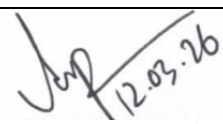


Invitation for Expression of Interest (EoI)

1.	Ministry/Division	:	Energy and Mineral Resources Division
2.	Agency	:	Hydrocarbon Unit
3.	Procuring Entity Name	:	Director General (Joint Secretary)
4.	Expression of Interest (EoI)	:	For the selection of Consulting Firm/Individual (National) (Lum-Sum)
5.	EoI Ref. No. and Date	:	28.06.0000.000.000.000.07.0001.17.76; Date: 12.03.2026
Key Information			
6.	Procurement Method	:	QCBS
7.	The Period of Assignment	:	8 Weeks
8.	Budget and Source of Funds	:	Revenue and GOB
9.	Title of Assignment	:	Consultancy Service for analyzing the household survey data collected in Rangpur Division to quantify biomass energy usage, convert it into standardized energy units and to develop a replicable methodology for estimating biomass contribution in the national energy mix of Bangladesh.
10.	EoI Publication Date	:	15.03.2026
11.	Time and Date of Pre-Proposal Meeting	:	30.03.2026 Time:12:00 PM
12.	EoI Closing Date and Time	:	05.04.2026 up to 12.00 PM
13.	EoI Opening Date and Time	:	05.04.2026; 12.30 PM
14.	Brief Description of Assignment (TOR)	:	Objective of the Assignment To analyze the household survey data collected in Rangpur Division to quantify biomass energy usage, convert it into standardized energy units and develop a replicable methodology for estimating biomass contribution in the national energy mix of Bangladesh. Detail Terms of reference is available on the website www.hcu.gov.bd
15.	Experience, Resources and Delivery Capacity Required	:	Academic Background: Minimum Master degree in Statistics, Economics, Data Science, Applied Mathematics, Environmental/Energy Economics or, any other relevant subjects. A PhD degree in a relevant discipline will be considered as an advantage. Professional Experience: The consultant should have a minimum of five (5) years of experience in quantitative data analysis, with demonstrated expertise in analyzing household survey data, biomass energy usage, or energy statistics. Prior experience in preparing technical reports or policy studies related to energy planning and analysis will be considered an added advantage. The consultant should possess strong technical skills, including proficiency in statistical and analytical software such as Stata, R, Python, or SPSS, as well as advanced data management capabilities using Microsoft Excel. Familiarity with energy unit conversions, particularly in terms of ton of oil equivalent (toe) and petajoules (PJ), is required for energy analysis. In addition, experience with data visualization and dashboard tools, such as Power BI or Tableau, will be considered beneficial for presenting analytical results effectively.
Procuring Entity Details			
16.	The Place where the application will be received	:	Hydrocarbon Unit (HCU), 153 Pioneer Road, Segunbagicha, Dhaka-1000
17.	Name of Official Inviting EoI	:	Md. Sabet Ali
18.	Designation of Official Inviting EoI	:	Director General (Joint Secretary), Hydrocarbon Unit (HCU).
19.	Address of Official Inviting EoI	:	Hydrocarbon Unit (HCU), 153 Pioneer Road, Segunbagicha, Dhaka-1000.
20.	Contact details of Official	:	Phone: +02-41030701, e-mail:hcu@hcu.org.bd
21.	The Procuring Entity reserves the right to accept or reject all EoI		


 Dr. Arup Kumar Biswas
 Director (Additional Charge)
 Phone: +02-41030701
 Email: hcu@hcu.org.bd

Terms of Reference (TOR)

For the Position of Consultant (Data Analyst)

Consultancy Service for analyzing the household survey data collected in Rangpur Division to quantify biomass energy usage, convert it into standardized energy units and to develop a replicable methodology for estimating biomass contribution in the national energy mix of Bangladesh.

1. Background

Hydrocarbon Unit (HCU), established in 2008 under the organizational structure of the Energy and Mineral Resources Division (EMRD), Ministry of Power, Energy and Mineral Resources, functions as the technical and consulting arm of the division. The unit provides technical advice to the ministry through monitoring, review, and analysis of updated information and data related to the energy sector. In addition, HCU undertakes research activities on practical issues aligned with the Government's initiatives for ensuring primary energy supply and addressing sectoral challenges, particularly in areas such as natural gas, coal, unconventional hydrocarbon resources, renewable energy, alternative energy sources, and sustainable energy management.

