

REQUEST FOR EXPRESSIONS OF INTEREST (CONSULTING SERVICES – FIRMS' SELECTION)
FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA
MINISTRY OF WATER AND ENERGY

Project Title: Energy Source Demand and Consumption Assessment Project

Reference No.: QCBS-MOWE-ESDCS - 002/2024 - Re-bid

1. OBJECTIVES OF THE ASSIGNMENT

To assess **the current and forecast future Energy Source Demand and consumption** in the Sectors (Transport, Industry, Household, service and Agriculture) that contribute to the sustainable development goal. Thereby, offer evidence based strategic interventions areas that show the status of sectors consumption and Demand needs, and it used to increase the supply, access and energy efficiency improvement options.

2. SCOPE OF THE CONSULTANCY SERVICE

The scope of the Energy sources demand and consumption assessment will cover sectors (**households, Service Sector, industries, Agriculture and transports**) at national level. The Assessment expected to be completed within 1 year. But, the task presented under the two main tasks: Task 1) The main Tasks/Activities of the Consultant, Task 2) Detail brief activities and Expectations from the consultant.

Please note that the detail Objective and Scope of the assignment shall be given in the ToR through the website.

3. DURATION OF ASSIGNMENT and CONTRACT:

The total duration of the assignment will be 360 calendar days with possible extension based on performance. The Independent Verification will be conducted as per the request of the claims by the grantee of the project with a total estimated input of 12 man-months.

The Ministry of Water and Energy now invites eligible consulting firms ("Consultants") to indicate their interest in providing the Services. Interested Consultants should provide information demonstrating that they have the required qualifications and relevant experience to perform the Services.

The Evaluation of Full Technical Proposal is:

- I. Core business and years in business
- II. Qualification & Relevant Experience of the firm in the field of assignment (Specific Experience)
- III. Organizational, managerial and technical capabilities of the firm.

The attention of interested Consultants is drawn to Section III, paragraphs, 3.14, 3.16, and 3.17 of the World Bank's "Procurement Regulations for IPF Borrowers" July 2016 ("Procurement Regulations"), setting forth edition 2020 the World Bank's policy on conflict of interest. A Consultant will be selected in accordance with the QCSB method set out in the Procurement Regulation (PPA). Further information can be obtained at the address below during office hours 9:00 am to 12:00 before noon and 2:00 pm to 4:30 pm after noon from Monday to Friday on the Ministry of Water and Energy Website [https://www.mowe.gov.et/en/resource types/procurement-files](https://www.mowe.gov.et/en/resource/types/procurement-files).

Expressions of interest must be delivered in a written form to the address below (in person, or by mail or by e-mail) on or before 29th April 2025, 2:00 PM (Afternoon).

Ministry of water and Energy (MOWE)
Attn: Mr. Mehandis Melaku, Executive Procurement Officer
Haile Gebresilasie Avenue 2nd floor, Room Number 215
Tel: 0116898036
E-mail: procurement@mowe.gov.et
Addis Ababa, Ethiopia



9/1/2024

Ministry of Water and Energy

Energy Resource Study Lead Executive Office

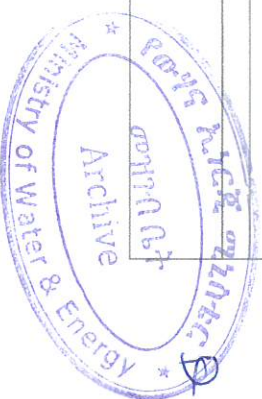
Energy Source Demand and Consumption Assessment Project



