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TERMS OF REFERENCE

Job title:	Waste Management Consultant
Duty station:	Chisinau and home based
Reference to the	Moldova Energy and Biomass Project (MEBP)
Contract type:	Individual Contract (IC)
Contract Duration:	15 September 2016 – 31 October 2016

I. Background:

The first phase (2011-2014) of the Moldova Energy and Biomass Project (MEBP) with a budget of 14.56 million EUR project, funded by the European Union and UNDP and implemented by UNDP, contributed 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 entered its second phase in the framework of the Eastern Partnership Integration and Cooperation (EaPIC) programme, based on its continued high relevance and the clearly identified need to further support the consolidation of the emerging biomass market in the country. The extension timeframe spans until the end of 2017 with additional EU-funding of 9.41million EUR.

Major activities of MEBP include development of the public sector through creating demand and private sector through increasing the capacity on the supply side of the biomass sector. Creating demand on the public sector side consists of grants and capacity building activities that are oriented to the installation of biomass-based heating systems within publicly managed institutions: schools, hospitals, kindergartens, etc. Increasing the capacity of the supply side consists of various financial and technical assistance mechanisms to support competitive development of solid biofuel production and biomass boiler technology transfer.

One of the centerpieces of MEBP activities is to support developing the local legal and policy framework that would be prone to establishing a competitive basis for biomass market. Moldova is a net importer of energy products and a predominantly agricultural country where solid biomass potential could have an immediate application if proper policies and frames exist. Supporting local biomass production through legal, financial and institutional instruments is one of the priorities Government of Moldova (GOM) has set in its 2030 National Energy Development Strategy.

The first efforts to create systematic supply and demand started in early 2011 when MEBP 1 was launched. GOM through Ministry of Economy (MOE) established Energy Efficiency Department to develop policies and Agency for Energy Efficiency (AEE) to implement those policies through coordination and attraction of donor assistance, managing that assistance, coordinating and synergizing various sectors, players and value chains oriented to produce competitive and reliable renewable products and systems.

Despite some progress, biomass potential remains unexplored and remains vulnerable to market variations and non-functioning systems like legal support, subsidies, competitive and affordable

finances, associative representation and lobbying, access to technical assistance, know-how and technology, etc.

One of the underlying MEBP elements is to introduce innovatory ideas to the Moldovan environment through technology, business models, legislation or public private partnerships. One activity closely considered by MEBP is piloting a municipal waste operator for biofuel production and supply. Currently several models in the form of municipal or private enterprises providing services to a group of municipalities are being piloted throughout the country. The services cover for examples water supply, solid waste management, street lightening and others. Five focus among other things on waste collection. A considerable share of household wastes, if collected separately, can be further used as raw material for solid biofuel production.

II. Scope of Work, key activities and expected outputs

MEBP activities are cross-cutting and multiple striving to outreach the various sub-sectors and domains of the solid biomass sector. Most activities are new and innovative for the Moldovan environment and intend to set examples for replication or create proper and inductive conditions for replication and development.

The goal of this assignment is to conduct a pre-feasibility study and an analysis on 4 to 6 relevant companies and localities with the aim of identifying one pilot site. The pilot project will focus on establishing a system of separate collection of household wastes of organic origin, which will subsequently be processed and briquetted by the enterprise. The produced briquettes will be delivered back to the households based on a well-defined supply scheme - to be identified in the pre-feasibility study. The pilot project will co-finance the investment cost related to installing a briquette production line and a biomass boiler for the premises of the enterprise, and will cover the costs related to an awareness raising and education campaign among the households benefiting from the services. In addition, small scale equipment or low cost collection bins, as initial incentive for households, will be provided on a cost-sharing basis.

In addition to this, the consultant will hold a number of formal meetings with Governmental officials, donor and non-governmental organizations involved in the waste sector development effort to learn about country tendencies and initiatives to address the waste management challenges.