Since the fiscal year 2010-11, HCU has been publishing the country's Total Primary Energy Supply (TPES) and national energy mix based on verified data collected from relevant source institutions. These include natural gas, condensate, LNG, and coal production data from companies under Petrobangla, petroleum product import and supply data from Bangladesh Petroleum Corporation (BPC), private sector import data from the National Board of Revenue (NBR) and renewable energy and electricity import information from the Power Division. Using these official sources, HCU compiles and publishes the national primary energy supply without any alteration, ensuring transparency and reliability of energy statistics.

However, among all primary energy sources, biomass remains the only component for which reliable primary data sources are not available. In the absence of updated field-based data, a high-level committee in FY 2014-15 determined a baseline estimate for biomass consumption based on global trends and available secondary information. Since then, biomass energy estimates have been updated annually through trend analysis rather than through direct measurement or systematic data collection. Considering that biomass represents a significant portion in the energy mix of Bangladesh, reliance on such estimated values often creates uncertainty in energy planning and policy formulation.



Energy mix of Bangladesh includes both commercial energy sources such as natural gas, coal, LPG, LNG, petroleum products, electricity, and renewable energy and non-commercial energy sources, primarily biomass. Biomass continues to play an important role, particularly in rural and peri-urban households, where it is widely used for cooking and other domestic purposes. Earlier studies estimated that biomass contributed approximately 23–27% of the country's total primary energy supply with an estimated consumption of around 90.21 million tons during 2012-2013. However, these estimates are more than a decade old and may no longer reflect the current situation.

In recent years, Bangladesh has experienced significant changes in its household energy landscape. The penetration of LPG and electricity has increased considerably across the country, particularly in rural areas. For instance, LPG usage has expanded rapidly over the last five years.

These developments indicate that the share and usage patterns of biomass may have changed significantly over time. However, due to the absence of updated and systematic household-level survey data, the actual contribution of biomass to the national energy balance remains uncertain. This data gap poses challenges for energy planners and policymakers in accurately estimating primary energy supply, per capita energy consumption, and energy efficiency indicators.

Recognizing the importance of establishing reliable baseline data for biomass energy use HCU has undertaken a household survey on biomass usage in Rangpur Division. Rangpur Division was selected due to its predominantly agrarian economy, higher reliance on traditional fuels, and its representativeness of rural household energy consumption patterns in Bangladesh. The survey primarily focused on household cooking fuel practices, types of biomass used, consumption quantities, and factors influencing fuel choices.

The collected dataset now requires comprehensive analysis, validation, and interpretation, including conversion of biomass consumption into standardized energy units and development of a robust methodological framework that can be replicated across other divisions. The results of this study will serve as the foundation for a future nationwide biomass energy survey, enabling a more accurate estimation of biomass contribution in the national energy mix.

In this context, HCU intends to engage a qualified consultant to analyze the collected data, refine the survey methodology, and prepare a comprehensive technical report on biomass energy usage in Rangpur Division.



2. Objective of the Assignment

To analyze the household survey data collected in Rangpur Division to quantify biomass energy usage, convert it into standardized energy units and develop a replicable methodology for estimating biomass contribution in the national energy mix of Bangladesh.

3. Scope of Work and Responsibilities

The consultant will undertake analytical, methodological, and reporting tasks based on the household survey data collected from Rangpur Division. Noteworthy, officers (not more than 5 persons) from HCU with relevant expertise will take active and significant part in the overall analysis as part of the capacity enhancement for future analysis, interpretation and monitoring of biomass operations nationwide. The specific responsibilities include the following:

Data Review and Validation

- Review the survey dataset collected by HCU to ensure completeness, consistency, and accuracy.
- Identify missing values, inconsistencies, and outliers in the dataset and apply appropriate statistical techniques for data cleaning and validation.
- Develop a structured database suitable for analysis and future reference.

