sector, comprising of large integrated plants, are self-capable of driving the low-carbon transition roadmap, the secondary steel sector comprising of the mostly micro, small and medium enterprises (MSMEs) needs hand-holding support to be able to transit to a sustainable future. The secondary steel sector plays a vital role in the steel supply chain by providing flexibility, resource efficiency, and reduced import dependency. On the contrary, the sector with its unorganized characteristics and inefficient operational practices guzzle a large amount of energy sources and emits high carbon emissions. The sector comprises of the approximately 340 Direct Reduced Iron (DRI), 40 Electric Arc Furnace, 1030 Electric Induction Furnace (EIFs) and 1250 Steel Re-Rolling Mill units contributing to approx. 50 million tonnes of GHG emissions annually according to a 2022 TERI report.

Textile Sector

The Indian textile industries exist as both large industries as well as MSMEs. While large industries are usually integrated plants, the MSME units are often diversified, with each unit focusing on a particular segment of the overall process, i.e., spinning, weaving, knitting, dyeing, readymade garments, etc. India has numerous MSMEs operating across the value chain, particularly in the production of fabrics, dyeing, printing, and stitching of Readymade Garments (RMG), as well as in retail (via small stores). The textile industries in MSMEs are generally located in clusters. Some of the major MSME textile clusters in India are situated in Surat (Gujarat), Tirupur (Tamil Nadu), Panipat (Haryana), Pali (Rajasthan), Jetpur (Gujarat), and Solapur (Maharashtra), among others. The textile production in India is emitting about 20-25 million tons, according to an EAI report.

Under the GEF-6 Cycle, the **Global Environment Facility (GEF)** is supporting **Energy Efficiency Services Limited (EESL)**, for the execution of **"Creating and Sustaining Markets for Energy Efficiency"** Project. While **United Nations Environment Programme (UNEP)** is the implementing agency for this project and EESL is the 'executing agency'. The objective of this GEF project is to reduce greenhouse gas (GHG) emissions through energy efficiency through scaling up and new technology applications. Since the start of 2024, the **International Institute for Energy Conservation (IIEC)** has been assisting EESL as a technical executing agency in the execution of the tasks under the GEF-6 project. Under this project, recently a Market Assessment for Waste Heat Recovery Solutions and Energy Efficient Technologies for industrial utilities has been carried out. Complementing to these studies, through this RFP an effort for understanding the barriers and impact through implementation of the proposed technologies, which will further help EESL in up-scaling these technologies under a larger national level programme.

3. ABOUT INTERNATIONAL INSTITUTE FOR ENERGY CONSERVATION (IIEC)

The International Institute for Energy Conservation (IIEC) was established in the USA in 1984 as a non-governmental, not-for-profit organization and has regional offices in India, the Philippines, and Thailand. IIEC's mission is to accelerate the global adoption of energy efficiency and renewable energy policies, technologies, and practices to enable economic and environmentally sustainable development. IIEC pursues this mission in developing countries and countries in transition through fieldwork undertaken by its regional offices. For the last four decades, IIEC has been providing solutions to the problems posed by the rapidly increasing energy demand in developing and industrializing countries. IIEC works with governments and the private sector to develop, implement, and evaluate energy efficiency and renewable energy policies, programs, and projects.

4. STUDY OBJECTIVE

The overall objective of the current study is to scale up economically viable and replicable energy-efficient technologies in the secondary steel and textile sector, creating an enabling environment for developing a long-term sustainable growth strategy for the sector, and contributing significantly to India's climate commitments. The study encompasses extended technical assistance to 75 MSME units in the sub-sectors of the Secondary Steel and textile sector through the development of detailed project reports (DPRs) for select energy-efficient technologies and extends direct implementation support to at least30 of these units. The assignment shall facilitate scaling up of the selected energy efficient technologies building upon the earlier and ongoing projects

in secondary steel and textile sector by GEF, UNDP and BEE projects but not limited to the technologies suitable for these sectors paving a long-term roadmap for sustainable development.

The key technologies to be included as part of the intervention are:

- Waste Heat Recovery Solutions
- Automation & Control Systems
- EE Technologies for Industrial Utilities

The study shall ensure the involvement of all key stakeholders from the concerned Ministries, Public departments, International Organizations, Private sector, Associations, Technology providers and Financing institutions. These stakeholders will amalgamate and facilitate the key strategies, policy, technology innovations, international best practices, financial mechanisms, etc., in fostering the sector towards its sustainable transformation.

The International Institute for Energy Conservation (IIEC) will be jointly implementing this study with Energy Efficiency Services Limited (EESL). The envisaged outcome of the study will be as follows:

- Technical assistance to scale up commercially viable and replicable technologies to 70 MSME units in the secondary steel and textile sector.
- Scale-up implementation of select energy-efficient technologies in at least 30 MSME units across the secondary steel and textile sector.
- Capacity building of workforce of the targeted units.

