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## TERMS OF REFERENCES

Job title:

**National Consultant to Develop the Software for Processing and Managing Statistical Data on Solid Biomass**

Reference to Project:

Moldova Energy and Biomass Project of EU-UNDP Moldova

Project Activity:

Improve availability of disaggregated statistical data – solid biomass

Contract type:

Individual Contract

Expected Duration of Assignment: October 2015 – March 2016

### A. PROJECT DESCRIPTION

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 9.41 million EUR.

To achieve its mission, EaPIC main activities are grouped into four main outputs:

- **Output 1. Municipal biomass heating and fuel supply markets established**

This component aims at installing at least 80 additional biomass-based municipal heating systems, with focus on Transnistria, ATU Gagauzia, Taraclia district and small towns. An increased focus is on the further development of the domestic biomass fuel market in view of ensuring sustainable supply, enhanced competition between producers, application of quality standards, certification of products and end-consumer protection. Another considerable activity within this component is the development of a modern and reliable statistical system that will account for the production, consumption and other developments of the solid biomass market.

- **Output 2. Foundations laid for the establishment of efficient household heating and heat supply markets and private sector demand promoted**

Under output 2, at least 300 households and/or small businesses will be supported to procure modern and efficient biomass boilers under preferential conditions. Technical and financial support will be provided for the creation of 7 new PPPs throughout the country. This will foster public-private solutions in establishing sustainable biomass-based heating services as well as efficient operation and maintenance of the systems;

- **Output 3. Capacity built for growth of biomass markets at regional and local levels**

The capacity development activities continue to be a key component, being tailor-made and extended to Transnistria, Gagauzia and the Taraclia district, as well as to small towns. Vocational education and training (VET) sector will also be addressed. School education activities on renewable energy and energy efficiency, will be extended to target localities: small towns, Taraclia district, Gagauzia and wherever feasible in Transnistria;

- **Output 4. The opportunities and benefits of biomass energy for Moldova are well known, visibility of project results is promoted**

Wide-spread awareness raising activities on the opportunities and benefits of biomass energy will be further facilitated, with a specific focus on increasing the uptake of renewable energy technologies in ATU Gagauzia, the Taraclia district, and the region of Transnistria. The visibility of the partnership and the impact of the action will be effectively promoted.

The decision of an entrepreneur, whether to become active in the biofuel or biomass technologies sector (and, thus, to benefit of MEBP's assistance), critically depends on availability of reliable information on the existent volume of the raw material, including estimations of the future biomass potential preferably broken down by type of raw material and region of the country.

In the national statistics, produced by the National Bureau of Statistics, only since 2013, the share of solid biomass is included under the aggregated figures of "bio fuels and wastes/ residues" as one of the sources of renewable energy

mentioned in the annual Energy Balance of Moldova, with an additional disaggregation (in the “energetic products” chapter) by 3 types of solid biomass (firewood, waste wood, agricultural waste) and purposes of its consumption. Nevertheless, these data provide limited information on solid biomass availability, consumption, production/processing by types, purposes and involved actors (data respondents include only business establishments). These limitations impede the full alignment of Moldovan statistics to EU/international standards and diminish the level of data users’ satisfaction with the required statistical information. Also, because of these constraints a series of statistical indicators required within the National Development Strategy “Moldova 2020” and National Programme for Energy Efficiency 2011-2020 are missing.

In the first phase of MEB Project, an independent study, estimating the potential of biomass for business, was carried out.

While assessments like this have to be updated periodically, there remain underlying bottlenecks which also have to be addressed, namely:

- Currently no national methodology is in place for estimating biomass potential, nor are official statistical data produced and disseminated. This leads to large discrepancies in the figures being published by different sources, ultimately creating uncertainty for entrepreneurs and impacting investment decisions;
- Lack of statistical evidence and systematic data collection tools for agricultural and wooden biomass, which would enable the coherent, regular and sufficiently disaggregated estimations of biomass potential.

Respectively, one of the main instruments of local biomass market development during MEBP’s Phase II will be to establish a modern and reliable statistical system that will measure the production, consumption and other developments of the solid biomass market. Such a system is to be developed in compliance with EU standards and being covered by statistical methodologies and toolkits which also respond to the national needs for evidences. The new methodology would reflect on the realities of the local business and residential sectors, and present the information that could be used for all interested parties like governmental and educational institutions, investors and business communities, etc. It would reflect on the biomass market production developments and potential, its consumption patterns, market participants, etc.

## **B. OBJECTIVES and SCOPE OF WORK**

The main objective of this assignment is to assist National Bureau of Statistics of Moldova to develop a software platform for the statistical mechanism on data collection and production of official statistical indicators on available volume, consumption and production of solid biomass by both, business establishments and the residential sector (population households), for private and industrial purposes. The software will consist of the full set of statistical components that will ensure tracking, measurement and processing of all necessary data. The software product to be developed will correspond to NBS standards and should incorporate into the overall NBS data management system.

This effort falls into a larger activity of establishing a statistical measurement facility of solid biomass in the country. This assignment will compliment a methodology development effort started earlier in 2015. These activities will be undertaken in close collaboration with the National Bureau of Statistics and its conceptual guidance (as main implementer of this activity).

All of the electronic products developed under this effort will have to be approved and incorporated into NBS systems. More specifically, under the current assignment the UNDP Project, in cooperation with NBS, are looking for the following expertise on the part of the hired national consultant:

- a) Develop the software that will host the insertion, approval and processing of statistical data collected during the statistical survey regarding solid biomass market potential, production and consumption within legal entities;
- b) Develop the software that will host the insertion, approval and processing of statistical data collected during the statistical survey regarding solid biomass market potential, production and consumption within private households.