Data Analysis

- Analyze household-level data to assess the current status, patterns, and determinants of biomass energy usage in Rangpur Division.
- Estimate household biomass consumption by fuel type (e.g., firewood, crop residue, dung, etc.), source, and usage patterns.
- Conduct comparative analysis of biomass usage versus commercial fuels such as LPG and electricity in different socio-economic and geographical contexts.
- Analyze fuel stacking behavior and household transition trends from traditional biomass to modern fuels such as, compressed biogas (CBG), biodiesel, etc.

Energy Conversion and Estimation

- Convert biomass consumption data into standardized energy units including:
 - ✓ Metric tons of biomass
 - ✓ Petajoules (PJ)
 - ✓ Ton of Oil Equivalent (toe)
- Estimate per capita biomass energy consumption in Rangpur Division.
- Assess the relative contribution of biomass to the total household energy consumption within the study area.



Methodology Development

- Review and refine the survey methodology used in the Rangpur Division study.
- Develop a replicable methodological framework for conducting similar biomass surveys in other divisions of Bangladesh.
- Provide recommendations for data collection protocols, sampling strategies, and energy conversion approaches for future nationwide surveys.

Report Preparation

- Prepare a comprehensive technical report detailing the study findings, methodology, data analysis, and policy implications.
- Develop a methodological guideline for future nationwide biomass surveys.
- Prepare a summary report or policy brief highlighting key findings and recommendations.

Presentation and Dissemination

- Present preliminary findings in a technical meeting with HCU.
- Incorporate feedback from HCU and relevant stakeholders into the final report.
- Provide presentation materials summarizing key results and recommendations.

4. Key Deliverables

Deliverable	Description	Timeline
D1	Inception Report & Work Plan	End of Week 1
D2	Cleaned and Processed Dataset	End of Week 3
D3	Preliminary Analysis Outputs	End of Week 4
D4	Draft Report	End of Week 6
D5	Final Report & Presentation	End of Week 8

5. Required Qualifications and Experience

Academic Background:

Minimum Master degree in Statistics, Economics, Data Science, Applied Mathematics, Environmental/Energy Economics or, any other relevant subjects. A PhD degree in a relevant discipline will be considered as an advantage.

Professional Experience:

The consultant should have a minimum of five (5) years of experience in quantitative data analysis, with demonstrated expertise in analyzing household survey data, biomass energy



usage, or energy statistics. Prior experience in preparing technical reports or policy studies related to energy planning and analysis will be considered an added advantage. The consultant should possess strong technical skills, including proficiency in statistical and analytical software such as Stata, R, Python, or SPSS, as well as advanced data management capabilities using Microsoft Excel. Familiarity with energy unit conversions, particularly in terms of ton of oil equivalent (toe) and petajoules (PJ), is required for energy analysis. In addition, experience with data visualization and dashboard tools, such as Power BI or Tableau, will be considered beneficial for presenting analytical results effectively.

6. Reporting Line

The consultant will report directly to Director General of HCU, or to an officer designated by him. Throughout the assignment, the consultant will provide regular progress updates through meetings or written reports as required by HCU (HCU). All deliverables produced under the assignment will be submitted to HCU for review and approval. HCU will facilitate the work by providing the necessary survey data, relevant reports, and required guidance to support the successful completion of the assignment.

7. Duration and Timeline

The consultancy service will last approximately 8 weeks.

Gantt Chart

Task	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8
Inception and Data Review								
Data Cleaning and Analysis								
Draft Report Preparation								
Review and Finalization								

8. Facilities and Local Services to be provided by the Client

Office: Suitable office space (01 room) at Head Office, HCU with furniture will be provided by HCU. Desktop PC and normal Photocopying facilities with office stationeries required by the Consulting Firm **will not be provided by HCU.**

Accommodation and Meals: HCU shall not provide any accommodation or meals for the Experts.

Transport Facilities: HCU shall not provide the transport facilities for the Experts/Consultants for the performing the services.

9. Payment Schedule

- 25% of the contract amount upon acceptance of Deliverables 1 & 2.
- 25% of the contract amount upon acceptance of Deliverables 3 & 4.
- 50% of the contract amount upon acceptance of Deliverable 5.

A handwritten signature in black ink, located in the bottom right corner of the page. The signature is stylized and appears to be a set of initials or a name.