The following are the main objectives of this assignment:

- 1) Conducting a pre-feasibility study on the idea of turning municipal waste into biomass Refuse Derived Fuel (RDF) and analyzing its preparedness to be used in existing public and private biomass boiler systems.
- 2) Compiling and analyzing existing reports on waste management that were developed lately by different governmental and international organizations in Moldova.

The first objective will concentrate on 4 to 6 waste management companies that manage municipal waste and look at their complete business and management cycles trying to determine the feasibility and preparedness of these companies to launch biomass RDF selection and transformation activities. The pre-feasibility study must reflect on all the involved aspects: environmental, human safety, social, economic and managerial. The exact number of companies under assessment will be determined 2 weeks prior to the assignment. The profile of each company will determined by the size of the community it serves. Communities under review will include small villages of 2,500-3,000 people to larger towns of 25,000 to 125,000 residents.

The pre-feasibility study will include but will not be limited to:

- a) an overview on the waste situation in the country and in the communities under question,
- b) waste flows, morphology and collection system,

- c) assessment of the potential to separate biomass and transform it in to RDF or biofuel that can be use in private households or other heating systems,
- d) estimations of investment cost per each site to establish the whole collection and processing cycle,
- e) description and price estimations of other prerequisites that are necessary to establish the full production and management cycle for selection and transformation of biomass from municipal and industrial waste,
- f) estimated timeframes for implementing an RDF project,
- g) recommendation on the next steps to undertake to development of RDF project, if the potential exists.

In the event that no potential is identified, clear explanations and arguments should be brought in order to justify the finding.

The second objective is about analyzing the existing reports and information about solid municipal waste and waste management in the country and make recommendations to Ministry of Economy and Energy Efficiency Agency (EEA) on next steps and priorities.

III. Expected outputs:

- A pre-feasibility study on turning municipal waste into biomass Refuse Derived Fuel (RDF) and analyzing its preparedness to be used in existing public and private biomass boiler systems;
- A short feedback compiling and analyzing existing reports on waste management that were developed lately by different governmental and international organizations in Moldova.

IV. Timeframes, Schedules and Deliverables

The following timeframes and deliverables are expected from the Consultant's service provision:

Item no.	Deliverable	Deadline
1.	Pre-assignment preparations and desk research to review the existing reports, legislation and policies.	16 September 2016
2.	In-country assessment of several waste management companies and sites (at least 8). Meeting local stakeholders of different levels to learn their vision of municipal waste development. Start drafting the pre-feasibility study	30 September 2016
3.	Draft the findings and prepare the prefeasibility report on the concept of turning municipal waste into biomass Refuse Derived Fuel (RDF)	8 October 2016
4.	Compile and analyze existing reports on waste management that were developed lately by different governmental and international organizations in Moldova. Presentation of draft report with recommendations and priority lists of actions	15 October 2016
5.	Fine-tuning final report based on received feedback. Final report and priority list of actions approved	31 October 2016

The volume of work has been estimated at **20 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 the duration of assignment, and it cannot 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.

Note: A detailed itinerary for activities in Moldova will be developed and coordinated with National counterparts prior to the commencement of the assignment. Exact sites for consideration will be

determined closer to the beginning of the assignment. They will include different scale of operations and service: small rural communities and larger urban centers.

V. Organizational setting

The Consultant will work under the direct supervision of the Business Development Officer and overall supervision of MEBP Project Manager. MEBP 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.

VI. Qualifications and skills required:

Academic Qualifications:

- Master degree in the field of Environmental Studies, Chemistry, Energy Engineering, Economy, Business or Public Administration or related-fields;

Experience:

- At least 7 years of experience in waste management, renewables or alternative energy development;
- Experience in solid biomass projects;

Competencies and skills:

- Demonstrated understanding of the private and public sector waste management and/or alternative energy development;
- Ability to conduct economic and technical assessments of waste management projects;
- Good writing and analytical skills;
- Good knowledge of the region, in particular in EaP countries is an advantage;
- Fluency in English is required. Romanian or Russian would be an advantage.

Personal qualities:

- Responsibility, creativity, flexibility and punctuality;
- Ability to solve difficult and challenging projects;
- 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;