

Terms of Reference (ToR) for conducting Impact Assessment of Street Lighting National Program (SLNP)

1. KEY DATES AND DETAILS

Event	Dates
Closing Time for Submission of Proposals	19 th April 2024 at 17:30 hrs IST.
Pre-bid Queries from Bidders	08 th April 2024 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 addressed to: Attention: Ms. Angsanant Thiptaweewan 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: athiptaweewan@iiec.org and procurement_gef6@iiec.org (PROPOSAL: For 'Impact Assessment of SLNP' by the closing time specified above) The Bidder shall submit an electronic version (in PDF format) of its detailed Technical and Financial Proposal. 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	30 th April 2024
Completion date	The Services are required to be completed on or before 30 th June 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 know 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 for 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

The Street Lighting National Programme (SLNP), initiated in the year 2015, marked a significant endeavor to transform India's street lighting infrastructure. This program is implemented by Energy Efficiency Services Limited (EESL), which involves the replacement of traditional streetlights with LED lights at no upfront cost to municipalities. EESL bears the initial investment, and municipalities repay over time through the savings generated from reduced energy and maintenance costs. These agreements typically span seven years, during which EESL ensures a minimum energy saving of approximately 50% and offers free replacements and maintenance services.

Since its inception, the SLNP has achieved remarkable milestones, with over 1.29 crore LED streetlights installed across Urban Local Bodies (ULBs) and Gram Panchayats throughout India. As part of the SLNP, 1576 ULBs have been enrolled, and substantial progress has been made, with work completed in 1060 ULBs. Furthermore, EESL has also extended this program to Gram Panchayats, aiming to enhance lighting efficiency in remote regions.

The current study aims to assess the impact of the SLNP program. The impact assessment exercise will explore aspects related to environmental, energy savings, cost savings and other socio-economic factors.

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

5. SCOPE OF WORK

This technical scope of work outlines the approach, methodology, and deliverables required under this assessment.

A. Aim of the Assessment

- Assess the reduction achieved in energy consumption, electricity demand & operational cost through implementing the Street Lighting National Program (SLNP).
- Evaluate the environmental impact of the project, including greenhouse gas emission reductions and potential improvements in air quality, and improvement in the availability of public lighting (hours).
- Analyse the social and safety impacts of the project, considering factors like crime rates, pedestrian and cyclist safety, and public perception of lighting levels.
- Provide recommendations for further optimizing the Street Lighting National Program (SLNP) and maximizing its benefits.

B. Methodology

Data Collection & Analysis

- Utilize a mix of quantitative and qualitative research methods.
- Conduct sample surveys, interviews, and site visits for data collection for a minimum of ten (10) Urban Local Bodies which may including representing all four regions – North, East, West and South. The target cities are mentioned in the *Annexure*.
- The surveys should be a mix of physical and virtual consultations. The details of respondents and questionnaires shall be shared with IIEC.
- The consultant/ agency should include consultations with stakeholders such as EESL officials, local state authorities, businesses, community members, pedestrians and other direct & indirect beneficiaries or organisations involved in SLNP.
- Conduct the survey based on the statistically robust and relevant sampling plan. The survey shall involve a random distribution and be representative of the number of lights in the particular ULB.
- Sampling size shall be determined with a minimum 90% confidence interval and a maximum 10% error margin in the number of streetlights in the ULB.
- A minimum sample size of 1500 is expected to be taken up including all the stakeholders mentioned above.
- The agency shall indicate the no. of stakeholders that will be approached for consultations and data collection during the submission of the proposal.

The broad list of key activities is mentioned below to be carried out under this assessment.

C. Evaluation of Savings

- Energy consumption can be found out from average power consumption calculated from measurements taken for sample size for each type of fittings and considering the time of use from CCMS.
- Extrapolation and estimation of the quantum of energy savings (kWh), peak demand reduction (MW) and carbon emissions reduction (tons of CO₂) through the SLNP pan India.
- Breakup of energy and cost savings achieved through the implementation of SLNP (zone-wise, state-wise, and national level).
- Benefits of digitalization through CCMS, standardization of product (lighting) and illumination benefits compared to the conventional technologies.
- Analyse the cost savings (in INR) associated with lower energy bills
- Examine the economic benefits through SLNP, including cost savings in operations, maintenance and return on investment for the ULBs & state government departments.
- The report should highlight the success stories while comparing from pre-implementation to post-implementation including uptime improvement and other key performance indicators.

