Annex I

TERMS OF REFERENCE

Two National Training Experts to deliver the training programme for municipal leaders and operators for biomass-based municipal heating and solar systems from MEBP beneficiary communities

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Duty station: **Chisinau, Moldova, with extensive travel throughout Moldova**

Reference to the project: **Moldova Energy and Biomass Project /MEBP/**

Contract type: **Contract for Professional Services**

Duration of the assignment: **July 2015 – December 2016**

Expected workload: **32 working days for each consultant**

A. BACKGROUND AND CONTEXT OF THE ASSIGNMENT:

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, 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 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.

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 EaPIC top-up activities will be on the following:

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

B. SPECIFIC BACKGROUND

As the first phase (2011 – 2014) of MEBP demonstrated, strong and well informed community leadership is vital to the success of the project intervention. In order to enable the municipal leaders and operators of the biomass-based systems from the newly selected communities, i.e. mayors, municipal council members, teachers, managers of public institutions (schools, kindergartens, health care institutions, etc.) to effectively manage the operation of biomass-based installations for heating and solar systems for provisions of hot water in their communities, the project will continue to deliver training programs for all beneficiary communities.

Within the first MEBP phase comprehensive training modules were developed. Topics covered by the training' modules included: general principles of operation, necessary maintenance routines, optimum building heating system operation (including such issues as overheating and under heating of various

floors of the building), regular and sustained performance monitoring (including standard forms and reports), and sound management of fuel suppliers (including competitive tendering (standard tender formats), contracting (standard contracts), quality control (checking quality and condition of supplied fuel), and storage).

However, due to the progress in the industry and new technologies, and based on the lesson learned from the previous phase and up-date to the training modules for both municipal leaders and boilers' operators is needed. The amendment of the training modules should also include a new chapter dedicated to solar systems for provision of hot water. The amendment should be need-based and would seek to respond to the practical aspect of managing a biomass-based heating system and solar system for provision of hot water. The hand-outs materials elaborated and distributed during the trainings should serves as self-teaching materials. It is worth mentioning, that the training envisaged for the municipal leaders would be orientation-type training rather than a technology specific one. The latter will be provided by the supplier of boiler and solar system equipment upon the installation, and under the guidance of the Project Management Team (PMT).

To accommodate the needs of information and training for the above mentioned beneficiaries, UNDP Moldova Energy and Biomass Project is seeking to contract a team of two national experts (preferably with expertise in the field of renewable energy, biomass technologies and solar systems) that would up-date comprehensive, and yet user-friendly training materials, responsive to the needs of the project, and assume overall responsibility for organizing and delivering the training program in the target communities.

C. OBJECTIVE OF THE ASSIGNMENT:

UNDP Moldova is seeking qualified experts for the up-dating and delivering of training programmes for municipal leaders and operators to effectively manage the operation of biomass-based installations for heating and solar systems for provisions of hot water from the project-assisted communities, with focus on the following outcomes for the target groups:

1. Municipal leaders, members of local councils, public servants from mayors' offices, managers of public buildings (directors of the schools, kindergartens, health care institutions etc.) from target communities have enhanced their knowledge and expertise in the area of sound management of biomass based installations for heating and solar systems for provision of hot water at community level.

2. The operators of the biomass-based municipal heating systems and solar systems for provision of hot water are equipped with skills, knowledge and understanding regarding biomass based heating systems, thus enabling them to ensure optimal functioning and maintenance of the boiler and solar systems installed in the public buildings from beneficiary communities.

D. SCOPE OF WORK AND EXPECTED OUTPUTS

In order to achieve the stated objective, the selected team of two national experts will assume full responsibility for the entire process related to up-dating the content of the training modules, training materials, curricula and organization of training workshops at district level (incl. logistics).