November, 202

Project Summary

| | |
|---|---|
| Project Title: | |
| Energy source Demand and Consumption Assessment | |
| Ref.No. 10625062 | |
| General objective: | <i>To assess the current and forecast future Energy Source Demand and consumption in the Sectors (Transport, Industry, Household, service and Agriculture) that contribute to the sustainable development goal. Thereby, offer evidence based strategic interventions areas that show the status of sectors consumption and Demand needs, and it used to increase the supply, access and energy efficiency improvement options.</i> |
| Beneficiaries: Sectors (i.e. Transport, Industry, Household, service and Agriculture), MoWE, Researchers, Decision and policy makers and Investors will be benefited. | |
| Areas of Operation: | <i>The project will be operated on the selected area of the country which will be selected by the consultant from Regions unit frame.</i> |
| Duration of the project : | 1 years |
| Time of commencement: | Starting from 2017 |
| Implementing Agency : | Ministry of Water and Energy, Energy Resource Study Lead Executive Office, Tel.+251921091140 |
| Contact Person : | Mr. Kaleb Taddesse Energy Resource Study Lead Executive Officer |



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|---|
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| Acronym: |
| ERSLEO:- Energy Resource Study Lead Executive Office |
| CAP:- Computer Assisted Personal Interview |
| ESS:- Ethiopian Statistical Service |
| MoWE:- Ministry of Water and Energy |
| EA: Enumeration Area |
| TOR: Term of Reference |
| HH: Household |



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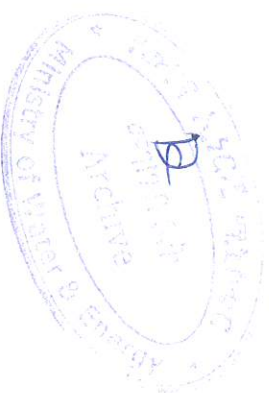


1. Background

Ethiopia, a diverse and geographically vast East African nation, has been making significant strides in the realm of Energy sources and demand. As one of the continent's fastest-growing and most populous economies, Ethiopia's energy landscape plays a pivotal role in its development and sustainability. There is untapped renewable energy potential, including wind, solar, and geothermal sources. The country is making efforts to diversify its energy mix by investing in wind farms, solar installations, and geothermal rural areas, biomass, such as agricultural residues and wood, remains a primary energy source for cooking and heating. However, there is an increasing shift toward cleaner and more sustainable alternatives. The country's energy demands are expected to align with population growth, the industrialization program plan, agricultural sector, and urbanization of the country.

Previous assessment conducted on the country Energy source and demand majorly indicates the following challenge; limited Energy Access: A significant portion of Ethiopia's population, particularly in rural areas, lacks access to reliable and affordable energy services. This limits their ability to engage in income-generating activities, hinders education, and affects overall living standards, heavy Reliance on Biomass: Biomass, such as firewood and crop residues, remains the primary source of energy for cooking and heating in Ethiopia. This reliance contributes to deforestation, indoor air pollution, and health issues, particularly for women and children who are most often responsible for collecting and using biomass fuel, uneven energy distribution: The energy infrastructure is primarily concentrated in urban areas, leading to disparities in energy access between urban and rural regions. Expanding energy distribution to remote areas with challenging terrain is logistically and financially demanding, hydropower Vulnerability and low energy efficiency.

The energy source demand and consumption assessment project will ensure a rational and implementable approach to the management of the Country's energy sources through a combination of measures designed to improve the sustainability of energy sources and demand need, and improve energy production/conversion. It will open-up the market for private investment of the sector.



2. Introduction

Ministry of Water and Energy Designed to Conduct Energy source Demand and Consumption assessment to assess the current situation, and predict the future National Energy source Demands needs in the sectors. Energy source Demand and Consumption assessment are not only having the Energy source needs in the sectors, but also providing policy makers and multiple stakeholders the necessary information and data to maximize the impact of their energy supply and access interventions. Therefore, this consultancy aims to carry out comprehensive Energy source demand and consumption assessment, analysing collected data and generate the report. Thus, under the general supervision of Energy Resource Study LEO, and in closed collaboration with the project team-MoWE the consultant of the firm will be responsible for:

- Carry out comprehensive Energy source demand and consumption assessment, analysing the collected data, predict the future National Energy Source Demands needs, quantify the energy use intensities and determine if energy is being used efficiently in the sectors. Thereby offer evidence based strategic intervention areas that have to be used in the sectors.
- Train experts and supervisors of MoWE with respect to Energy source demand and Consumption assessment and generating the report.