5. SCOPE OF WORK

The scope of work of the assignment has been broadly categorized as per the following components.

A. Identification of potential clusters (5) in consultation with EESL & IIEC.
B. Development of Expressions of Interest (EoI) and other technology-specific knowledge dissemination materials.
C. On-boarding of MSMEs for assessment of possibility for implementation.
D. Feasibility study and development of bankable Detailed Project Reports (DPR).
E. Implementation of energy-efficient technologies in shortlisted units.
F. Knowledge dissemination cum workshop.

NOTE: A roundtable inviting financing institutions such as SIDBI, banks and NBFCs under ADEETIE platform to be conducted at the start of the project to explore financing options to the units

The activities to be performed under each component are as mentioned below:

A. Technology List & EOI from units

As a first, mapping of the secondary steel and textile clusters in India shall be done in consultation with sector experts and EESL & IIEC project teams.

The agency shall also develop a list of energy-efficient technologies in the identified key areas of Waste Heat Recovery, Automation and Control Systems and Electrical utilities.

Each EE technology/measure should have at least the following information as below:

- Name of the identified technology/ solution
- Cost-benefit analysis
- Energy & GHG emission savings
- List of Technology Suppliers / OEMs / ESCOs

The activity may also include development of one-pager marketing material for the individual identified technologies.

On-boarding of MSME units

Once the energy-intensive clusters are identified, the next step would be to on-board interested MSME units from these clusters. A suitable "Expression of Interest (EOIs)" form shall be developed and collected from interested units. To facilitate the collection of EOIs, the agency shall carry out the following activities:

- Organize one stakeholder workshop in each identified cluster
- Focused discussion and stakeholder engagement to collect EOI forms

Deliverable 1: List of proposed technologies
Deliverable 2: EOI forms from 75 units

B. Feasibility study and development of bankable detailed project reports

The shortlisted agency shall conduct walkthrough Energy Audits in at least 75 MSME units from the on-boarded secondary steel and textile units. The study in individual units shall encompass:

- General information of the unit such as (i) Name of the company/unit, (ii) Name and contact details of the head of the company/ unit, (iii) management information, (iv) location/address (v) operational days, (vi) type of material used, (vii) final product, etc.
- Measurements of key parameters like hourly fuel consumed, weight of raw materials produced and finished raw materials, electricity consumed, excess oxygen, etc. The use of calibrated measurement instruments like power analysers, oxygen analysers, Thermal Imaging, etc. shall be ensured as part of the study.
- Energy specific information (i) list of electrical/thermal supply systems, (ii) electrical energy use and its pattern (Load point Single Line Diagram – sanctioned contract demand- inventory of electrical and electronic appliances/ equipment actual connected load, connected load vs sanctioned load-metering arrangement – consumer details), (iii) thermal energy consuming units, consumption and its pattern along with type of fuel used, etc. must be provided.
- Energy Consumption details through assessment of 1 year electricity bills including energy consumption, monthly energy cost, maximum demand, penalties imposed by the power supply agency for exceeding contract demand, delayed payment charges, non-maintenance of power factor, etc.

Based on the captured data and analysis, the agency shall develop unit-specific bankable DPRs encompassing technologies identified in the areas of Waste Heat Recovery, Automation & Control Systems and Electrical utilities. The agency shall be responsible for the following activities

a) Establish a baseline through measurement and performance evaluation of key equipment/utilities, WHR, automation options etc.
b) Development of DPR on the agreed ECMs with the following information:

a. Total cost of project implementation for each technology with detailed calculations including civil works, electrical works, mechanical, plumbing etc.
b. Financial ratio indicator calculations to justify project viability (Debt: Equity, Payback, NPV (Net Present Value), IRR (Internal rate of return), ROI (Return on investment), Sensitivity analysis, Profitability and Cash Flow analysis, Breakeven, DSCR (Debt Service Coverage Ratio), project repayment).
c. Energy savings and monetary benefits by the implementation of proposed technology.
d. Environmental, socio-economic, and other benefits of the implementation of proposed technology.
e. KPIs and M&V Plan for the MSME unit including the technology/intervention.
f. Implementation timelines
g. Technology and technology provider details

Deliverable 1: Baseline report of 75 units
Deliverable 2: DPR of 30 units

C. Implementation of Energy-Efficient Technologies

The agency shall facilitate the implementation of the identified EE technologies in 30 MSME units out of the on-boarded 75 units. The implementation can be carried out under the following either of the two (2) options-

- Direct Implementation by agency
- Implementation through EESL
  Note: EESL may facilitate standardisation of specification, scope, baselining and M&V through the agency, demand aggregation and implementation through the empanelled technology solution provider
- EESL may facilitate the above activities through EESL's IT-enabled marketplace platform/ offline.

