



## Terms of Reference

### Transfer of Czech experience in the development and implementation of Energy Efficiency (EE) and Renewable Energy Sources (RES) in multi-storey building

#### UNDP/GEF Project:

#### Moldova Sustainable Green Cities – Catalysing investment in sustainable green cities in the Republic of Moldova using a holistic integrated urban planning approach

Job title:	International Consultant in Energy Efficiency and Renewable Energy Sources
Type of Contract:	Individual Contract (IC)
Assignment type:	International consultant
Section/Unit:	Environment and Energy Cluster
Duty Station:	Homebased with at least 5 (five) missions to Chisinau (Moldova)
Languages required:	English, working level of Romanian or Russian will be an asset
Starting Date:	01 November 2019
Duration of Assignment:	85 working days till July 2020
Payment arrangements:	Lump sum contract (payments linked to satisfactory performance and delivery of outputs)
Evaluation method:	Interview of shortlisted candidates

## I. Introduction

The Czech-UNDP Partnership for SDGs (hereafter CUP) project *“Transfer of Czech experience in the development and implementation of Energy Efficiency and Renewable Energy Sources in multi-storey building”* is linked with the UNDP/GEF project *“Moldova Sustainable Green Cities – Catalyzing investment in sustainable green cities in the Republic of Moldova using a holistic integrated urban planning approach”*, to be implemented during 2018–2022 years.

The project document was signed with the Implementing Partner in October 2017 and the implementation period will extend over the next 5 years.

During the duration of this consultancy, the International consultant in Energy Efficiency and Renewable Energy Sources will report to the Project Manager and UNDP CO and will provide required support to the project in view of support for identification of legal and financial mechanisms for EE retrofit in Moldovan residential building sector.

## **II. Project Background Information**

The [objective of the project](#) is to catalyse investments in low carbon green urban development based on integrated urban planning approach, by encouraging innovation, participatory planning and partnerships between a variety of public and private sector entities.

The strategy of the project is to create, launch and support a new institutional mechanism called “Green City Lab” (GCL) as a vehicle for encouraging and supporting new innovative measures and approaches in addressing the urban development challenges and barriers. Green City Lab has to become the leading knowledge management and networking platform, clearing house, an facilitator of financing various green urban development projects, and a source of innovations and expertise to catalyse sustainable low carbon green city development in Moldova with a mission to transform Chisinau and other cities/towns in Moldova into modern green and smart European cities with improved quality of life for their citizens, while also demonstrating opportunities for sustainable economic growth.

The work of the GCL will initially focus on demo projects, namely on:

- (i) Integrated and participatory urban land use and mobility planning;
- (ii) Residential building energy efficiency and renewable energy use;
- (iii) Low carbon transport; and
- (iv) Resource efficient waste management.

**The objective of the demo projects** is to contribute to the Green Cities project development objective and intended CO<sub>2</sub> reduction (200 ktons of CO<sub>2</sub>eq. from direct GHG emission reductions). The residential building energy efficiency and renewable energy use demo project aims to demonstrate the cost benefits of the energy efficiency refurbishment of a multi-storey residential building, by involving the Home Owners Associations to invest in low carbon infrastructure. The residential building will be selected based on a comprehensive legal and institutional assessment in the energy and building sectors.

### **Context:**

Urban residential housing stock currently accounts for about 40% of the total residential floor area. Its energy consumption and climate-related impact is exacerbated due to considerable heat and electricity losses from the distribution grids and the buildings. As of 2013, close to 80% of all residential buildings in urban areas were connected to district heating (DH) with heat losses already in distribution estimated at 22% of the total heat supplied, which is well below the 5-10% losses registered in case of modern, well maintained, DH networks. There are around 6,900 multi-storey (multi-apartment) residential buildings in Moldova, out of which 70% are managed by the local government, 7-8% by condominium associations and 17-19% by cooperatives and homeowners’ associations (HOA). Some 50-66% of the common properties of private housing stock has remained under the ownership of local authorities.

Nearly 50% of the multi-family multi-storey housing stock has been operated for more than forty (40) years without rehabilitation, hence the level of infrastructure degradation has reached the safety threshold. Moreover, above 70% of multi-family apartment buildings have very low energy performance (especially buildings built during 1950 -1980s): energy loss account for up to 50% of heat consumption. At the moment, the residential sector of Moldova is the largest energy user with 40% share of the national energy consumption and around 70% of energy consumption related to heating. While the average Moldovan household spends 30-50% of its total budget on heating and the country use of energy per unit of GDP is seven times higher than the EU27, the residential building sector has over 60% of energy saving potential that could be explored through good governance at national and local level. Clearly, without a good governance that promotes viable and functional condominium home-owners associations, energy efficiency measures in residential sector are difficult to be implemented.

