



TERMS OF REFERENCES

Job title:	National Consultants in Energy Performance Measurement of local public buildings (Up to 4 consultants)
Duty station:	Chisinau, Moldova
Reference to the project	Moldova Energy and Biomass Project, phase II
Contract type:	Individual Contract (IC)
Expected workload:	up to 100 days per consultant during April 2015 – March 2017
Starting date:	10 April 2015

BACKGROUND:

The Moldova Energy and Biomass Project aims 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, namely biomass from agricultural wastes.

As of December 2014 the project entered into its second phase which is to last until end 2017. The second phase of the project had received additional funding of 9.41 million EUR allocated by the European Union in the framework of the Eastern Partnership Integration and Cooperation (EaPIC) programme, with the objective to leverage the successful activities and extend them to so far not covered or underrepresented regions, specifically Transnistria, Gagauzia and Taraclia, and to support further consolidation of the biomass market in the country based on the experience and lessons learned in the first phase.

Among others, the second phase will also focus on the development of local biomass market and general market consolidation of the biomass-related businesses through continued support to solid biofuel producers and support to local biomass boiler production and extension of Public Private Partnerships for establishing sustainable biomass based heating services.

The project will continue to support installation of biomass heating systems in communities aiming to install at least 80 additional biomass-based municipal heating systems with specific focus on Transnistria, ATU Gagauzia, Taraclia district including small towns following the *participatory community development approach*. Installation of combined solar/biomass technologies will also be piloted in public buildings in order to provide integrated energy saving and energy-efficiency solutions.

For more information about the project please visit: www.biomasa.md, www.undp.md.

OBJECTIVE:

The Project will contract up to 4 experienced National Consultants, for carrying out energy performance assessments of selected buildings in approx. 90 locations throughout Moldova during 2015-2017, in order to identify the current status of energy performance of the selected buildings, advice on potential cost-efficient measures to improve it, assess the energy and cost savings associated with the installation of a biomass fired boiler plant, etc.

KEY ACTIVITIES AND EXPECTED OUTPUTS

The following approach is recommended to insure adequate dialog between all stakeholders at key junctures during the project implementation, so that only energy conservation measures (ECMs), as well as the use of renewable source of energy, that are feasible from an operational, economic/financial and maintenance perspective are evaluated in-depth and incorporated into the final recommendations.

1. *Field visit and technical inspection of the selected facility*

During the field visit the Consultant will discuss first with building operating personnel and then investigate through field observations: architectural characteristics of the facility, current physical shape of the envelope of the building, heating system specifications, operating and maintenance procedures, unusual operating constraints, anticipated future plant expansions or changes, and other concerns related to facility operation.

2. *Site documentation review*

All available facility documentation is reviewed with facility representatives. This documentation should include all available architectural and engineering plans, facility operation and maintenance procedures and logs, etc.

3. *Technical inspection of proposed facility*

The inspection of the facility shall focus on the following major issues:

1. Building envelope (*including walls insulation, energy performance of windows, doors, roof*)
2. Boiler house, outside and internal heating distribution systems: general characteristics (*fuel type, number of working units, capacity, performance coefficient, physical state, etc.*).

The overall goal of the assessment will be to identify:

- current heat energy demand
- current heat energy consumption
- status of the heat distribution system
- technical requirements for inter-connecting to additional sources of heat supply,
- possible energy conservation measures, a list of major ECMs will be developed for building envelope and heating system and reviewed with the facility manager.

4. *Economic/financial analysis*

Based on collected data, a list of priority interventions regarding energy efficiency will be developed. For each of the ECMs identified, the installation costs, energy savings and payback period will be calculated. The analysis should reveal the potential savings and payback period for switching to burning of biomass as well as implementing other energy efficiency measures. The installation of a biomass boiler will be investigated in order to determine its feasibility and the impact on the overall energy costs of the building.

5. *Report summarizing field findings*

The results of the findings and recommendations will be summarized in a final report. The report includes a description of the facilities and their operation, a description of all recommended ECMs with their specific energy impact, implementation costs, estimation of benefits (including financial and economic), and payback period. The report shall incorporate a summary of all the activities, efforts and costs needed for achieving the expected improvement of the overall energy efficiency of the building.

DELIVERABLES

The Deliverables shall be submitted in electronic format (MS Word, and Excel [*in case of calculations*]) to the designated officer at Moldova Energy and Biomass Project.

The Deliverables shall include the following:

- a) Filled in enquiry check list form
- b) Final Energy Performance Assessment report

All documents have to be provided in Romanian or Russian and agreed with UNDP. By providing highest state-of-the-art technical expertise and support to project procurement activities, the outputs shall result in the successful implementation and achievement of Moldova Energy and Biomass Project's objectives.

INSTITUTIONAL ARRANGEMENTS

The Consultants will work in close collaboration with MEBP Team – for substantive aspects of the assignment and under the overall supervision of the MEBP Project Manager – for administrative aspects. Transportation for all envisaged field trips will be provided by Moldova Energy and Biomass Project.

QUALIFICATIONS REQUIRED

The successful candidate shall be experienced in the field of assessing and managing the energy performance of buildings and/or conducting energy audits.

Required qualifications, capacities and background:

- University degree in the field of Heating, Ventilation and Air Conditioning or energy related fields.
- A minimum of 5 years of working experience within companies providing design services related to energy management solution/automation projects, yielding energy savings, construction or other closely related activities.
- Specialized training and certification on building energy management, energy auditing, inspection and assessment of energy performance or minimum 2 years of relevant experience in the field is required.
- Dynamic, hardworking, capable of handling projects individually and willing to travel throughout the country.
- Excellent analytical, communication and reporting skills
- Excellent computer skills (MS Word, Excel, etc.)
- An excellent command of written and spoken Romanian or Russian is required.
- Knowledge of English is an advantage.