



Moldova Energy and Biomass Project

Terms of Reference

National Consultant - Development of Biomass Fuel Quality Handbook and delivery of four workshops for commercial fuel suppliers

Duty station: Chisinau, Moldova
Reference to the project: Moldova Energy and Biomass Project /MEBP
Contract type: Individual Contract
Duration of the assignment: June 2015 - December 2015 (25 working days)

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.*

Biomass is one the most important renewable energy sources in Republic of Moldova with a huge potential for further expansion. However, the future development of the biomass production market should follow some basic principles such as competitiveness, sustainability and most important quality of the solid biofuel.

In this regard, with the joint efforts of the Ministry of Economy, Energy Efficiency Agency, National Standardization Institute, and Moldova Energy and Biomass Project, in 2013 - 37 EU standards on biomass fuel quality have been developed and transposed into the national legal framework. The standards define all the terms that are being used in the solid biomass production process; the quality normative of the solid biofuel; and describe the quality assurance parameters that enable to put a system in place to assure the consumer about the quality of the fuel being purchased.

Also, in December 2013, the Technical Regulation on biomass fuel quality, which sets out, in mandatory manner, the physical and chemical parameters of briquettes and pellets to be supplied to public and private consumers from the Republic of Moldova, was approved. The standards and technical regulation for solid biomass fuels developed in the recent period make possible for biofuel to become a commodity that users can buy with confidence and reliable, efficient and clean sources of energy. Therefore, at this stage, most of the prerequisite conditions necessary to ensure the quality of biomass fuel have been created.

However, the problem of biofuel quality is persistent and, according to the opinion of national stakeholders and experts, is still one of the main causes that hamper market development. The institutionalization of the biomass Quality Assurance Laboratory will ensure the control and certification of the quality of the biofuel. In the same time, the quality of biofuel will become a critical subject for local biofuel producers, because very few of them are aware about the national requirements regarding the quality of the solid biomass fuel and/or small producers are lacking modern equipment to produce high quality biofuel.

B. OBJECTIVE OF THE ASSIGNMENT

In order to address the need for information and in-depth knowledge of the biofuel producers on the quality of biofuel, the Energy and Biomass Project is seeking to contract a local consultant for designing and developing a Handbook on Biomass Fuel Quality (hereinafter the Handbook), focusing on legal framework, technological and economic aspects of biomass fuel production. Based on the Handbook, the consultant will organize and conduct up to 4 regional workshops (South, North, Center and Chisinau) for biomass fuel suppliers/producers.

The Handbook will serve as a self-study material for local producers of solid biomass fuel and should answer to the needs of the respective target group. In result, commercial fuel suppliers will have the necessary level of knowledge and expertise regarding the quality requirements of solid biomass fuel production, and will be well informed about the legal obligations specified in the national legal framework on solid biomass fuel quality.

C. KEY ACTIVITIES AND EXPECTED OUTPUTS

In order to achieve the stated objective, the consultant is expected to develop the content of the Handbook on Biomass Fuel Quality and deliver up to four workshops to groups of biofuel producers on the handbook use. The selected service provider shall assume full responsibility for the entire process related to the development of the handbook content and workshops delivering. The contractor 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, National Standardization Institute, academia, etc.

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

1. *Development of Biomass Fuel Quality Handbook:*

The Handbook is expected to be a practical guide for solid biofuel producers, serving as a substantive self-study and reference material for producers regardless of their experience in the industry. The Handbook should take into consideration the Moldovan legal framework in the field, best international practices, the EU standards and directives that are to be transposed into the national legislation in the foreseeable future; technical quality parameters.

To meet the objective of the present assignment, the selected contractor will perform the following activities:

- 1.1. Develop and coordinate with the Project Management Team (PMT) the Work Plan of the entire contract period, with timelines set for the development of Handbook content;
- 1.2. Conduct an industry analysis of the local solid biomass fuel production and identify the main obstacles related to production of high quality biofuel;
- 1.3. Conduct a desk review of best national and international practices regarding solid biomass fuel quality requirements, from the point of view of: raw materials supply, storage, transportation to permanent and temporary storages, production process, effective transportation schedules, cost calculations, certification process, etc.;
- 1.4. Analyze the national legislation on biofuel quality (Quality Standards and Technical Regulation), and incorporate these legal requirements into the Handbook;
- 1.5. Identify the most relevant knowledge needs of the local producers related to the production of high quality biofuel;

- 1.6. Develop the draft content of the self-study Handbook on Biomass Fuel Quality (in Romanian) and consult it with main stakeholders, namely the Ministry of Economy, Energy Efficiency Agency and National Standardization Institute. The draft content of the Hand-Book should take into considerations the following:
 - Whenever feasible and/or advisable, produce or re-produce technical drawings illustrating key processes associated with biomass fuel quality;
 - Consult the developed contents, section by section, with project engineers, Energy Efficiency Agency (EEA) experts and Academia in order to ensure accuracy and technical correctness;
 - Address all comments and recommendations expressed by the experts and incorporate them in the final version of the guide.
- 1.7. Assist the PMT with the design concept of the Handbook (printing of the handbook will be done on project's expense).