Most energy savings are obtained when the solutions are applied to the entire building based on a common decision of apartment owners. For larger size projects lending facilities must be available in order to enable implementation of building level solutions. But here there are several barriers that knock-out this type of projects:

- Home owners associations lack acceptable guarantees to commercial financial institutions.
- Commercial offer of financing capital is very high - 18-24% in national currency and 7-14% in EUR or USD. Effective rates are even higher due to various commissioning. Foreign currency lending is associated with the risk of high currency volatility that in some conditions may increase the costs of financial resources even higher than MDL lending.
- Lack of support options for owners that do not have any capacity to invest in EE retrofits.
- Commercial Banks do not recognize HOAs as creditworthy clients, as they do not possess assets that will be accepted by them as adequate collateral for extending loans. Mortgage is neither workable nor acceptable option for condominiums in the new EU member states and the same could be expected for Moldova as well;

The ongoing World Bank District Heating Efficiency Improvement Project is supporting the Government of Moldova on the district heating debt restructuring, while also providing technical assistance for corporate restructuring process of the newly integrated utility, Termoelectrica. In order to improve the operational efficiency and financial viability of the DH company and to improve the quality and reliability of heating services delivered to the population of Chisinau, the project has also invested in various supply side energy efficiency and retrofit measures such as (a) modernization of selected pumping stations to reduce electricity consumption and facilitate more efficient variable flow operation mode of the DH system; (b) rehabilitate selected segments of the distribution network; (c) replace old and inefficient central heat substations (CHS) with modern fully automated individual building level heat substations (IHS); and (d) reconnect about 40 disconnected public buildings to improve the usage of the DH system. Much of the technical assistance activities of the World Bank's and other donors' energy related activities have also been supported by the Swedish Government.

#### **Legal context**

- Law No. 139 (19.07.2018) on Energy Efficiency;
- Law No. 10 (26.02.2016) on promotion of Renewable Energy Sources;
- Law No. 128 (11.07.2014) regulating EE performance in buildings;
- Law No. 913 (30.03.2000) on condominium;
- Government Decision No. 896 (21.07.2016) including rules and norms for certification of energy performance in buildings;

### III. Duties and responsibilities:

The International consultant in Energy Efficiency and Renewable Energy Sources under this activity, is requested to support the UNDP CO to test the market for finding/analysing and implementing financial mechanisms for residential sector investment in Energy Efficiency related to loans repayment instruments (Energy Performance Contracting; on-bill Repayment, Leasing, Public Super ESCO), as well as, to assess realistically the potential for each financial mechanism, determine barriers and drivers related to Energy Efficiency and Renewable Energy Sources promotion in residential sector. International consultant shall collaborate with Energy Efficiency Agency in order to synchronize the joint efforts related to Efficiency related loans repayment instruments.

**The outputs of demonstrational project** are scalable and applicable to at least **80%** of Moldova's housing stock. These measures will be applied to a **standard multi-storey** block in Chisinau, and the measures applied will therefore have a high replicability and be extended to the entire residential building stock. The pilot will **lay down the groundwork** for the most optimal technical and financial scenario, which could be used by similar multi-storey blocks in Moldova. The heat losses through the buildings' main walls represents a significant part of the total heat loss of the building. Through the proposed Energy Efficiency measures it is expected to reduce heating costs up to 40% and reduce the cost of utilities for the residents.

The consultant will be supported in his work by the Green Cities Project Business Officer, National consultant in EE RES. and will report to the UNDP CO and Project manager.

Under present assessment, Consultant will have the following responsibilities:

- Analysing and implementing financial mechanisms in residential sector investments for Energy Efficiency measures related to loans repayment instruments (Energy Performance Contracting; on-bill Repayment, Leasing, Public Super ESCO);
- Strengthening the role of the Home Owner Associations (HOAs) to manage their buildings and common property and to contribute to the development of their surroundings, while also supporting them to get their legal status as credit-worthy legal entities with the option to access affordable financing for the required (EE) investments;
- Providing the most feasible approach to the energy efficient refurbishment of a demo-building in private or residential sector, through EPC/ESCO modality or another EPC type of agreement;
- Strengthening the role of the Energy Service Companies (ESCOs) through a more detailed technical assistance in developing new lending mechanisms and engaging in project assessment.
- Increasing ESCO capacities through demo project so they can showcase their expertise and gain practical experience

#### IV. Expected Deliverables and estimated timing

The assignment will be carried out as 85 working days over a 10 months period from the date of starting of the assignment.