In particular the experts will carry out the following **activities:**

1. *Up-date, in coordination with MEBP specialists the concept, methodology, content of the training, training modules and training materials*
   - 1.1. Develop and coordinate with the PMT the Annual Work Plan for the entire contract period, with timelines set for the amendment of training methodology, content and modules handouts;
   - 1.2. Familiarize with the project document provisions regarding training and capacity building effort foreseen for the respective target groups (municipal leaders and operators of biomass-based heating systems);

1.3. Study the characteristics of the groups, assess and understand its specific training needs. Undertake two-three site-visits to meet with local communities leaders, members of local public administration in order to discuss the upcoming training activities, proposed topics;

1.4. Study the results, lessons learned and best practices in managing biomass-burning boilers at the community level, effective intra-communal cooperation models in the first phase of MEBP and incorporate them in the trainings' methodology. Together with PMT, take part in meetings with relevant stakeholders to discuss and share ideas regarding the proposed training programme and lessons learned from previous interventions;

1.5. Up-date the **Training Modules** and **Training Program developed in the first MEBP phase (2011-2014) for municipal leaders and operators of biomass-based systems** and agree with the PMT on the content of the training;

1.6. Prepare, in coordination with the MEBP specialists, visual aids and handouts for the training participants, including case-studies, simulation practice and other relevant materials;

1.7. Provide the print-ready version of the trainings' modules, handouts for the training participants, including case-studies and other relevant materials;

2. *Organize and conduct one-day training workshops for the municipal leaders (target group1) and operators of biomass-based heating system (target groups 2):*

2.1. Deliver **One-day Training Workshops** at district level for each target group.

Estimative time-line of the training activities:

In 2015 (6 training workshops), covering:

- 9 community projects in small towns from the South region of Moldova;
- 15 community projects in UTA Gagauzia and Taraclia'

In 2016 (12 training workshops), covering:

- 9 community projects in small towns from the North region of Moldova;
- 15 community projects from the Transnistrian Region*
- 15 community projects from the Centre region of Moldova

2.2. Select and invite the participants in close cooperation with the Local Public Administration (LPA) authorities and Project Committees (PC) set up in each beneficiary community (PCs and project team will support the training provider in reaching the potential straw suppliers from the target communities);

2.3. Respond promptly to queries from UNDP regarding the status of trainings, provide delivery data and indicators, and participate in information briefings with the PMT whenever needed.

2.4. Facilitate and assist on site logistics for the trainings including: venues, provision of audio-visual equipment as required, hand-outs for training participants, etc.;

2.5. Develop Training Evaluation Forms and ensure proper filling in by participants and conduct evaluation after each training/collect feedback;

2.6. Periodically update and improve training materials based on lessons learned from delivering the training and from participants' evaluation forms.

2.7. Submit periodic reports to PMT including gender disaggregated data regarding the trainings' participants;

2.8. Mainstream gender equality throughout training activities.

Note: the modality of work in Transnistrian region will be further determined.

3. *Develop the content of an infographic on the use of Solar Energy Systems for providing hot water in public buildings*

3.1. Prepare the content of the infographic focusing on advantages of solar energy, main principles of functionality, maintenance and troubleshooting of the solar system installations, safety in operation, etc.;

3.2. Consult the content of the infographic with main stakeholders from the area of expertise: Agency for Energy Efficiency, MEBP engineers and experts, suppliers of solar systems for provision of hot water;

3.3. Amend the content of the infographic, if needed, and provide the final version of the infographic;
3.4. Consult the MEBP team in preparing the design of the infographic.

Expected deliverables:

Deliverable	Timeframe / workload
1. The draft concept, methodology, content of the training, training modules and training materials developed, presented and approved by the MEBP team.	By August 31, 2015 Workload - 6 days of consultancy
2. The draft concept of the infographic with relevant sections/boxes related to advantages of solar energy systems for hot water provision, main principles of functionality, maintenance, safety in operation presented to MEBP team	By September 30, 2015 Workload - 4 days of consultancy
3. The handouts for trainings' participants, Power Point Presentations, other audio-video supporting materials, evaluation form developed, presented and approved by MEBP team;	By October 15 , 2015 Workload - 4 days of consultancy
4. **Up to 9 Training Workshops** at district level for municipal leaders conducted in all target communities (target group 1)	3 trainings in 2015 6 trainings in 2016 Workload - 9 days of consultancy
5. **Up to 9 Training Workshops** at district level for biomass-based and solar system Boilers' Operators Trainings conducted in all target communities (target group 2)	3 trainings in 2015 6 trainings in 2016 Workload - 9 days of consultancy
Total estimated workload per consultant	32 working days