3. Objectives:

General Objective

The general objective of the assignment is to assess the current and forecast future Energy Source Demand and Consumption in the Sectors (Transport, Industry, Household, service and Agriculture) that contribute to the sustainable development goal and the safeguarding of the environment.

Specific Objectives

- To assess the current energy source demand needs of the sectors,
- To Forecast the energy source demand of the sectors
- To assess the current status of energy consumption of the sectors,



- To Examine the energy technology utilization scenario in the sectors
- To analyse the energy needs and gaps of the sectors.
- Examine the technology access and utilization status
- To evaluate energy transition scenario
- Train experts and supervisors of MoWE with respect to Energy source demand and Consumption assessment and generating the report.
- Based on assessment result recommend implementable intervention areas.

4. Scope of the Work

The scope of the Energy sources demand and consumption assessment will cover sectors (**households, Service Sector, industries, Agriculture and transports**) at national level. The survey expected to be completed within 1 year.

5. Main Tasks of the Consulting Firm

The consultant of the firm will carry out the project activities defined under the specific objective jointly with the project team-MoWE to build capacities for the use of the tools applied in gathering data, analyzing, interpreting collected data and generate the report within the time frame defined by this TOR.

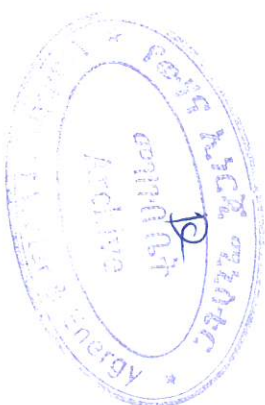
5.1 The main Tasks/activities of the consulting firm:

Table 1. List of Activities and Responsibilities

| No. | Activities List | MoWE-Project team | Consultant |
|-----|------------------|---------------------------------|--------------------------|
| 1 | Inception report | Follow up and verify the report | Prepare Inception Report |



| No. | Activities List | MoWE-Project team | Consultant |
|-----|--|---|--|
| 2. | Methodology Development | verify the methodology | Develop the methodology |
| | | Support to obtain the data/information | Identify Institution/Organizations, Stakeholders in the sector... collect data/information |
| | | Verify the defined data and tools by the consultant | Define the data to be collected and gathering tools |
| 2.1 | Questioner/Checklist development | | |
| | Questioner Development | Review the developed questionnaires | Develop questionnaires |
| | Development of checklist | Review the Check list | Develop checklist |
| | | Follow - Up | provide training for project team & support experts |
| 2.3 | Primary and secondary data collection | Work with consultant on data collection | Both Primary and secondary data collection and storing |
| 2.4 | Secondary document review | Verify the data/information | Review documents |
| 3 | Data coding and cleaning | | |
| | | Learn how to data coding and cleaning | Do the data coding and cleaning with project team-MoWE |
| | | Follow - up and checking | Provide the data with the required data format |
| 4 | Data analysis | | |
| | | Learn how to the data analysing | Analyse data |
| | | Learn how to interpret | Data Interpretation |

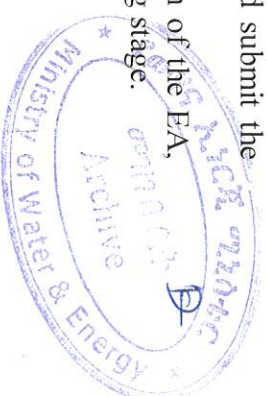


| No. | Activities List | MoWE-Project team | Consultant |
|-------------|-------------------------------|--|---|
| 5 | Report Writing | Contribute and agree on the final outline of the report | Finalize the outline for the report |
| | | Follow-up and evaluate | Write the first draft report of the assessment and present |
| | First Draft Report | review and comment documents | Incorporate the comments to the document |
| | Draft Final Report | Ensure the validity of the draft final report | Work on Draft Final Report |
| 5.1. | Validation workshop | | |
| | Power point presentation | Follow-up Inviting stakeholders for validation workshop | Preparing the PPT and present |
| 5.2 | | Arrange logistic for workshop | |
| | Present findings of the study | Take notes on the comments | Presentation of findings and Collect comments from participants |
| | | Ensure all comments are incorporated | Incorporate comments and update the report |
| | Final Report | Receive the final report | Submit the Final Report |

