

Estimation of Residential Energy Consumption

CLASP is seeking a consulting organization to estimate residential energy consumption to help establish an energy use baseline, appliance ownership, and usage pattern. This assessment will provide valuable insights into the factors driving energy demand, fuel consumption and identify areas for energy efficiency improvements.

DUE: 30 October 2023 at 23:59 ET **QUESTIONS:** ppandey@clasp.ngo

About CLASP

CLASP serves at the epicenter of collaborative, ambitious efforts to mitigate climate change and in the global movement for clean energy access, through appliance efficiency. Our mission is to improve the energy and environmental performance of the appliances & equipment we use every day, accelerating our transition to a more sustainable world. We work hand-in-hand with governments, experts, industry, consumers, donor organizations and others to propel policies and markets toward the highest quality, lowest resource-intensive appliances possible.

CLASP has worked in more than 100 countries since inception in 1999. CLASP is headquartered in Washington, DC, with teams in China, Europe and the United Kingdom, India, Indonesia, and Kenya. We are [mission-driven](#) and committed to a culture of diversity, transparency, collaboration, and impactful work. See our [Team Page](#) to learn more about us.

Background

The Government of India enacted the Energy Conservation Act 2001 (EC Act) in August 2001 and established BEE, a statutory body under Ministry of Power, Government of India to implement the EC Act in 2002. The Act identifies S&L as one of the major program areas for improving energy efficiency in the residential, commercial, and industrial sector. BEE launched the S&L program in May 2006 and currently it covers 34 product categories of which 15 are mandatory products.

CLASP will conduct this study in collaboration with Energy Data Management Unit (EDMU) of BEE. EDMU is plays a pivotal role in monitoring and assessing the impact of energy-related policies. EDMU is dedicated to compiling and publishing data on energy supply and consumption across various sectors, aligning its methodologies with international standards to ensure uniform reporting.

Timeline

Project Timeframe: 5 November 2023 – 31 January 2024

Deadline for Application: 30 October 2023 at 23:59 ET

Application includes registering as a Consulting Partner and submitting the technical and financial proposals per the instructions below.

Deadline for Questions: 20 October 2023 at 23:59 ET

All questions must be addressed in English to Prasun Pandey at ppandey@clasp.ngo. We request all inquiries be made to this e-mail address and not by phone.

Scope of Work

Energy consumption in the residential sector accounts for 30% of the total consumption in India, the second highest after the industrial sector.¹ India's residential energy consumption has been steadily increasing due to factors such as population growth, urbanization, and rising income levels. Appliance ownership and its use is a key contributor towards electricity consumption. With 100% household electrification, there is a growing reliance on electrical appliances for various purposes, including cooking, heating, cooling, lighting and entertainment.

Currently, the data on appliance ownership and usage data is not comprehensive and is based on assumptions. As the penetration of appliance and energy use expands in Indian households, there is a need to better understand data on residential energy consumption to develop effective robust and effective policies and manage better forecast future demand.

CLASP, in collaboration with BEE, proposes to estimate residential energy consumption to help establish energy use baseline, appliance ownership, usage pattern. This assessment will provide valuable insights into the factors driving energy demand, fuel consumption and identify areas for energy efficiency improvements.

The study will be carried out close collaboration with BEE and CLASP

Objectives: The main objectives of this project are as follows:

- To understand appliance ownership, usage and energy consumption pattern, and their contribution to total residential energy demand.
- To understand national level fuel consumption in the Indian households
- To identify key drivers and factors influencing residential energy demand.

The assessment will encompass the following scope of work:

➤ **Task 1 – Development of a framework of the survey/study:** This will include-

1. Development of a comprehensive approach and methodology for the study
 - a. Methodology for data collection, analysis, and reporting. This should include sampling techniques, data sources, statistical tools, and modeling approaches.
 - b. The sampling plan should be comprehensive and cover household and building types, dwelling units, socio-economic classifications, climatic zones, etc.
2. Preparation of questionnaire for conducting energy survey in appropriate language(s), covering:
 - a. Identification of major energy sources/fuel types being used in residential buildings.
 - b. Ownership and usage pattern, type/categories, age of appliances in general as well as in relation to socio economic classifications, price of products etc.

¹ <https://shaktifoundation.in/wp-content/uploads/2022/01/Residential-EDM-White-Paper.pdf>

- c. Building characteristics, household demographics, and climate conditions within the study area
- d. Socioeconomic classifications of the respondents
- e. Consumer awareness on the benefits of energy-efficient appliances and willingness to pay, consumer behavior

➤ **Task 2 – Conduct pan India survey:**

1. Pilot testing of the questionnaire to understand its effectiveness and comprehensiveness in capturing information on energy consumption.
 - a. Revision of the questionnaire, if required
2. A residential pan-India survey across 4000 households will be conducted. The survey will be representative of various geographical locations, various climatic zones, and different socio-economic consumer bases.

➤ **Task 3 – Results and Recommendations:**

1. Statistical analysis of the data collected through the survey to understand appliance usage, penetration, energy, and fuel consumption, and the impact of various factors (e.g., climate, building types, occupancy, appliances, etc.) on energy demand.
2. Developing model to extrapolate findings of the survey on residential energy consumption patterns at the national level.
3. Insights on consumer awareness as well as behavior on appliance usage, benefits of energy-efficient appliances and willingness to pay.

