



This project is funded by the European Union  
and implemented by the United Nations Development Programme



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## TERMS OF REFERENCE

<b>Job Title:</b>	<b>National Consultant - Development of Schedule of Requirements and Technical Specifications for biomass heating installations Remote Monitoring System</b>
<b>Duty station:</b>	Chisinau, Moldova
<b>Reference to the project:</b>	Moldova Energy and Biomass Project (MEBP)
<b>Contract type:</b>	Individual Contract
<b>Duration of the assignment:</b>	July 2016 – November 2016

### A. BACKGROUND

The first phase of the Moldova Energy and Biomass Project (MEBP) funded by the European Union and UNDP and implemented by UNDP, succeeded to contribute to a more secure, competitive and sustainable energy production in the Republic of Moldova through targeted support to the most viable and readily available local source of renewable energy, which is biomass from agricultural wastes.

In 2015 the project, based on its continued high relevance and the clearly identified need to further support the consolidation of the emerging biomass market in the country, entered its second phase in the framework of the Eastern Partnership Integration and Cooperation (EaPIC) programme. The extension timeframe spans until the end of 2017 with EU-funding of 9.41 million EUR.

The main objective of the project phase II is to scale up the successful activities and extend them to so far not covered or underrepresented regions, specifically Transnistria, Gagauzia and Taraclia, and to support the further consolidation of the Biomass market.

To achieve these objectives the focus of project activities will be on the following:

- 1) *Municipal biomass heating and fuel supply markets established:*
- 2) *Foundations laid for the establishment of efficient household heating and heat supply markets and private sector demand promoted:*
- 3) *Capacity built for growth of biomass markets at regional and local levels:*
- 4) *The opportunities and benefits of biomass energy for Moldova are well known; visibility of project results is promoted.*

During the first phase the Energy and Biomass Project installed biomass-fired heating systems in 144 public institutions in rural communities and 60 systems will be installed in the second phase of the project.

As an innovative approach for ensuring continuous and efficient operation of the biomass heating plants, and to ensure the monitoring of the heat supply a new Remote Monitoring System (RMS) will be designed and implemented. The main function of the RMS will be to provide real-time information and to collect statistical data about the operation of biomass heating systems installed within both phases of the project. Among others the RMS will register temperatures and various indicators of heat meters in public institutions equipped with central biomass based heating systems. As result, additional and specific information about the quantity of produced and consumed energy will be provided, therefore contributing to the national strategic indicators regarding the overall energy consumption.

### B. OBJECTIVE OF THE ASSIGNMENT KEY ACTIVITIES AND EXPECTED OUTPUTS

The overall objective of the consultancy is to develop the concept of the RMS as well as the Schedule of Requirements and Technical Specifications (Terms of Reference / Design Specifications / Data sheet) that will serve UNDP for tendering and contracting the works for designing, developing and implementation of the new RMS.

The selected consultant shall assume full responsibility for the entire process related to the creation of concept and development of the Schedule of Requirements and Technical Specifications of the RMS. The consultant will be assisted by the MEBP team in the process of consultation with the main actors in the field: Ministry of Economy, Energy Efficiency Agency, beneficiaries of the MEBP, etc. The Schedule of Requirements shall take into consideration the technical characteristics of the installed systems, technical quality parameters, possibility to add new systems, etc.

In particular the service provider will carry out the following activities:

1. Conduct a desk review of best national and international practices regarding similar remote monitoring systems and present to MEBP and AEE at least 3 examples for reference;
2. Consult with MEBP and EEA about the concept of the future RMS, its main features, the structure of the Schedule of Requirements and Technical Specifications and establish a Work Plan for the performance of contract;
3. With the support of MEBP contact each beneficiary community where biomass heating systems were installed (144 from the first phase of the project plus 15 from the second phase) to find out what equipment is available on each site that might be used for the installation of the RMS. Determine the capabilities of the existing equipment in terms of sensors, data collection and connectivity with RMS;
4. Develop the draft content of the RMS Schedule of Requirements (in English) and consult it with main stakeholders, namely the MEBP, Ministry of Economy and EEA. The RMS and the content of the Schedule of Requirements should take into account the following considerations:
  - International and national standards and technical requirements for similar systems;
  - Technical equipment requirements for each site;
  - Real time monitoring of the biomass heating systems operation;
  - Operation data collection, archival, and report generation;
  - Multiple user category usage of the system;
  - Alerting capabilities for boiler operators;
  - System scalability and expansion possibilities;
  - The RMS should be user friendly taking into account the end-user profile;
  - The RMS shall be based on the most recent and up-to-date informational technologies;
  - UNDP's tendering exigencies;
  - Other considerations than may be deemed necessary;
5. Consult the developed content, with project engineers, Energy Efficiency Agency (EEA) experts and PMT;
6. Address all comments and recommendations expressed by the experts and incorporate them in the final version of the Schedule of Requirements and Technical Specifications.
7. Participate in the pre-bidding meeting and provide clarifications to potential bidders;
8. Assist UNDP in the evaluation of offers received in the tender respecting highest ethical standards and integrity and making sure that the best value for money is insured in the interest of UNDP;
9. Assist UNDP in negotiating with the prospective contractor the main aspects concerning the RMS development and implementation schedule and requirements upon signature of contract;
10. During the implementation of the RMS development contract with the Service Provider, provide ad-hoc advice and consultation to UNDP on various technical issues concerning the RMS development and installation. Provide professional assessment of the contracted service provider performance.