Expected Outputs:

- Training Program up-dated;
- Training Modules up-dated;
- Training Materials up-dated;
- Training Schedule agreed;
- Training Aids and Handouts up-dated and printed;
- List of Participants properly filled in for accounting settlements, including sex-disaggregated data regarding participants at training;
- Training Evaluation Forms developed and filled in by participants (a summary of evaluation forms, including a numerical and qualitative one, to be included in both Quarterly and Final Reports);

E. METHODOLOGY AND TRAINING CONCEPT

The format – a typical training session shall be conducted as a one-day workshop and should include an optimal amount of conceptual training (i.e. theoretical) on one hand, and demonstrations, case studies and simulations, on the other hand. It is expected that the trainers 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.

The content of the workshops should be as practical as possible with the aim to equip the local leaders and biomass-based heating systems and solar systems operators with concrete knowledge based on the local and international experience in the field of green energy heating systems and their effective management at community level.

E.1 - Target group 1: Municipal leaders.

This group consists of mayors of the selected communities, members of the local councils, public servants from the mayors' offices, various specialists pertaining to the project employed by local mayor's offices, teachers, school principals, administrators of health care facilities.

A sample of participants by community will include: the mayor, one member of the local council, one public servant from the mayor's office, chief accountant from the mayor's office, manager and a technical specialist of the biomass-based installations for heating and solar systems for provisions of hot water recipient institutions.

Each of the beneficiary communities has an established **Project Committee** that includes members of the respective target group.

Indicative Training Subjects for the Managers of Public Buildings group should include, but not limited to the following:

- Energy efficiency and energy planning at the community level. Role of renewable energy sources – diversification and decreasing dependency on fossil fuels, cutting costs, environmental benefits;
- General Principles of Biomass-Based Boiler Operations and Solar-Systems for provision of hot water Operations and the role of local public authorities in effectively organizing the fuel supply, hiring operators and mobilizing local stakeholders and resources;
- Key Processes Associated with Biomass Heating and Solar Energy (biomass fuel supply, hot water storage requirements, general principles of heat generation from biomass and heat distribution);
- Monitoring the Performance of Biomass Heating and Solar Systems;
- Sound Management of Biomass Fuel Suppliers, including key steps in ensuring optimal quality of supplied biomass requirements for proper storage, etc.;
- Employment and performance measurements criteria for biomass-fired boiler operators;
- Tendering for fuel procurement from local entrepreneurs (tender forms, contract modalities, etc.), establishing Public Private Partnerships (including legal framework, practical examples, etc.).

Geographical coverage and delivery timeframe

	Communities	Estimated No. of community projects	Estimated No. of participants	Number of trainings	Planned time-frame
South Region and UTAG Gagauzia	Leova, Iargara, Basarabeasca, Causeni, Cainari, Cimsilia, Cahul, Cantemir, Stefan-Voda	9	max.5 persons from each community	1	October – December 2015
	Gagauzia and Taraclia (Comrat, Ceadir-Lunga, Vulcanesti, Taraclia, Tvardita)	22	max.5 persons from each community	2	October – December 2015
North region (19 small towns)	Briceni, Lipcani, Donduseni, Drochia, Edinet, Cupcini, Falesti, Floresti, Marculesti, Glodeni, Ocnita, Otaci, Frunza, Rascani, Costesti, Singerei, Biruinta, Soroca	19	max.5 persons from each community	2	January – December 2016
Centre region (15 small towns)	Anenii Noi, Calarasi, Hincesti, Criuleni, Dubasari, Ialoveni, Nisporeni, Orhei, Rezina, Straseni, Bucovat, Soldanesti, Telenesti, Ungheni, Cornesti	15	max.5 persons from each community	2	January – December 2016
Transnistrian region (15 small towns)	To be determined	15	max.5 persons from each community	2	January – December 2016

The selected trainers are expected to develop an Economic Simulations Model that can be used for calculating the cost of energy produced from biomass in the community (variables to be included in the model: cost of biomass fuel, transportation, storage, labour, etc.).

