Terms of Reference (ToR) for Market Assessment of Heat Pumps in India

1. KEY DATES AND DETAILS

Event	Dates
Closing Time for submission of Proposals	22nd May 2024 at 17:30 hrs IST.
Pre-bid Queries from Bidders	10th May 2024 at 17:30 hrs IST. Please send your queries to the following email ID only: procurement_gef6@iiec.org
Method to submit Proposal	Proposals must be submitted to: **Attention:** Ms. Aungsanant Thiptaweecharn Program Manager International Institute for Energy Conservation (IIEC) 1168/27 Unit B, 15th Floor, Lumpini Tower, Rama IV Road, Thungmahamek, Sathorn, Bangkok 10120, 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- *File 1:* Technical Proposal (not more than 25 pages) including Organizational Capacity, approach & methodology, work plan and team members' CV. The CV of each team member should not exceed beyond 5 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 8 pages) *(The proposal document should be single-spaced, 12-point Times New Roman font in Microsoft Word, at least one-inch margins)* Proposals submitted in any manner other than as detailed in this paragraph or submitted after the deadline shall be deemed to be invalid and may be excluded from consideration.
Expected execution date of Contract	05th June 2024
Completion date	The Services are required to be completed on or before 20th August 2024

2. BACKGROUND

According to the Bureau of Energy Efficiency (BEE), India's energy efficiency market is estimated to be worth INR 150,000 Crores. Both government policies and efforts by multilateral and bilateral organizations to conserve energy across a wide range of sectors have supported the emergence of various innovative programs for the implementation of energy efficiency and demand-side management in India. In 2009, India has also seen the emergence of Energy Efficiency Services Limited (EESL), a Super ESCO. EESL is a Joint Venture of Power Grid Corporation of India Limited (PGCIL), NTPC Limited (NTPC), Power Finance Corporation Limited (PFC) and Rural Electrification Corporation Limited (REC) to facilitate the implementation of energy efficiency projects. EESL is also leading the market-related actions of the NMEEE. To learn more about EESL, visit www.eeslindia.org

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. 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.

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

Heat pumps are increasingly recognized as a critical technology for heat decarbonization, receiving focused policy support in several countries over the past years. With the urgency to fight climate change and to end dependence on fossil fuels steadily growing, low-grade heat recycling has become a viable option to close formerly open energetic loops and enable a sustainable, circular economy. Industrial high-performance heat pumps support the upgrade of waste or ambient heat sources by increasing the temperature for further use in other processes. In India, however, the technology adoption is still at a very nascent stage.

Further policy support and technical innovation are also required, particularly to reduce upfront costs, remove market barriers to innovations, improve energy performance and durability, and further develop products and systems with lower climate and environmental impact.

As a part of the effort to diversify its programs, EESL is assessing the various opportunities in industrial and commercial energy efficiency interventions. The GEF-6 project is supporting EESL in this endeavor. With this background, IIEC is seeking to engage a consultant/agency to conduct a market assessment of Heat pumps in the industrial and building sector in the country. The assessment should include the market potential, available types, manufacturing capability, supply chain, and other key inputs and recommendations to support EESL for developing a national program on heat pumps in India.

The study will be carried out in close collaboration with IIEC & EESL.

5. SCOPE OF WORK

A. Aim of the Assessment

- To understand the market potential and current usage of heat pumps for the industrial and building sectors in India.
- To suggest a suitable program strategy including a business and financial model for EESL to help in large-scale deployment of Heat Pumps in India.

The list of detailed activities is mentioned below to be carried out under this project.

B. Technology Assessment: The agency shall provide a detailed analysis of the Waste Heat Recovery Systems based on various types of systems or solutions currently being implemented in industries and potential new solutions available globally.

- Classification of heat pumps based on types and efficiency, recommendation of the most viable & cost-effective technology, sector-wise for the Indian scenario.
- Energy savings and carbon emission reduction potential
- Information on Indian and international standards for heat pumps as applicable.
- Potential integration of renewable energy sources with heat pumps & its cost-benefit analysis.

C. Market Scanning: The agency shall analyse the current market scenario including market potential, supply chain, mapping the stakeholders, market drivers and barriers, and policy & regulatory framework.

- Assess the current market potential (value, capacity and sector-wise) of heat pumps globally and in India.
- Mapping of relevant stakeholders such as government agencies and policymakers, Manufacturers/ OEMs, sales & service channels, solution providers and ESCOs, industry associations, end users, Donors, and programs.
- Supply chain mapping: Manufacturing, sales & service channels, and availability, etc.