**Expected Outputs:**

- Schedule of Requirements and Technical Specifications of the RMS and the required equipment;
- Eligibility and selection criteria for the RMS provider;
- List of equipment installed on each site;
- Accurate and comprehensive evaluation of offers received in the tender for procurement of RMS, conducted in compliance with UNDP procurement principles of Best Value for Money, Fairness, Integrity, Transparency and Best Interest of UNDP.

### C. **TENTATIVE SCHEDULE:**

Deliverables, activities, and milestones shall follow this tentative schedule:

<b>Deliverables</b>	<b>Estimated timeframe/workload</b>
1. Desk review conducted, RMS concept agreed and Work Plan developed	07 July 2016
2. Inventory of the existing heating systems conducted	12 July 2016
3. Draft Schedule of Requirements and Technical Specifications developed and provided for consultations	22 July, 2016
4. Final Schedule of Requirements and Technical Specifications as well as eligibility and selection criteria for the RMS provider developed and approved by PMT and main national partners (EEA and ME)	29 July 2016
5. Offers' evaluation complete. Technical evaluation report submitted	7 days from the submission of the offers for evaluation
6. Ad-hoc advice and consultation on the implementation phase provided concerning RMS development and installation	September – November 2016, up to completion and launch of RMS
7. Final report	30 November 2016

The volume of work has been estimated at **30 working days for whole assignment** during which all the activities and outputs/results envisaged under the present assignment are expected to be performed. The mentioned number of working days has been estimated as being sufficient/ feasible for the envisaged volume of work to be completed successfully and is proposed as a guideline for estimating the amount of work, however it can not be used as criteria for completion of work/assignment. The provision of envisaged deliverables approved by the Project partners and concerned national stakeholders would be the only criteria for the Contractor's work being considered completed and eligible for payment/s.

### D. **MANAGEMENT ARRANGEMENTS**

**Organizational setting:** The consultant will work in close cooperation with the PMT and under the overall guidance of the MEBP Project Manager. PMT will put at the contractor's disposal all available materials and necessary information for the achievement of tasks and will facilitate the meetings, as needed.

**The payment for services provided by the Consultant under the MEBP will be made on a lump-sum basis upon the service delivery and acceptance by MEBP according to the timeframes stated above.**

**The language** – The Schedule of Requirements and Technical Specifications as well as any accompanying document and communication shall be rendered in English.

**Geographically** - the biomass-fired heating systems are installed all around Moldova.

**Transportation** - the PMT will provide to the consultant transportation means for all envisaged travels to beneficiaries of the MEBP, if any.

Notwithstanding the support and duties assumed by the Project as stated above, the consultant will undertake primary responsibility for all arrangements including:

- Coordination of meetings with national stakeholders regarding the Schedule of Requirements content;
- Timely reporting

### E. **REPORTING**

In the course of contract execution, the selected service provider will be required to produce one Final Report upon the conclusion of the contract period.

The Final Report needs to be submitted in electronic version and on paper support. The report should comprise:

- A narrative section to reflect the main findings of the consultant, the extent to which contract objectives have been attained, a description of the methodology and approach ;
- Summary of the heating installations analyzed;
- General Conclusion and Recommendations.

## **F. ELIGIBILITY CRITERIA**

### *Education*

- University Degree or higher education in one or a combination of the following fields: Informational Technologies, Engineering, Telecommunications, or other related field.

### *Experience*

- At least 5 years of experience in planning, design, development, implementation and maintenance of information systems;
- Previous experience in designing, development, implementation or maintenance of analogue Remote Monitoring Systems or similar Informational Systems is an asset;

### *Competencies and Skills*

- Demonstrated knowledge of the national and international policies and standards concerning the development of Informational and Telecommunication systems;
- Thorough comprehension of Remote Monitoring Systems or similar ICT Systems designing and implementation process;
- Ability to formulate technical / design specifications for software and hardware;
- Excellent interpersonal skills, as well as the ability to communicate effectively with all stakeholders and to present ideas clearly and effectively;
- Strong analytical and drafting skills;
- Proficiency in Romanian and English is required. Russian is an advantage.

### *Personal qualities*

- Proven commitment to the core values of the United Nations, in particular, respecting differences of culture, gender, religion, ethnicity, nationality, language, age, HIV status, disability, and sexual orientation, or other status.
- Responsibility, creativity, flexibility and punctuality

The UNDP Moldova is committed to workforce diversity. Women, persons with disabilities, Roma and other ethnic or religious minorities, persons living with HIV, as well as refugees and other noncitizens legally entitled to work in the Republic of Moldova, are particularly encouraged to apply.