Detail brief activities and Expectations from the consulting firm:

The consulting of the firm will work closely in collaboration with the Ministry project team of MOWE. Specifically, the assignment will include the following but not limited to:

1. **Develop the assessment questioners** to conduct the Energy source demand and consumption assessment, and submit the inception report to MoWE, and prepare the consultation workshop
2. The consultant will be responsible to develop the Assessment Methodology which will includes identification of the EA, training project team-MoWE and energy staf, and organizing the overall task from data collection to report writing stage.



- a) **Developing training manuals and conduct trainings for the EA and supervisors, Project team-MoWE, staff working on the energy sector:** The consultant will also develop training manuals and conduct trainings for the assessment team to ensure full understanding of the assessment. The training will include actual field operation, data analysis, interpretation and report writing.
 - b) **Data Collection:** The Assessment may involve both primary and secondary data.
 - c) **Data coding and cleaning: the consultant will do data coding and cleaning with project team-MoWE.**
 - d) **Data analysis:** the Consultant will define method of data analysis and interpretation for each sector.
 - e) The consultant will well define the data source for each sector and the approach to collect data from various institutions/organizations and stakeholders in the sector.
3. **Develop the relevant data entry applications and setting up the data platform:** The consultant will work with the project team-MoWE to develop the data entry applications. This application will include quality control, and data cleaning program.
 4. **Develop the data management system that includes mechanisms for data Analysis.** This will include built- confidentiality and data protection mechanisms.

6. Reporting

Progress on activities will be periodically reviewed by project team. The consultant of the firm should submit draft report of the services before present any progress.

Depending on the comments received, the consultant will be asked to make revisions to his final reports within the schedule. The firm in general should produce the following reports.

- 6.1.**Progress report:** the consultant will submit progress report on each steps of the activities/tasks according to the deliverable schedule
- 6.2.**First Draft Assessment Report:** the consultant will submit the draft report to project team-MoWE that ready for consultation workshop.
- 6.3.**Final draft assessment report:** the consultant will incorporate the comments and feedbacks from stakeholders
- 6.4.**Conduct Validation Workshop** - the consultant will present the assessment results and findings, collect the final feedbacks and generate updated final report.
- 6.5.**Final Report:** the consultant will submit the Final Assessment Report to MoWE in both soft and hard copy.



7. DELIVERABLES

The consultant is expected to deliver the following deliverables:

- a) **Inception report:** detailing how the consultant intends to carry out the assignment, methodology to be used, and milestones and out puts for each task with clear timeline in 5 soft copies and 10 hard copies.
- b) **Progress report:** the consultant will submit progress report within on each steps of the activities/tasks according to the deliverable schedule
- c) **First Draft Assessment Report:** the consultant will submit the draft report to project team-Mo WE that ready for consultation workshop.
- d) **Final draft assessment report:** the consultant will incorporate the comments and feedbacks from stakeholders
- e) **Final Report:** the consultant will submit the Final Assessment Report to Mo WE in both soft and hard copy.

