United Nations Development Programme

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TERMS OF REFERENCE

Job title:	**International Independent Civil Engineer**
Duty station:	home based
Reference to the	**Moldova Energy and Biomass Project (MEBP)**
Contract type:	Individual Contract (IC)
Contract Duration:	30 June 2015 – 30 June 2017 (160 days of consultancy)

I. Background:

The Moldova Energy and Biomass Project, funded by the European Union and implemented by UNDP 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.

During the first phase of the project implemented by UNDP Moldova through 2011-2014 were installed 141 thermal heating systems (11 more than the originally planned 130) primarily burning biomass fuel from agricultural wastes for provision of heating in schools, kindergartens and community centers.

As of December 2014, the project entered into the second phase with the main objective to scale up the successful activities from the first phase of the project and extend them to so far not covered or underrepresented regions and to support the further consolidation of the biomass market. Among other outputs, it aims at installing at least 80 additional heating systems primarily burning biomass briquettes and pellets from agricultural wastes in the municipal buildings (schools, kindergartens, community centers, etc.), with specific focus on Transnistria, ATU Gagauzia, Taraclia district and small towns. Additionally though, in a number of 21 of selected communities the project plans to pilot integrated energy saving and energy-efficiency solutions by installing combined solar/biomass technologies.

In addition to fuel switching, the heat supply distribution piping, connecting boilers and building heating systems, will be renewed to decrease energy losses. Heat supply points in the municipal buildings will be renewed where modern heat temperature control and heat metering equipment will be installed. This increases energy efficiency by better heat supply temperature regulation e.g. decreasing of temperature during night time and during weekends.

To that end, UNDP has launched an international competition for the selection of specialized engineering/design companies which will develop the detailed design documentation (including technical solution as well as tender/construction documents: drawings, BOQs, cost estimations) necessary for tendering and for construction/installation of heating systems fuelled with solid biomass. Where applicable, the heating systems will be additionally equipped with solar hot-water installations, providing reliable heating and domestic hot water to selected municipal buildings. UNDP will subsequently announce tenders for selection of contractors to perform construction/installation works as well as to provide supply, delivery and installment of the equipment.

II. Objective of the assignment

The overall objective of the consulting services is to provide technical assistance and advisory support services related to the review of existing design documentation and bids evaluation related to the construction/installation of the Biomass based boiler plants and solar hot-water installations. The consultant will revise and certify the completeness and compliance of the design documents developed by the selected design

companies (technical drawings, Bill of Quantities (BoQ), Cost estimates and other available documentation) as well as the completeness and accuracy of the bids received in the subsequent tenders for construction works against relevant technical standards and project requirements.

III. Key activities and expected outputs

More specifically the International Civil Engineer will be required to perform the following tasks:

Phase I: Tender preparation:

- Review technical project documentation prepared by the design company including relevant drawings, technical descriptions and specifications;
- Asses the relevance and completeness of the volume and description of works as well as specifications and quantity of materials used in the BoQs;
- Identify overall quality and relevance of the BoQ and cost estimates prepared by the design company;
- Provide written report (certification) confirming whether the drawings, BOQs and cost estimations are complete and compliant with the level of services required also stating the identified shortcomings and suggested recommendations.

Phase II: Bids Evaluation:

- Participate in the evaluation of bids;
- Analyze measures, quantities and description of items in the offers against the original BOQ;
- Analyze and review the offered unit rates against the cost estimate in correlation with BoQs and to assess whether they are realistic;
- Analyze and review if the offered technical specifications are in accordance to the advertised ones;
- Assess as to how much the offer deviates from internal estimates and possible reasons in case of significant deviations;
- Provide written report on the aforementioned aspects.

Expected outputs:
- Design completeness certification reports submitted and approved;
- Bids evaluation reports signed.

IV. Deliverables

The results expected from the Consultant's service provision:

Item no.	Deliverables	Estimated workload
1.	Phase I: Completeness and compliance of the design documents (drawings, BOQs, cost estimates) of the selected biomass and solar hot-water heating projects analyzed and their compliance with relevant technical standards certified	1 day of consultancy per site
2.	Phase II: Bids received as result of competitive processes evaluated in terms of completeness and compliance with the solicitation documents, as well as realism of quoted prices certified	1 day of consultancy per site

Note: the beneficiary communities shall be identified as the project will advance with its implementation. It is expected that all designs will be similar in complexity with some possible variation. The output capacity of each heating system is expected to be of 40kWth to 400kWth.

V. Organizational setting

The Contractor will work under the direct supervision of the MEBP Engineer and overall supervision of MEBP Project Manager. The contractor will receive in electronic format the projects that need to be evaluated and will present the report within the stipulated time frame.

The payment for services provided by the Consultant under the MEBP will be made on a lump-sum basis per site upon the service delivery and acceptance by the Project Manager.

VI. Qualifications and skills required:

Education:

- Bachelor Degree in Civil, Energy or Heating Engineering, Architecture or other related field. Higher degree or professional certification in specialized area is an asset.

Experience:

- Minimum of 7 years of progressively responsible professional experience in the area of managing and/or supervision of constructions, infrastructure development projects;
- Minimum 2 years of experience in conducting expert technical evaluation of energy project designs and/or elaboration of tender documentation and technical specifications on independent advisory basis;

Competencies:

- Demonstrated technical knowledge of constructions field.
- Knowledge of procurement, tendering and contracting regulations, requirements of international organizations such as UNDP, EC and International Financial Institutions etc.
- Experience in working in complex energy, heating and/or civil works projects.
- Comprehensive knowledge of biomass heating implementation specifics is a strong advantage.
- Good knowledge of and experience in the region, in particular in CIS countries is a strong advantage.

Language Requirements:

- An excellent command of written and spoken English is required. Knowledge of Romanian and/or Russian is a strong asset.