- Current penetration of heat pumps for residential, commercial, and industrial heating and cooling applications.
- Market drivers and barriers to the adoption of Heat pumps (supply side, customer side, technological, financial etc.
- Assessment of current policy, institutional & regulatory frameworks, gap assessment and recommendations. Linkage to policies and plans such as India Cooling Action Plan (ICAP) and UN SDGs.

D. Program Strategy: Suggest the Go-to-market strategy for EESL for Heat Pumps in industries and buildings which shall include,

- EESL's role and value add as program administrator.
- Target User group
- Demand aggregation methodology
- Procurement and service models
- Innovative financing such as carbon finance
- M&V
- After-sales service
- Market Outreach
- Direct & indirect benefits

E. Consultations & National Workshop

- Conduct consultations with relevant stakeholders with prior knowledge of IIEC.
- Organise a workshop jointly with EESL & IIEC to launch & present the assessment report inviting all the stakeholders.
  Note: The cost of conducting the workshop should not be included in the proposal, as it shall be reimbursed by IIEC at actuals (estimated maximum budget of 5 Lakhs) at a later stage.

6. DELIVERABLES

The selected organization/agency will be responsible for producing or carrying out the following:

- Inception & Interim Report.
- A PowerPoint presentation summarizing the details of the study separately.
- Comprehensive, professional, and design-ready publishable report, including the necessary and high-quality graphics. The organization/agency will be responsible for ensuring the report is nicely drafted and professionally edited. (word and pdf format)
- A design-ready and stand-alone executive summary report (10 pages approximately).
- Submission of workshop proceedings in the form of a report (word and pdf format).
- Data collected in a suitable format (excel sheets, word files or any other format as used by the selected agency)

7. SUBMITTAL & REPORTING

Interested organizations/ agencies must provide information indicating that it is qualified to perform the services, along with budgetary quotes, by submitting the proposal as described above via email to procurement_gef6@iiec.org with the subject as **'Proposal for *Market Assessment of Heat Pumps in India'* in the subject line by 22nd May 2024 at 17:30 hrs IST.**

Proposals should include the following information.

- Brief background about your organization
- Organisational & 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 or assignments with contact details (email and telephone)
- Budget information.
- The consultant should submit a detailed cost proposal in USD only.

8. TIMELINES

The shortlisted agency/consultant is expected to complete the deliverables as per the timelines listed below-

Deliverables (as per the scope of work)	Timeline
Inception Report	Within 7 days of the inception meeting
Interim Report	Within 30 days from the date of award of the work order
Study Report (Draft)	Within 60 days from the date of award of the work order
Final Report submission & presentation	Within 75 days from the date of award of the work order

9. SCHEDULE OF PAYMENTS

- 20% Upon receipt and approval of the inception report.
- 30% Upon receipt and approval of the interim report, incorporating feedback/comments from the peer review process.
- 40% Upon receipt and approval of the final project report.
- 10% post organising the workshop for report launch and dissemination.

10. EVALUATION CRITERIA

The evaluation of bids shall be done on Quality cum Cost 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 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).

- **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. QUALIFYING REQUIREMENTS

- Have legal status in India enabling the firm to carry out the assignment.
- The organization/ agency must have a minimum of Five (5) years in business with demonstrated knowledge of and prior assignments related to energy-efficient heating and cooling solutions preferably Heat Pumps.
- Experience in successfully carrying out at least 3 similar market assessment studies, particularly in the industrial and building energy efficiency domain.
- Prior work experience in energy efficiency programs with bi-lateral or multi-lateral organizations and the Government of India is desirable.
- A team comprising of:
    - **Team Leader –** With a minimum experience of 20 years and expertise in market assessment, market research, technology assessment, project management, preparation of Detailed Project Reports related to business modeling, energy efficiency in the industrial/building sector etc.
    - **Technical Expert (Industrial Energy Efficiency)** – With a minimum experience of 10 years in the field of industrial energy efficiency, heating and cooling in industries, energy audits, preparation of Detailed Project Reports etc**.**
    - **Technical Expert (Building Energy Efficiency)** – With a minimum experience of 10 years in the field of building energy efficiency, cooling and heating in buildings, energy audits, preparation of Detailed Project Reports etc**.**
    - **Financial Expert** – With a minimum experience of 7 years in finance domain such as financial modeling, quantitative assessments etc.

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.

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 on the above-mentioned email ID resulting in non-submission of the bids.
- 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 include the component of local taxes, as applicable.

13. TERMS AND CONDITIONS

- 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, that is received in response to this project.
- IIEC reserves the right to seek clarification or request for 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.
- IIEC will not reimburse bidders' expenses, including those related to responding to this RFP. In case of 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.