Key Milestones and Deliverables

The project will be conducted in close collaboration with CLASP team. In addition, the consultant is expected to participate in periodic update meetings/calls and provide timely and detailed responses to questions and comments from CLASP team members related to this project. Deliverables include:

- a. Comprehensive report summarizing findings, analysis, and recommendations.
- b. Visual representations of data and findings (charts, graphs, maps, etc.).
- c. Presentations for stakeholders and decision-makers.

Key Qualifications

- **Comprehensive Industry Expertise:** The organization responding to this RFP should demonstrate a strong and holistic understanding of the energy sector.
- **Survey and Market Research Proficiency:** The organization must possess proven capabilities in survey design, data collection, and market research.
- **Experience in conducting Similar Studies:** The organisation should have a track record of successfully conducting studies similar in scope and complexity to the requirements of this RFP. Past performance in similar projects is a key indicator of the organization's ability to meet the project's objectives.

- Energy Modeling and Savings Calculations: Demonstrated experience in projects involving the collection of energy data, energy modeling, and savings calculations is essential.
- The organization should have a local presence in Delhi, India

Submittal

Register as a Consulting Partner

Interested parties must [register as a CLASP Consulting Partner](#).

Submit Technical and Financial Proposals

Interested parties should submit separate technical and financial proposals electronically, in English, via this [form link](#) (preferably in PDF format). The files should be named as per the following example:

[CONTRACTOR_NAME] _Technical Proposal_ RFP 2023-11-30
[CONTRACTOR_NAME] _Financial Proposal_ RFP 2023-11-30

The length of the technical proposal should not exceed 20 pages and should include:

- Detailed approach and methodology for the design, implementation, and management of the project
- Detailed timeline for all project activities, tasks, milestones, and deliverables for the project within the time-frame indicated above
- Background and experience in conducting similar activities
- A summary of qualifications and experience of key personnel that will execute the project

The financial proposal (in USD) should include a detailed budget with all direct and indirect cost estimates for executing the project, including a breakdown (in days) of the level of effort and costs associated with each team member that will be engaged in the project.

CVs and related summaries of experience and qualifications of proposed project team staff should be included in an Annex and should not exceed 10 pages.

Optional At This Stage – Fill Out Pre-Qualification Questionnaire (PQQ)

All contractors must [fill out the PQQ](#) before working with CLASP. This can be voluntarily completed at the RFP stage but will be mandatory if a contract is awarded.

The PQQ is a thorough due diligence screening aimed at gathering legal and financial information on prospective partners/vendors. Contract awards are conditional upon passing the due diligence screening. Organizations that have already completed the PQQ do not need to

complete it again unless the structure of the business has changed. If you are unsure, please email Andrea Testa (atesta@clasp.ngo) to determine next steps.

Evaluation Procedure

A committee appointed by CLASP will evaluate proposals received. Selection of qualified companies or organizations will be based upon the following criteria:

- **Technical Evaluation Factors**
- **Financial Evaluation Factors**

All bids will be evaluated and ranked using Quality and Cost Based Selection (QCBS), with 80 percent of the score accorded to the technical proposal, and 20 percent to the financial proposal. The detailed evaluation criteria can be found in Annex A.

ANNEX A: EVALUATION CRITERIA

Technical Approach (40 points): The technical approach described in the proposals will be evaluated on:

- The demonstrated understanding of the overall project context (20).
- The detailed work plan and approach clearly defining the target objectives and the strategy to achieve the objectives as outlined in the scope of work (20).

Management Structure and Staff Qualification (25 points): The proposed management structure and staff will be evaluated on:

- The professional qualifications and the extent to which the requisite expertise and experience of the key personnel will directly contribute to the completion of the tasks (25).

Past Performance and Experience (15 points): The experience and capacities of the contractor will be evaluated based on:

- The past performance, familiarity, and experience in conducting similar assignments (15).

Cost Evaluation Factors (20 points): While the overall Technical Evaluation is the key factor in reviewing the proposal, the cost evaluation will be an essential factor in determining the final contract award and ability to remain in the competitive range and will be evaluated for feasibility, completeness, and practicality.

CLASP looks forward to reviewing your responses and would like to thank you in advance for your participation in this Request for Proposals. CLASP will notify all respondents who submit proposals when a decision has been made.

CLASP is an equal opportunity employer that celebrates diversity and are committed to creating an inclusive environment for all employees. CLASP's goal is to be a diverse workforce that is representative, at all job levels, of the citizens we serve. CLASP complies with all federal, state and local employment law in the countries we operate and is committed to providing equal opportunity for all employees and applicants without regard to race, color, religion, national origin, sex, age, marital status, sexual orientation, gender identity or expression, pregnancy, disability, political affiliation, personal appearance, family responsibilities, matriculation, genetic information, military or protected veteran status, credit information or any other characteristic protected under federal, state or local law.

Each person is evaluated based on personal skill and merit. CLASP's policy regarding equal employment opportunity applies to all aspects of employment, including recruitment, hiring, job assignments, promotions, working conditions, scheduling, benefits, wage and salary administration, disciplinary action, termination, and social, educational and recreational programs.