#	Deliverables	Estimated timing
1.	- Activity Plan for the assignment submitted and coordinated with UNDP CO and Project Manager	By November 10, 2019 5 working days
2.	- Update the existing EPC/ESCO legal and institutional analysis; - Evaluation of the procurement procedures available in the Republic of Moldova and identification of the most relevant procedure to be followed under EPC contracting in the residential sector; - Identification and development the required mechanisms for energy savings counting, including recommendations for adjusting the fiscal framework and accounting policies (if necessary) - Analysis of possible financial mechanisms related to investment repayment instruments, with a focus on residential sector.	By December 20, 2019 25 working days
3.	- Recommendations about the most feasible options for introducing EPC /ESCO as robust financing tool in residential buildings.	By January 24, 2020 10 working days
4.	- Analysis of the existing residential building stock and institutional and legislative framework within which condominiums, Home Owner Associations, are operating; - Set the selection criteria of the beneficiary HOA, in cooperation with the Municipality and Termoelectrica; - Participation at round table meetings to discuss the residents' willingness to participate in, and co-finance, the rehabilitation works of their building, taking into consideration concerns of low-income households/residents;	By February 28, 2020 15 working days
5.	- Develop procedures and document templates, aligned with the legislation in place, such as: <ul style="list-style-type: none"><li>○ Template of Energy Performance Contract for residential sector;</li><li>○ EPC implementation guide in residential sector;</li><li>○ Methodology for verification and validation of energy savings for EPC.</li></ul>	By April 17, 2020 20 working days
6.	- Set the selection criteria of ESCO companies (or other service companies) to implement the rehabilitation works in residential sector;	By May 11, 2020 5 working days
7.	- Final Report	By July 17, 2020 5 working days

#### IV. Duty Station

- Homebased with at least 5 (five) missions to Chisinau (Moldova). Missions will be focused on meetings with the main stakeholders:
  - Chisinau Municipality;
  - Termoelectrica;

- Gas Natural Fenosa;
- Roundtables with HOAs;
- Others;

## **V. Qualifications and experience requirements**

### Academic qualifications:

- Master's degree in Energy, Environment, Law, Business Administration, Economics, Engineering, or other closely related field. PhD is an asset.

### Experience:

- At least 5 (five) years' work experience in providing advice to energy-efficiency and RES projects in the Europe and CIS region;
- Experience in work with performance-based energy efficiency projects. Proven knowledge of energy performance contracting, ESCO mechanisms;
- Experience in working with international technical assistance projects in Czech Republic would be an asset;
- Good knowledge of the international state-of-the-art approaches and best practices in Energy Efficiency and Renewable Energy Sources promotion in residential sector;
- Good analytical and problem-solving skills and the related ability for adaptive management with prompt action on the conclusion and recommendations coming out from the assignment
- Demonstrated understanding of issues related to gender; experience in gender sensitive evaluation and analysis;
- Proven experience in preparation of written reports in an accurate and concise manner in English;
- Excellent computer literacy (Word, Excel, Internet, Power Point).

### Language requirements:

- Writing and verbal skills in English; knowledge of Romanian or Russian would be an asset.

## **VI. Payment modalities**

The consultant will organize and facilitate the implementation of all project advisory activities as described above; his/her payment will be lump sum amount based, disbursed in instalments upon satisfactory performance and approval of deliverables.

## **VII. Application process**

Applicants shall submit the following four documents:

### **Required**

- ☒ Offeror's Letter confirming Interest and Availability;
- ☒ Personal CV including information about past experience in similar assignments and contact details for at least 3 (three) referees;



Brief description of approach to work/technical proposal of why the individual considers him/herself as the most suitable for the assignment, and a proposed methodology on how they will approach and complete the assignment.

Incomplete applications not considered.

If an applicant is employed by an organization/company/institution, and he/she expects his/her employer to charge a management fee in the process of releasing him/her to UNDP under Reimbursable Loan Agreement (RLA), the applicant must indicate at this point, and ensure that all such costs are duly incorporated in the financial proposal submitted to UNDP.

#### **IX. Annexes to the TOR**

Annex 1- Individual Consultant General Terms and Conditions

Annex 2- Financial proposal template