D. Environmental Impact

- Evaluate the environmental impact of SLNP, focusing on reductions in carbon emissions, light pollution, impact on nocturnal biodiversity etc.
- Evaluate the waste (accumulated old bulbs & lights) disposal process and its impact on the environment.
- Quantify the environmental benefits derived from the program's initiatives.
- Analyse the sustainability aspects of the implemented lighting solutions, the impact related to SDGs, and NDCs.

E. Social Impact:

- Gauge public opinion and satisfaction regarding the new lighting system.
- Analyse the social impact of improved street lighting on community safety and well-being.
- Assess the impact of the new lighting system on crime, traffic accidents and overall community satisfaction.
- Evaluate program impact related to job creation, gender inclusion and diversity.

F. Stakeholder Consultations & Workshop

- The selected agency should conduct physical as well as virtual stakeholder consultations to support the impact assessment in consultation with EESL & IIEC.
- Conduct one national workshop to launch the report and disseminate the findings of the assessment.
Note: The cost of conducting the workshop should not be included in the proposal, as IIEC shall reimburse it at actuals at a later stage (estimated maximum budget of 5 Lakhs).

6. DELIVERABLES

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

- Inception & Interim Report.
- Preparation of a 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.
- A design-ready and stand-alone executive summary report (10 pages approximately).
- A PowerPoint presentation summarizing the details of the study.
- 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 separate proposals as described above via email to athiphaweecharn@iiec.org and procurement_gef6@iiec.org with 'RFP – Impact Assessment of SLNP' in the subject line by 19th April 2024.

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 Agency should submit a detailed cost proposal in USD only.

8. TIMELINES

The shortlisted Organization/Agency is expected to complete the deliverables as per below listed timelines.

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
Draft Study Report	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 PAYMENT

- 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.

10. EVALUATION CRITERIA

The evaluation of bids shall be done on Quality Based Selection with 75% (seventy five percent) weightage to technical score and 25% (Twenty five 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.	15 20 20	55
Specific experience of the Organization/Agency relevant to the assignment	20	20
Bid cost competitiveness		25
TOTAL		100

11. QUALIFYING REQUIREMENTS

- Have legal status in India enabling the firm to carry out the assignment.
- Average annual turnover for the last three financial years should be at least INR 5 Crore.

- The organization/agency should be in the business for a minimum period of 5 years with demonstrated knowledge of prior assignments related to LED street lighting in India.
- Experience in successfully carrying out at least 3 projects (such as impact assessment, market assessment etc.) related to LED street lighting.
- Prior work experience in energy efficiency programs with bi-lateral or multi-lateral organizations and the Government of India is desirable.
- Excellent planning and organizational skills and ability to deliver services even in tight deadlines.
- **A team comprising of:**
 - a. **Team Leader** – Should be at least a BEE Certified Energy Auditor (CEA) with a minimum experience of 20 years in the field of energy efficiency, street lighting and expertise in project management, market research, market assessment, preparation of Detailed Project Reports etc.
 - b. **Technical Experts (Energy Efficiency) (2)** – Should be at least BEE Certified Energy Managers (CEM) with a minimum experience of 10 years in the field of energy efficiency, street lighting, market and impact assessment, energy audits, preparation of Detailed Project Reports, etc.
 - c. **Environmental Expert** – With a minimum experience of 7 years in the field of environmental policy, planning/modeling, and estimation of GHG emissions.
 - d. **Gender or Social Expert** – With a minimum experience of 3 years.

12. INSTRUCTIONS FOR BIDDERS

- Bidders are requested to submit the Technical & financial proposals in a single file (in pdf format), in a single mail along with all supporting documents in a separate file or folder.
- Files/ Folders greater than 20 MB in size will not be delivered in the email ID mentioned above 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.

13. TERMS AND CONDITIONS

- JV/consortium of any kind will not be allowed for this assessment. **Subcontracting is allowed only for carrying out field surveys and on ground data collection.**
- 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 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 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.

14. ANNEXURE

S. No.	Cities
1	New Delhi
2	Lucknow
3	Srinagar
4	Patna
5	Ranchi
6	Raipur
7	Solapur
8	Ichalkaranji
9	Secunderabad
10	Guntur