Option 1: Direct Implementation support: The agency shall provide handholding support to 3 units for the implementation of suitable and selected areas of Waste Heat Recovery, Automation & Control Systems and Electrical utilities in the sub-sectors of the secondary steel and textile sector.

The investment for one or multiple technologies cumulatively should not be less than Rs.10 lakhs in each unit for the identified technologies under Waste Heat Recovery, Automation & Control Systems and Electrical Utilities. The agency shall prioritize WHRS as a main technology and it should be implemented in at least 20 units.

The agency is required to support the MSME and equipment suppliers and other service providers for the actual implementation of the recommended technology measures. As a part of implementation support, the agency shall be responsible for coordinating activities on behalf of the units as listed below:

- Vendor finalisation for implementation.
- Baseline and Measurement & Verification of implemented technologies/measures (documentation of benefits /outcome (energy savings / GHG emission reduction)
- Develop case studies/success stories of implemented projects (30 units).
- Comprehensive Report including implementation report and its impact related to EE & GHG emission savings

Option 2: Implementation via EESL's IT-enabled market platform: Provide coordination support to EESL in the implementation of Waste Heat Recovery, Automation & Control Systems and Electrical utilities in the sub-sectors of the secondary steel and textile sector.

The agency shall facilitate demand aggregation and implementation by leveraging EESL's IT-enabled market platform with the following broad objective:

- Identification and empanelment of potential suppliers of identified technologies for the sector
- Use the IT-enabled platform to aggregate demand for the select technologies.
- Facilitate dialogues between the technology provider and the SME unit using the platform.
- Facilitate procurement and deployment of select technologies using the platform.
- Updating the data on the dashboard for energy source, baseline and M&V.

Deliverable: Final Project Report including implementation status

D. Knowledge dissemination workshop

The agency shall conduct one national-level workshop to disseminate the study's impacts and benefits. The workshop shall be of one-day duration and include representation from Government, private players, think tanks, policy and regulatory bodies, industry association and international donor agencies. The workshop shall facilitate discussion and development of a roadmap for the low-carbon transition of the sector leveraging learning from the study and other similar initiatives.

Deliverable: 1. A Whitepaper on the roadmap for low-carbon transition for the secondary steel and textile sector
Deliverable: 2. Workshop proceedings

Note: The cost of conducting the workshop should not be included in the proposal, as it shall be either borne by IIEC or reimbursed at actuals at the time of organizing.

6. DELIVERABLES & TIMELINES

The shortlisted Organization/Agency is expected to complete the deliverables as per the timelines mentioned below-

Deliverables	Timeline
1) Inception Report	Within 7 days of the inception meeting
2) Technology list	Within 1 month from the date of award of contract
3) EoIs & Baseline reports for 75 units	Within 3 months from the date of award of contract
4) Energy Audits and Bankable DPR's	Within 5 months from the date of award of contract
5) Implementation reports of 35 Target Units & whitepaper + Workshop	Within 9 months from the date of award of contract

Note: The project deadline is strictly limited to 30th December 2025.

7. SUBMITTAL & REPORTING

Interested organisations/agencies must provide information indicating that it is qualified to perform the services, along with budgetary quotes, by submitting separate proposals as described above via email to procurement_gef6@iiec.org with the subject as '***Proposal for Technical support to MSMEs for implementation of Energy Efficient Technologies'*** in the subject line by **26th March 2025 at 17:30 hrs IST**.

Proposals should include the following information.

- Brief background about your organisation.
- Organizational & team's relevant experience.
- A narrative outlining the vision for the work along with the suggested methodology, work plan, and/or other technical inputs for the assignment.
- Team composition and individual qualifications & experience.
- References of similar projects/studies with contact details (email and telephone).
- Budget information. The Organization/Agency should submit a detailed cost proposal in USD only.

8. SCHEDULE OF PAYMENTS

S. No.	Milestone	Percentage of Total Contract Value (%)
1	Inception Report with work Plan & EoI format submission	10 % of the contract value
2	Submission of Technology List & EoIs	10% of the contract value
3	Base Line Reports & Bankable DPRs	30 % of the contract value
4	Upon achieving the Implementation Reports of target units	40% of the contract value
5	Final and closing report	10 % of the contract value

9. QUALIFYING REQUIREMENTS

- Have a legal status in India enabling the firm to carry out the assignment.
- Average annual turnover for the last three financial years should be of USD 500,000.
- Experience of implementation in the MSMEs sector: The agency should have carried out at least 3 projects in the last 5 years, with the Central/State Government or Multilateral agency related to energy audits/Energy mapping/ Energy performance benchmarking/ feasibility studies which involved technical analysis of projects.
- The organization must have prior experience of at least 3 completed projects in the supporting implementation of energy-efficient technologies in the MSME sector in India. The agency should have a minimum of 1 large scale project (completed, or ongoing) related to implementation support for

Energy efficiency and energy conservation measures in the secondary steel and textile sector. These assignments should be related to executing/ managing project management consultancy or implementing energy efficiency projects. (Note: Multiple units covered under one contract will be considered as one project)

Note: Bidders shall submit the relevant supporting documents showcasing their qualifications and experience relevant to the qualifying criteria mentioned above. However, IIEC holds the right to seek any additional documents during the evaluation process as deemed necessary.