2. *Delivery of four workshops on the use and content of Handbook on Biomass Fuel Quality:*

- 2.1. Develop the workshops' packages (concept/outline, agenda, handouts, presentations, etc.) and consult them with the Energy Efficiency Agency and PMT;
- 2.2. Select and invite the participants (4 regional workshops; up to 20 participants for each workshop,) in close cooperation with EEA and project team;
- 2.3. Develop workshops' evaluation forms and ensure proper filling in by participants;
- 2.4. Collect gender disaggregated data regarding the participants to the trainings;
- 2.5. Respond promptly to queries from UNDP regarding the status of training, provide delivery data and indicators, and participate in information briefings with the management whenever applicable.

Expected deliverables:

Deliverables	Timeframe/workload
1. Work Plan developed	25 June, 2015 (1 working day)
2. An analysis of the current knowledge and technical capacity gaps of the solid biofuel producers	15 July, 2015 (4 working days)
3. Draft content of the Handbook elaborated and consulted with main stakeholders	20 August, 2015 (6 working days)
4. Final content of the Handbook developed and approved by the involved actors	30 August, 2015 (5 working days)
5. Workshops packages elaborated and agreed with EEA and PMT	15 September, 2015 (3 working days)
6. Four workshops delivered	October, 2015 – December, 2015 (4 working days)
7. Final report	December, 2015 (2 working days)

Expected Outputs:

- Handbook on Biofuel Quality developed;
- Workshops delivered at regional level.

D. METHODOLOGY AND TRAINING CONCEPT

The content - workshops shall follow and explain the information from the Handbook being as practical and user-friendly as possible with the aim to equip the producers of solid biofuel with concrete knowledge and information on the content and further use of the Handbook of the Biofuel Quality.

The format - a typical workshop session shall be conducted as a one-day training activity and should include an optimal amount of conceptual training (i.e. theoretical) on one hand, as well as case studies and simulations, on the other hand. It is expected that the trainer will use interactive training methods and techniques, visual aids and make use of an accessible vocabulary in such a way as capture and retain the attention of the participants throughout the entire training activity, and yet deliver the message in an unambiguous and professional manner.

E. MANAGEMENT ARRANGEMENTS

Organizational setting: The consultant will work in close cooperation with the Training and Capacity Building Officer and under the overall guidance of the Project Manager of Moldova Energy and Biomass Project. 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. **Printing** of the training materials will be covered by the PMT.

The language – generally the trainings shall be conducted in Romanian. However, the trainer should be equally able to deliver the trainings in Russian and if needed, a special Russian speaking group will be formed for separate training sessions. Translation of all training materials, hand-outs, etc. from/to Romanian/Russian shall be provided by the Project. The Handbook on Biomass Fuel Quality should be also developed in Romanian.

Geographically: the workshops will be organized in the regional training points (South, North, Center and Chisinau). It is expected that the district-level LPA will provide the training venues at no-cost as their contribution to the project implementation. In case free of charge venue would not be available, a paid alternative shall be sought. The cost of rent in such case shall be covered by the PMT upon prior coordination and agreement.

The timeframe for the actual delivery of this assignment is June, 2015 through December, 2015.

Catering, including 2 coffee breaks per day for training' participants shall be insured by the Project.

Transportation - the PMT will provide to the consultant transportation means for all envisaged travels to the regional workshops.

All necessary **technical equipment** required to conduct the training in the field (projector, screen) shall be ensured by the Project Team.

The Handbook will be presented to UNDP in final version for approval, after being edited by the contractor. The Design and Printing of the Handbook shall be ensured by the Project.

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

- Coordination of meetings with national stakeholders regarding the Handbook content;
- Securing presentation equipment
- Preparing printed materials prior to the workshops
- Quality of workshop materials
- Ensuring evaluation of trainings workshops
- Timely reporting

F. 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, and main findings with respect to the Handbook on Biomass Fuel Quality and training workshops delivered during the period under review;
- Summary of the industry analysis conducted;
- Desk review of national legal framework and best international practices conducted;
- Summary of the Evaluation Forms filled in by all participants, and the evaluation forms as such;
- A photographic portfolio of the assignment to include a selection of most appropriate action shots taken during the workshops, etc.;
- Summary of lessons learned for future interventions;
- Follow-up activities;
- General Conclusion and Recommendations.

G. ELIGIBILITY CRITERIA

In particular the consultant must meet the following qualification criteria:

- University Degree in Technical Sciences, Mechanics, Energy, Agriculture, Rural Development or related field;
- At least 5 years of experience in biomass business development sector; elaboration of educational materials for adults on energy efficiency, renewable energy and solid biomass fuel quality; other types of assistance in the field of RES and EE, solar and biomass energy, and/or agricultural sector;
- Extensive experience in developing training materials in the field of renewable energy, energy efficiency and/or agricultural sector;
- Experience in capacity building and training activities for engineers, commercial fuel suppliers, technical staff, particularly in developing training materials and actual delivery of workshops;
- Good training and facilitation skills, mastery of training techniques and adult learning methods;
- Good understanding of the knowledge gaps and needs of the biofuel producers;
- Strong analytical and drafting skills
- Excellent technical capacity able to ensure the logistical support associated with training preparation and delivery (transportation, IT and audio-visual equipment);
- Excellent interpersonal skills, as well as the ability to communicate effectively with all stakeholders and to present ideas clearly and effectively;
- Excellent proficiency in Romanian and Russian. Knowledge of written and spoken English is an advantage.