## **Sustainability of expected results**

The major expected output of the assignment is to provide the National Bureau of Statistics with the professionally designed software applications and the related documentation which is to be applied by the statisticians and economists of the NBS for data insertion, processing, approval and develop relevant output formats for processed data (tables, etc).

### Main Tasks and Responsibilities

The contracted consultant, under the overall supervision of the Project Manager, in partnership with NBS, is expected to:

- Establish contact with the staff of NBS responsible for energy statistics with the results of previous activities undertaken so far by the NBS in the named field;
- Study the available materials related to energy statistics (questionnaires, methodologies, tools, publications, etc.), as well as the instruction on the software used by NBS;
- Propose own approach for the expected activities and results, as well as a detailed work plan that encompasses the above-mentioned objectives, and discuss them with Project stakeholder;
- Design the structure of the future programme and discuss it with the NBS team (statisticians, economists and NBS IT staff);
- Develop the software application for solid biomass including final (output) tables corresponding to NBS standards;
- Test the logical correlations and compatibility of the newly designed program with other NBS programs already existing;
- Adjust the software and the logical correlations in compliance with the testing results;
- Install the developed software on NBS working stations;
- Train NBS staff (energy statistics department and IT specialist) to use the software application;
- Ensure assistance for software compliance, troubleshooting and compatibility throughout 6 month after its launch;
- Hand-over of the software application, source code and all the related documentation, including the instructions/tutorial
- Other support activities as deemed necessary by the project team, related to this assignment.

### C. DELIVERABLES AND TIMEFRAME

Performing the mentioned above activities, the consultant will be responsible for delivering of the following outputs, comprising the main milestones:

No.	Deliverables	Estimated effort Number of working days	Estimated Timeframe
1.	Detailed Action Plan including timeline agreed with NBS and the Project Draft the structure of the future programme and discuss it with the NBS team	5	By the end of the 1 <sup>st</sup> week from contract date
	<b>SURVEY ON ESTABLISHMENTS:</b>		
2.	Draft the technical task based on Energy Statistical Report (raportul statistic „Balanța energetică”)	5	By the end of the 2 <sup>nd</sup> week from contract date
3.	Improved technical requirements of the developed module	10	By the end of the 4 <sup>th</sup> week from contract date
4.	Trial (alpha) version of the software application	5	By the end of the 6 <sup>th</sup> week from contract date
5.	Tested computer software product (release to user-ready for mass distribution/use) and the related documentation	5	By the end of the 7 <sup>th</sup> week from contract date
6.	Training of the NBS staff on the use, upgrade and maintenance of the produced software programme	5	By the end of the 10 <sup>th</sup> week from contract date
	<b>SURVEY ON HOUSEHOLDS:</b>		
7.	Improved technical requirements of the developed module	10	By the end of the 8 <sup>th</sup> week from contract date
8.	Trial (alpha) version of the software application	5	By the end of the 10 <sup>th</sup> week from contract date
9.	Tested computer software product (release to using=ready for mass distribution/use) and the related documentation	10	By the end of the 12 <sup>th</sup> week from contract date
10.	Training of the NBS staff on the use, troubleshooting and compatibility upgrade of the produced software programme	5	Upon request and coordination of NBS
11.	Final report on undertaken assignment (including stages passed, inventory of resources used, results obtained versus expected, impact of obtained results, risks overcome and problems faced, lessons learned, recommendations etc.) plus documentation related to the developed outputs	5	31 March 2016

The volume of work has been estimated at **70 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 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:**

The consultant will work under the guidance and direct supervision of the Project Business Development Officer. Head of NBS' Industrial, Energy and Communication Division will manage and coordinate this assignment on behalf of NBS.

All the written deliverables should be approved by NBS and agreed with the Coordination Team (consisting of representatives of NBS, UNDP) accordingly. The documents will be submitted in Romanian, hard and electronic copy.

In addition, when the need is confirmed and upon the request of the Project Manager, the Consultant will report (informally) on ad-hoc basis on the progress achieved, difficulties encountered in the process of work and the supported needed from the Project or counterparts, results accomplished as well as eventual changes in the activity plan/schedule, etc.

The success of given activity can be ensured only by team work of all partners involved via active participation at all the stages of the assignment and the contracted consultant should play the role of guarantor of these joint effort.

Payments will be disbursed in installments upon NBS delivery approval and confirmation of the Project Manager about the timeliness and quality of the deliverables as stipulated in the contract i.e. services and products in a satisfactory manner.

#### **E. QUALIFICATION REQUIREMENTS**

The following qualification criteria are applied during the selection of the consultant:

*Education:*

- University degree in computer science, statistics and/or other areas relevant for the assignment;

*Experience:*

- Minimum of 4 years of proven experience in software development;
- At least 2 records demonstrating practical experience of **work with statistical data**, evidences and informative materials in web programming, data/database modelling and optimization projects
- Experience in working with international organizations and UN agencies or NBS in particular would be an asset;

*Competencies and Skills:*

- Strong knowledge and understanding of e-Statistics, ICT issues, as well as best EU practice applied in national statistics activities aimed at efficient integration of data collection, imputation, processing and dissemination;
- Knowledge of the peculiarities of statistical sector (e.g. data collection process, methodologies used in enterprises statistics, etc.) would be an asset;
- Good communication and writing skills;
- Good interpersonal skills, solid judgment/decision making, initiative and creativity;
- Demonstrated ability to work independently in a challenging environment;
- 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.

*Language requirements*

- Fluency in Romanian and Russian (knowledge of English will be an additional asset);