E.2 - Target group 2: **Biomass-based heating systems and solar systems operators and Managers of Public Buildings**

This group refers to: specialists directly responsible for ensuring the operation and maintenance of the biomass-based boilers that will be installed in the selected buildings, as well as the managers of the respective institutions (directors of schools, kindergartens, health care institutions, etc.).

A sample of participants by community will include: biomass-based and solar-system operators selected for each beneficiary institution, the facility manager and a technical specialist from public institutions, recipient of the biomass-based boilers and/or solar system for provision of hot water.

Indicative Training Subjects for the Target group 2 should include, but not limited to, the following:

- Peculiarities of the new biomass heating and solar systems technologies, key conceptual and operational aspects of biomass-based energy production;
- Effective Management and Maintenance of Biomass-Based Boiler Systems and Solar Systems for provision of hot water in Public Buildings;
- Roles and responsibilities of boiler operators in ensuring the proper functionality, operation and maintenance of biomass heating and solar systems (storage of biomass fuel, assessing the moisture content in the fuel, optimum moisture levels for different types of biomass fuel, proper loading of boiler with biomass fuel, possible and advisable biomass fuel combinations, ash cleaning routines, ash storage and disposal, boiler cleaning, preservation of the heating systems between heating seasons, etc.);
- Sound Operation Routines, including boiler/solar system maintenance, heat control and adjustment, building requirements for optimum heat preservation, etc.;
- Record keeping (filling in the registries on boiler parameters monitoring and fuel consumption provided by MEBP).

Geographical coverage and delivery timeframe

	Districts	Estimated No. of communities	Estimated No. of participants	Number of trainings	Planned time-frame
South Region and UTAG Gagauzia (24 small towns)	Leova,Iargara,Basarabeasca,Causeni, Cainari, Cimsilia,Cahul,Cantemir,Stefan-Voda	9	2 persons from each community	1	December 2015 – February 2016
	Gagauzia and Taraclia (Comrat, Ceadir-Lunga, Vulcanesti, Taraclia, Tvardita)	22	2 persons from each community	2	December 2015 – February 2016
North region	Briceni, Lipcani, Donduseni, Drochia, Edinet, Cupcini, Falesti, Floresti, Marculesti, Glodeni, Ocnita, Otaci, Frunza, Rascani, Costesti, Singerei, Biruinta, Soroca	19	2 persons from each community	2	September – December 2016
Centre region	Anenii Noi, Calarasi, Hincesti, Criuleni, Dubasari, Ialoveni, Nisporeni, Orhei, Rezina, Straseni, Bucovat, Soldanesti, Telenesti, Ungheni, Cornesti	15	2 persons from each community	2	September – December 2016
Transnistrian region (15 small towns)	To be determined	15	2 persons from each community	2	September – December 2016

F. MANAGEMENT ARRANGEMENTS

Organizational Setting - The consultants will work under the guidance and direct supervision of the MEBP Training and Capacity Building Specialist and overall supervision of the Project Manager. The

consultants will work in tandem, equally contributing to the accomplishment of tasks and successful achievement of the objectives by providing substantive inputs in their respective area of expertise.

Geographically, the trainings/workshops could combine 2-3 districts concurrently in order to ensure that annual targets are met. The workshops will be organized in the regional training points (later to be identified). 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 language – generally the trainings shall be conducted in Romanian. However, the trainers 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.

Catering, including 1 coffee break per day and 1 full meal for training participants shall be insured by the Project.

Transportation for all envisaged travels will be provided by PMT. Reimbursement of transportation costs will be granted at the Project's expense to participants traveling by public transport means upon presentation of travel tickets indicating the fares.

