TERMS OF REFERENCES
for International Consultant

Green Design Code for Chisinau

Job title:	International Consultant in Green Urban Design Code
Type of Contract:	Individual Contract (IC)
Assignment type:	International consultant
Section/Unit:	Environment and Energy Cluster
Duty Station:	Homebased with at least three (3) missions to Chisinau (Moldova)
Languages required:	English, working level of Romanian or Russian will be an asset
Starting Date:	18 November 2019
Duration of Assignment:	75 working days till August 2020
Payment arrangements:	Lump sum contract (payments linked to satisfactory performance and delivery of outputs)
Evaluation method:	Interview of shortlisted candidates (ONLY the first 5 top ranked candidates shall be invited)

I. BACKGROUND

The objective of the project is to activate 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.

As a tool for this, the project will support the design, launching, and establishment of the Green City Lab (hereafter GCL) to become the leading knowledge management and networking platform, clearing house, an inter-mediator of finance and a source of innovations and expertise to catalyze sustainable low carbon green city development in Moldova with a mission to transform Chisinau and other urban centers 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 Green City Lab is expected to be a self-sustaining entity, operating on a commercial basis (as part of the UNDP in initial stage and linked to municipality on a later stage), that does not rely on technical assistance funding alone, so that by the end of the project it can continue to operate and grow.

The direct global environment benefits of the project are expected to reach at least 200,000 tons of CO_2, resulting from the concrete pilot/demonstration projects in the building energy efficiency, transport and waste sectors. These are complemented by project's indirect GHG emission reduction impact at the estimated amount of 2.4 million tons of CO^2 by scaling up, replicating and mainstreaming the project results and activities, including those of the Green City Lab.

II. OBJECTIVES

The **Overall Objective** of the tendered services is to strengthen the capacities of the central and local public authorities, architects, designers, materials specifiers and builders involved in the planning, design and development of residential, commercial and industrial green buildings.

Through the international expertise support for the Green Design Code, the Chisinau authorities will be able to learn from the international and in particular EU experience and approaches in modern practices of green design, sustainable architecture and energy efficient buildings which will ultimately improve the quality of urban infrastructure and will increase the quality of life in Chisinau.

The Green design code will provide a framework to help the local decision-makers to design new affordable and energy efficient housing, undertake efficient measures for retrofitting the existing building stock, implement the buildings green certification, as well as use of green building materials and design.

The code will serve also the designers, developers, advocates, and builders of attractive buildings and neighborhoods, as well as those who are interested in developing houses and neighborhoods that respond to changing demographics and market demands.

In a *medium and a long-term*, Green Design Code and associated certification system has the scope to:

- Use resources more efficiently while creating more energy-efficient and sustainable homes, offices, schools and other buildings.
- Inform the implementation of projects as a regulation within the General Urbanistic Plan and to inform the updating of other construction norms
- Minimize the harmful effects of construction projects on human health and the environment.
- Safeguard air, water, and earth by using eco-friendly building materials and construction practices
- Contribute to enhancing the attractiveness and quality of the urban environment and urban design for the benefits of citizens, the economy and society as a whole.

In the *short-term,* the Green Design Code, can be a perfect tool for municipality and government to regulate the practices in the area, being one of the key documents in construction sector.

At the national level the Green Design Code will create preconditions for legislation amendment in order to stimulate promotion of investments of green buildings as well as buildings green certification system.

The Chisinau municipality will support the Green Design Code development through a fully participatory and consultative process with professional planners, citizens, policy makers and key stakeholders. Also, in order to become mandatory for Chisinau, it's expected that the Green design code will be approved by the Chisinau Municipal Council

III. OUTPUTS AND TASKS

Under the overall supervision of the Project Manager and with a support of the national consultant or team of consultants, the international consultant will bring-in the best international practices and standards applicable

to individual and multi-apartment urban residential housing (e.g. International Green Construction Code (IgCC)) in green building certification process and share his/her knowledge and skills with the national designers and architects through fulfilling the following tasks:

1. Propose the structure, outline and roadmap for the development of the Green design code and certification, and consult/approve it with key partners: Ministry of Economy and Infrastructure, Energy Efficiency Agency, Chisinau Municipal authorities during the first visit to Chisinau (approx. mid-November);

   The suggested structure of the code is the following (subject to update and change):

   Chapter I. GENERAL PROVISIONS
   - Section 1. Policy
   - Section 2. Objectives
   - Section 3. Principles
   - Section 4. Definition of Terms
   - Section 5. Approach
   - Section 6. Building Use / Occupancy Coverage and Application

   Chapter II. GREEN BUILDING REQUIREMENTS
   - Section 7. Performance Standards
   - Section 8. Energy Efficiency
     - 8.1 Building Envelope
       - 8.1.1 Air Tightness and Moisture Protection
       - 8.1.2 Glass Properties
       - 8.1.3 Natural Ventilation
       - 8.1.4 Building Envelope Colour
       - 8.1.5 Roof Insulation
     - 8.2 Mechanical Systems
       - 10.2.1 Air Conditioning System
       - 10.2.2 Water Heating System
       - 10.2.3 Variable Speed Drives and High Efficiency Motors
       - 10.2.4 Enthalpy Recovery of Exhaust Air
     - 8.3 Electrical Systems
       - 8.3.1 Daylight Provision
       - 8.3.2 Daylight Controlled Lighting System
       - 8.3.3 Lighting Power Density
       - 8.3.4 Occupancy Sensors for Lighting Control
       - 8.3.5 Elevators and Escalators / Moving Ramps / Walkways
       - 8.3.6 Transformer
       - 8.3.7 Overhead or Elevated Water Storage
   - Section 9. Water Efficiency
     - 9.1 Water Fixtures
     - 9.2 Water Management
       - 9.2.1 Rainwater Harvesting
       - 9.2.2 Water Recycling
   - Section 10. Material Sustainability
     - 10.1 Non---Toxic Materials
   - Section 1. Solid Waste Management

11.1 Material Recovery Facility
Section 12. Site Sustainability
12.1 Site / Ground Preparation and Earthworks
12.2 Open Space Utilization
Section 13. Indoor Environmental Quality
13.1 Minimum Fresh Air Rates
13.2 Designated Smoking Area

Chapter III. INSTITUTIONAL ARRANGEMENTS
Section 14. Office of the National Building Official
Section 15. Technical Staff
Section 16. Professional and Technical Assistance

Chapter IV. CERTIFICATION PROCESS
Section 17. Green Building Permit Process

Chapter V. FINAL PROVISIONS
Section 18. Separability Clause
Section 19. Effectivity
Section 20. Transitory Provision

2. Validate the initial assessment report of the current situation in partnership developed by the national consultant/'s.
3. Develop a Life Cycle Assessment report (LCA) for the selected building. The LCA report must include 100% of the materials, by quantity, for each of the following elements: foundation, horizontal structure, vertical structure and facades, exterior areas, building technologies and interior elements.
4. Lead the development and cosultation of the Green design code, in partnership with the national consultant/ team of consultants and in close collaboration with the Ministry of Economy and Infrastructure, Energy Efficiency Agency, Chisinau Municipal authorities and other institutions according to the approved structure;
5. Estimate life-cycle costs and benefits of potential green design applications for the selected building. Costs include initial capital and ongoing maintenance and operating costs.
6. Develop a Roadmap and Needs assessment report for strengthening energy efficiency and make greener the urban housing to achieve the international standards for energy consumption in housing
7. Support the national expert/experts in presenting the Green design Code at the Chisinau Municipal council meeting or orher meetings (if requested);
8. Take lead in conducting of one training/workshop on best practices on green design and low-carbon urban buildings for government/municipal staff, practicing architects, designers, building construction engineers and professionals;
9. Provide inputs, guidance to the national consultant/'s in development of a technical guide on green design and low-carbon urban buildings applicable to Moldova' s environment (climatic, economic and social conditions) for government/municipal staff, practicing architects, designers, building construction engineers, professionals and other interested stakeholders.
10. Provide inputs, guidance to the national consultant/'s in development of a Operational manual for the evaluators
11. Provide inputs, guidance to the national consultant/'s in development of a Brochure on the benefits of the Green Design Code for general public.
12. Elaborate Guide for pollution prevention on construction sites to be used as a base for developing local legislation.

