
**TERMS OF REFERENCES
for Team of National Consultants**

Green Design Code for Chisinau

Job title:	Team of national consultants in Green Urban Design Code
Type of Contract:	Individual Contract (IC)
Assignment type:	National consultant
Section/Unit:	Environment and Energy Cluster
Duty Station:	Chisinau (Moldova)
Languages required:	Romanian, English, working level of Russian will be an asset
Starting Date:	18 November 2019
Duration of Assignment:	125 working days till August 2020 for Lead national consultant 35 working days till May 2020 for Technical support consultant
Payment arrangements:	Lump sum contract (payments linked to satisfactory performance and delivery of outputs)
Evaluation method:	Desk review

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 CO₂, 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 CO₂ 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 international consultant, the team of consultants (Lead national consultant and Technical support consultant) will perform the following tasks:

Lead national consultant

1. Provide inputs to the international consultant during development of the structure, outline and roadmap for the development of the Green design code and certification. Take lead in documents consultation/approval with key partners: Ministry of Economy and Infrastructure, Energy Efficiency Agency, Chisinau Municipal authorities. Provide overall support to the international consultant during his visits to Chisinau.

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. Take lead in development of the initial assessment report of the current situation in partnership with the international consultant and technical support consultant.
3. Support international consultant in development of a Life Cycle Assessment report (LCA). 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. Support the international consultant in development of the Green design code. Take lead in consultation of the Green Design Code with the Ministry of Economy and Infrastructure, Energy Efficiency Agency, Chisinau Municipal authorities and other institutions according to the approved structure;
5. Support the international consultant in estimation of the life-cycle costs and benefits of potential green design applications. Costs should include initial capital and ongoing maintenance and operating costs.
6. Support the international consultant in the development of a Roadmap and Needs assessment report for strengthening energy efficiency and making greener the urban housing to achieve the international standards for energy consumption in housing
7. Take lead in presenting the Green design Code at the Chisinau Municipal council meeting or other meetings (if requested);
8. Support international consultant 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. Develop 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.
10. Develop the Operational manual for the evaluators
11. Develop the 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.

Technical support consultant

Take overall responsibility for setting up the current situation and drafting the following sections of the initial assessment report and Green Design Code, that should be validated by international and lead national consultant:

- 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 11. 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

The technical support consultant will also support the international and lead national consultant during the consultation process of the Green Design Code.

IV. Expected Deliverables and estimated timing

The assignment will be carried out according to the following timeframe:

- Lead national consultant – 125 working days
- Technical support consultant – 35 working days

The consultants should seek stakeholder’s feedback in finalization of the report. The payments will be made as per the deliverables indicated below.

Lead national consultant

#	Deliverables	Estimated timing
1	Consulted and approved structure, outline and roadmap for the development of the Green design code	By November 30, 2019 5 working days
2	Report on the initial assessment of the current situation	By December 20, 2019 15 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 30 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 10 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 5 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 20 working days
9	Operational manual for the evaluators developed	By 31 July 2020 10 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 10 working days

Technical support consultant

#	Deliverables	Estimated timing
2	Report on the initial assessment of the current situation in the up mentioned sectors	By December 20, 2019 5 working days
4	Report on the Green design code provision to the following sections: 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 11. 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	By February 28, 2020 20 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 10 working days

All deliverables will be prepared in English or Romanian (to be agreed with international consultant), working language will be English and Romanian.

V. QUALIFICATION CRITERIA

Lead national consultant

Academic qualifications:

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

Experience:

- At least five (5) years of professional experience in architecture, green design, construction, urban planning, and low-carbon buildings and/or other related fields;
- Experience in design of energy efficient/green buildings and energy performance standards in buildings will be an asset;
- Demonstrated experience in the engagement of and working with the private sector and CSOs in architecture, urban development and/or other related fields;
- 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 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 and Romanian; working level of Russian will be an asset.

Technical support consultant

Academic qualifications:

- University degree in architecture, urban development and/or other related fields.

Experience:

- At least five (5) years of professional experience in architecture, green design, construction, environmental engineering and/or other related fields;
- Demonstrated experience in design of energy efficient/green buildings and knowledge of energy performance standards in buildings will be an asset;
- Proven experience in cooperation with international organizations or other bodies responsible for formulating smart urban development will be an asset;
- Demonstrated experience in the engagement of and working with the private sector and CSOs in energy efficient/green buildings;

- 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 and Romanian; working level of Russian will be an asset.

VI. PAYMENT MODALITIES

The consultants 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 3 referees;
- 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.

VII. ANNEXES TO THE TOR

Annex 1- Individual Consultant General Terms and Conditions

Annex 2- Financial proposal template