Printing of training materials shall be ensured by the Project.

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

UNDP will provide the Experts with the necessary information and materials for the fulfilment of tasks and will facilitate the necessary meetings whenever needed.

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
- Invitation of participants
- Securing venues
- Availability of catering services
- Securing presentation equipment
- Preparing printed materials prior to the training
- Quality of training materials
- Ensuring evaluation of trainings workshops
- Improving training methodology
- Timely reporting

G. REPORTING

The experts will be required to produce progress reports on quarterly basis, and one Final Report upon the conclusion of the contract period.

Quarterly reports will take the form of progress reports towards the contract targets as listed in the Annual Work Plan developed and agreed upon at the beginning of the assignment, and will include brief reports for each of the workshops delivered in the respective districts. The quarterly report need to include the following:

- A narrative part pertaining to the content of the training, observations of the trainers team, and main findings with respect to the training workshops delivered during the period under review;
- A statistical/quantitative part reflecting the regions and respectively small towns covered during the reporting period, total number of participants trained – by region respectively;
- A list of common questions, issues raised during training activities;

- Summary of Evaluation Forms from workshops carried out in the period under review (by district, and overall);
- Lessons Learned by the reporting period;
- Follow-up activities in terms of further training (question to be asked in the training evaluation forms) and information needs.

The timeline for the submission of the quarterly reports together with all annexes in original (list of participants, agenda of the training, evaluation forms, action pictures taken during trainings) is 10 working days from the conclusion of the previous quarter. Quarterly reports with corresponding attachments need to be submitted in electronic version to Project Manager, with copies to Training and Capacity Building Officer.

The **Final Report,** including the training modules and all annexes in original (lists of participants grouped by target groups and regions, agendas of the training events, evaluation forms) will be submitted to the UNDP Project Manager, with copies to the Training and Capacity Building Officer within 15 working days after the conclusion of the last training event. 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 trainers, the extent to which contract objectives have been attained, a description of the methodology and approach, list of training modules (the training materials as such to be enclosed as annexes to the report) and main findings with respect to the training workshops delivered during the period under review;
- The Training Program (learning objectives, method of instructions, training aids used, training methods applied, summary of the content, intended outcome of the training), for both target groups;
- 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 training, certificate awarding event, etc.
- Summary of lessons learned for future interventions;
- General Conclusion and Recommendations
- Follow-up activities

H. ELIGIBILITY CRITERIA

The applicants must meet the following qualification criteria:

Expert 1 (LPA Expert):

- ✓ University Degree in Economics, Agriculture and Rural Development, Public Administration, Development Studies, or related field;
- ✓ At least 5 years of experience in providing consultancies, trainings or other types of assistance local government administration and/or agricultural sector;
- ✓ Extensive experience in developing training materials in the field of local government administration, and/or agricultural sector;
- ✓ Experience in capacity building and training activities for public authorities, particularly in developing training materials, curricula, and actual delivery of training;
- ✓ Good understanding of the LPA's knowledge gaps and needs;
- ✓ Advanced training and facilitation skills, mastery of interactive participatory training techniques and adult learning methods;
- ✓ Excellent technical capacity able to ensure the logistical support associated with training preparation and delivery (transportation, IT and audio-visual equipment);
- ✓ Excellent interpersonal and diplomatic 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.

Expert 2 (Technical Expert):

- ✓ University Degree in Technical Sciences, Mechanics, Electricity and/or Agriculture and Rural Development, or related studies;

- ✓ At least 5 years of experience in providing consultancies, trainings or other types of assistance in the field of renewable energy, energy efficiency, 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, boiler operators, technical staff, particularly in developing training materials, curricula, and actual delivery of training;
- ✓ Good understanding of the technical staff knowledge gaps and needs;
- ✓ Advanced training and facilitation skills, mastery of interactive participatory training techniques and adult learning methods;
- ✓ Excellent technical capacity able to ensure the logistical support associated with training preparation and delivery (transportation, IT and audio-visual equipment);
- ✓ Excellent interpersonal and diplomatic 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.