IV. Expected Deliverables and estimated timing

The assignment will be carried out as 75 working days according to the following timeframe (including at least 3 missions (min 3 working days each) to Chisinau (Moldova).

The consultant should also make a visit to present the draft report and seek stakeholder's feedback in finalization of the report. The payments will be made as per the deliverables indicated below.

#	Deliverables	Estimated timing
1	Consulted and approved structure, outline and roadmap for the development of the Green design code	By November 30, 2019 3 working days
2	Report on the initial assessment of the current situation	By December 20, 2019 5 working days
3	Life Cycle Assessment report developed	By December 30, 2019 5 working days
4	First draft of the Green design code	By February 28, 2020 15 working days
5	Report on costs and benefits of potential green design applications Roadmap and Needs assessment report	By March 30, 2020 10 working days
6	Final consulted version of the Green design code Assistance for Green design code approval at the Municipal council	By May 30, 2020 7 working days
7	One training/workshop on best practices on green design and low-carbon urban buildings for government/municipal staff, practicing architects, designers, building construction engineers and professionals;	By May 30, 2020 2018 3 working days
8	The technical guide on green design and low-carbon urban buildings applicable to Moldova' s environment (climatic, economic and social conditions) for government/municipal staff, practicing architects, designers, building construction engineers, professionals and other interested stakeholders.	By 1 July 2020 10 working days
9	Operational manual for the evaluators developed	By 31 July 2020 7 working days
10	Brochure on the benefits of the Green Design Code developed	By 31 July 2020 5 working days
11	Guide for pollution prevention on construction sites to be used as a base for developing local legislation	By 31 August 2020 5 working days

All deliverables will be prepared in English, working language will be English with Romanian and/or Russian interpretation.

V. QUALIFICATION CRITERIA

Academic qualifications:

- At least master's degree (or 5 years University studies) in architecture, urban development and/or other related fields.

Experience:

- At least seven (7) years of professional experience in architecture, green design, construction, urban planning, and low-carbon buildings and/or other related fields in EU or/and CIS;
- At list three (3) years of experience in the international state-of-the-art approaches and best practices in green development in candidate's field of expertise;
- Sound knowledge of best international practices on design of energy efficient/green buildings and energy performance standards in buildings; Demonstrated experience and success in the engagement of and working with the private sector and CSOs in architecture, urban development and/or other related fields;
- Thorough understanding of green design practice and practical experiences in green design deployments.
- Sound knowledge of energy efficiency, energy saving and use of renewable energy in buildings. Proven experience with design/construction of energy efficient and green buildings in CIS countries will be an asset;
- Proven experience in cooperation with international organizations or other bodies responsible for formulating smart urban development, at least three (3) similar assignments; previous working experience with UNDP or other international agencies will be an asset;
- 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;
- Ability and demonstrated success to work in a team, to effectively organize it, and to motivate its members and other project counterparts to effectively work towards the project's objective and expected outcomes;
- Excellent communication, analytical, facilitation and presentation skills;
- Excellent computer literacy (Word, Excel, Internet, Power Point).

Language skills

- Proficiency (verbal and written) in English; working level of Romanian and/or Russian will 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;
- ☒ CV, including information about past experience in similar assignments and contact details for 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.
- ☒ Financial proposal (in USD, specifying the total lump sum amount as well as the requested amount of the fee per day). Financial proposal template prepared in compliance with the template in Annex 3

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.

VII. ANNEXES TO THE TOR

Annex 1- Individual Consultant General Terms and Conditions
Annex 2- Financial proposal template