10. EVALUATION CRITERIA

The evaluation of bids shall be done on Quality Based Selection with **80%** (Eighty percent) weightage to technical score and **20%** (Twenty percent) weightage to financial bid. The following are the qualification criteria for the selection of organization/agency.

- Pre-screening: All applications meeting the minimum eligibility criteria and conformance to the application content requirements will be evaluated by the Evaluation Committee (EC).
- The minimum technical score required to pass is 70%.
- Final Evaluation: The proposals will be evaluated based on the marks obtained as per the criteria provided below against each category by the EC.

Parameters	**Marks**	**Maximum Marks**
Quality of Technical Proposal ***Sub-Criteria:*** a. Adequacy of the proposed methodology in responding to the Terms of Reference. b. Technical approach and work plan. c. Specific experience of the proposed team members.	 25 20 20	**65**
Specific experience of the Organization/Agency relevant to the assignment	15	**15**
Bid cost competitiveness	20	**20**
TOTAL		**100**

11. TEAM COMPOSITION AND EDUCATIONAL & PROFESSIONAL QUALIFICATIONS

S. No	Role	Minimum Number of professionals	Minimum Education Qualification	Minimum Experience Criteria
1	Project Lead	1	Master's degree in engineering /technology/ MBA	Should have at least 15 years of experience with at least 10 years of experience in leading energy efficiency projects in the industrial sector; Involved in projects focused on promoting energy efficiency in MSME clusters.
2	Subject Matter Expert	1	Master's degree in engineering / MBA	15 years of experience in the secondary steel / textile sector; Involved in projects focused on implementation support in energy conservation measures in the secondary steel / textile sector. Should be a BEE Accredited Energy Auditor.
3	Energy Auditors	3	Bachelor's/master's degree in engineering	Should be a BEE Certified Energy Auditor with at least 5 years of experience in energy audit; Involved in the development of feasibility reports and DPRs.
4	Field Engineers	3	Bachelor's degree in engineering	Should have at least 3 years of experience in industrial energy audit; Experience with all forms of audit requirements; Should have experience in conducting stakeholder engagement, outreach events, and managing field activities.
5	Finance Expert	1	Bachelor's/ Master's degree in Finance	Should have at least 7 years of experience in financing/ accounting/ financial modelling etc.

The agency shall also demonstrate the availability of backstopping support and availability adequate support staff/resources for supporting the project team in conducting various tasks of the assignment.

12. INSTRUCTIONS FOR BIDDERS

- Bidders are requested to submit the complete proposal as mentioned on Page 1 of this RFP document.
- Files/ Folders greater than 20 MB in size will not be delivered in the above-mentioned email ID resulting in non-submission of the bids.
- The bidders can submit the proposal and documents in a maximum of two separate emails due to the size limitations of email as mentioned above.
- Submission of bids through any open source or links to shared drives such as Google Drive, OneDrive, WeTransfer, Dropbox etc. shall not be entertained and will stand disqualified.
- Project references and the associated documentary evidence should be easily identifiable for ease of evaluation.
- Submission of Financials should indicate the component of local taxes, as applicable.

13. TERMS AND CONDITION

- JV/consortium or any kind of sub-contracting will not be allowed for this assignment.
- The maximum cumulative liability of the Consultant/ agency entering a contract with the Client shall be limited to the Contract Value.
- IIEC is under no obligation to accept any proposal or part thereof received in response to this study.
- IIEC reserves the right to seek clarification or request any additional documents as deemed necessary. Furthermore, the IIEC reserves the right to modify or cancel the RFP (including extending the deadline for the receipt of proposals) without justification or compensation payable to the bidder.
- It will be at IIEC's discretion that it may accept request for an interim payment based on the situation of the ongoing project.
- IIEC will not reimburse bidders' expenses, including those related to responding to this RFP. In case any additional tasks are required, the consultant should seek prior approval in writing from IIEC.
- Confidentiality: All data and information received from IIEC and partner organizations, provided to the agency for this assignment is to be treated confidentially and are only to be used in connection with the execution of these Terms of Reference (a specific separate confidentiality agreement may be agreed between the Consultancy and IIEC, if needed to provide information more freely). All intellectual property rights arising from the execution of these Terms of Reference are assigned to IIEC. The contents of written materials obtained and used in this assignment may not be disclosed to any third parties without the expressed advance written authorization of IIEC and its partner organizations.