Expected Delivery and Schedule for final output:

The consultant of the firm should conduct whole study within 8 months from the date of signing the contract. After signing of the contract, the following indicative schedule is suggested:

| Deliverables/Activity | Tentative Schedule |
|---|---|
| A. inception report preparation | 1 Months after the award of the contract |
| B. Design data gathering tools | 1.5 Months after the award of the contract |
| C. Develop training manuals and conduct trainings for the project team-MoWE on data collection, coding, cleaning, analysis and interpreting | 2 Months after the award of the contract |
| D. data collection, coding, cleaning, analysis and interpreting | 5 Months after the award of the contract |
| E. First Draft Report submission | 6 Months after the award of the contract |
| F. Present the Report to consultation workshop | 6.5 Months after the award of the contract |
| G. Final draft report submission | 6.75 Months after the award of the contract |
| H. Present the Report to validation workshop | 7 Months after the award of the contract |
| I. Submit the final report and data both in hard and soft copy to the MoWE | 7.5 Months after the award of the contract |

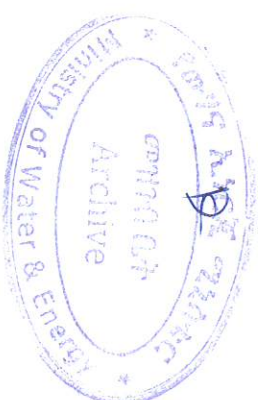


Payment Schedule

- 10% of the fee will be made after completion of task A, upon submission and approval of the inception report and work plan
- 20% of the fee after completion of task B & C, upon submission and approval of data gathering tools and the necessary training manual and the training.
- 45% of the fee after completion of task D & E, upon submission and approval of first draft report.
- 25% of the fees after completion of task F, G, H & I, upon submission and approval of the final report and data.

a. Consulting Firm Experience and Staffing

- The consulting firm should have a minimum of ten years' experience of which at least six years will be of relevant experience in energy study and development projects/programs,
- The consulting firm should have multi-disciplinary staffs relevant to the assignment
- Well experienced in developing the Energy Survey Questionnaires and in conducting different Nationwide Survey
- Having experience in Energy Analysis, policy analysis, strategic design, forecast the energy demand using different Statistical tools and Energy Models
- Having Proven experience in capacity building in the energy sector
- Proven experience in facilitating multi-stakeholder processes and consultation workshops



8. TEAM COMPOSITION

Within the team leader of the consultant firm should have an appropriate mix of experience and expertise? The key expert positions needed are indicated below.

Key staff

- The consulting firm is required to provide personnel who are suited to filling the positions described, on the basis of their CVs, the range of tasks involved and the required qualifications.
- The consulting firm requires one team leader and two senior experts, and total of three professionals including the team leader.

Table 2: Essential team composition and man-month input of consulting firm

| Position | Task | Minimum Professional requirements And Qualification | General Experience | Specific Experience and other assets | Man-month input |
|---------------------|--|---|--|---|-----------------|
| Team Leader | Overall responsibility for the consultancy services of the consultant (quality and deadlines). | At least MSc degree in Energy Engineering (Sustainable Energy Engineering, Power Engineering...), Energy Technology, Mechanical Engineering, project management, Statics, Physics or MA in Economics, or related. | 10 years' experience in energy and related areas | Experience in 4 and more energy study projects, and Demonstrable experience in capacity building for experts and counterparts within the last 10 years. | 8 |
| Senior Statistician | Assess technical needs, collect data in the sectors and providing | At least BSc/BA/ degree in Energy Engineering (Sustainable Energy Engineering, Sustainable Energy | 6 years' experience in energy | 3 years' experience in energy sector based assessment study (HH, Transport, Industry Service and Agriculture) | 6.5 |

| | | | | | |
|-------------------|---|--|---|---|-----|
| | expert advice | Technology Engineering, Power Engineering..., Mechanical Engineering, Statics, Physics or MA in Economics, or related, | and related areas, | | |
| Energy Specialist | Analysis and interpret data using different Statistical tools and Energy Models | At least BSc/BA/ MSc degree in IT Engineering, Energy Engineering (Sustainable Energy Engineering, Power Engineering...), Energy Technology, Mechanical Engineering, Statics, Physics or MA in Economics, or related | 5 years of experience in energy and related areas | 3 years' experience, in energy analysis and forecasting using different Statistical tools and Energy Models | 6.5 |

D

