BOSNIA AND HERZEGOVINA ENERGY EFFICIENCY PROJECT-
FEDERATION OF BOSNIA AND HERZEGOVINA

TERMS OF REFERENCES

ENERGY CERTIFICATION FOR PUBLIC BUILDINGS AND BUILDINGS ENERGY EFFICIENCY TRAINING UNDER THE IMPLEMENTATION OF THE ENERGY EFFICIENCY IMPROVEMENTS IN PUBLIC BUILDINGS

Contracts No: BEEP-P143580-CQ-19-CS-20-FBIH

1. Background:

The Government of Bosnia and Herzegovina (BH) has recognized the importance of energy efficiency to support sustainable economic growth and move towards EU accession and has received the financing for the Bosnia and Herzegovina Energy Efficiency Project (BEEP) from the International Development Association (IDA) credit funds.

The project development objective (PDO) is to demonstrate the benefits of energy efficiency improvements in public sector buildings and support the development of scalable energy efficiency financing models. The targeted public sector buildings include schools, hospitals, and clinic centers; a small number of other public facilities e.g., elderly homes, orphanages, or other administrative buildings may also be included in the project. The project implementation unit (PIU) established within the Federation Ministry of Physical Planning (FMPP) is responsible for the preparation, coordination, management and implementation of the project in the Federation of Bosnia and Herzegovina (FBH).

The project is supported by a US$32 million IDA Credit for BH, which is on-lent to the two entities (US$ 19.23 million allocated to FBH). The project consist of three components implemented separately in each entity:

Component 1: Energy Efficiency Investments in Public Facilities

Component 2: Support for the Development of Scalable Financing Mechanisms and Capacity Building

Component 3: Project Management

2. Objectives

The FMPP as the Client plans to hire a company ('the Consultant') to provide combined services for:

1. Energy certification of seven (7) public buildings included in the BEEP;
2. Buildings Energy Efficiency Training for municipal/cantonal and building energy managers. The objectives are to increase capacity in preparing, implementing and supervising energy efficiency investments in public buildings for cantonal/municipality officials, build implementation capacity of private companies, populate the databases for public buildings, and enhance the visibility of results achieved under BEEP.

The Consultant will refer to the FMPP for all issues related to the execution of the assignment, and for decisions to be made in reference to the present contract. FMPP will be considered as the Client, even if some actions and/or decisions will have to be coordinated with the relevant Line Ministries and with the local administration, schools, hospitals, Cantons and Municipalities. The Consultant service is expected to be implemented within 2 months.

3. Description and Scope of Services:

Task 1:

Energy certificates for seven (7) project public buildings; this includes the following tasks:

- Implementation of the energy certification process for seven (7) buildings renovated under BEEP, which includes but is not limited to:
    - Detailed review of existing documentation for the buildings (e.g. architectural, structural, mechanical, electrical engineering project, building physics, available energy audits) to determine the condition of the site;

    - Provision of relevant information and calculations for each building in accordance with the applicable regulations for energy certification: Regulation of Performing Energy Audits and Issuing Energy Certificates (Official Gazette of Federation of B&H N^{o} 87/18); Regulation of Conditions for Getting License for Performing Energy Audit and or Energy Certifications (Official Gazette of Federation of B&H N^{o} 87/18);Rulebook of Minimum Energy Performance of Buildings (Official Gazette of Federation of B&H N^{o} 81/19) , Annexes of that Rulebook (Official Gazette of Federation of B&H N^{o} 81/19), and Rulebook of Information System in Federation of B&H (Official Gazette of Federation of B&H N^{o} 2/19) that among others include:
        - Description of applied regulations and standards;
        - A description of the location data of the building;
        - Technical description;
        - Information on the construction of the building (e.g. type of construction and year, building renovations, etc.);
        - Calculation related to the piping (distribution) system in the building;
        - Heat loss calculation through building elements of the building envelope (walls, roof, floors);
        - Heat loss calculation through external openings, their description and characteristics;
        - Calculation and characteristics of the total transmission losses;
        - Calculation of the required heat for heating and cooling;

- Drafts of the heated part of the building and details of thermal bridges;

- Determination of the energy class of the building (A+ to G) based on the results of above referenced calculations and in accordance with the Regulation of Performing Energy Audits and Issuing Energy Certificates (Official Gazette of Federation of B&H N^{o} 87/18);

- Issuance of energy certification of the building from Register of Energey Certifications (REC), established in FMPP, with recommendations on the use, maintenance and operation of the building in order to maximize energy savings and avoid heat losses and other wasteful use of energy resources;

- Provision of relevant data for each of the certified/labeled buildings for the buildings Database within the period of max 8 days after issuance of energy certificate;

- Ensure proper placement of the energy certificates/labels in the buildings.

- In total, seven (7) energy certificates and energy labels are expected to be issued.

Task 2:

Buildings Energy Efficiency Training for municipal/cantonal and building energy managers. The objectives are to increase capacity in preparing, implementing and supervising energy efficiency investments in public buildings for cantonal/municipality officials, build implementation capacity of private companies, populate the databases for public buildings, and enhance the visibility of results achieved under BEEP.

Each canton/municipality where selected subprojects will be implemented is expected to designate a municipal/cantonal energy manager and one person responsible for energy in the selected buildings. These designated energy managers from the municipality/canton and the building will participate in the preparation of annual reports on the results of the subprojects after completion, and support data collection for the entity databases for public buildings.

The Consultant will be responsible for the following:

- Organization of the Buildings Energy Efficiency Training for municipal/cantonal and building energy managers. Trainings should be organized in May/June 2020. All having on mind provisions of the Rulebook of Information System in Federation of B&H (Official Gazette of Federation of B&H N^{o} 2/19). The number of participants is subject to interest from relevant companies but is expected to include at least 10 participants in each training";
- The training is expected to take around (16) hours.

In order to enhance the capacity of designated energy managers from the municipality/canton and the building, the Consultant will be responsible for the following:

- Development and implementation of trainings on energy efficiency for above referenced energy managers, especially on:
    - Overview of the strategic and policy context on energy efficiency in BH, including commitments under the Energy Community Treaty, the targeted reduction in energy consumption by Action Plans for Energy

Efficiency till to 2018 and 2021 and Long Term Renovation Buildings Strategy for 2030 and 2050,

- Overview on how energy savings potentials in buildings are identified and energy audits are conducted, including: concepts of degree-days, heat losses, energy consumption, characteristics of materials, efficiency of boilers, temperature control, balancing of network, thermostatic valves, insulation of walls and roofs, technology of efficient windows etc.

- Provision of energy savings tips (through maintenance);

- Training on the collection of relevant data for the database and training on how to assess results achieved due to the energy efficient renovation in terms of energy consumption, durability/conditions of equipment and materials, O&M issues, improvements of comfort and working conditions

- Provide presentations and written reports from trainings including participants' satisfaction report.

4. Output/Deliverables:

1. Energy certification reports for each BEEP building shall be submitted in three (3) hard copies and one (1) copy on CD ROM (MS Word, Power Point, Excel) in local language. Report for one (1) building shall be submitted in three (3) hard copies and one (1) copy on CD ROM (MS Word, Power Point, Excel) in English language. These reports shall be consistent with the requirements outlined under Task 1 and contained at least the following information:

   - Identification of the building that is certified, including cadastral reference and other general technical details (type, location, beneficiary);
   - The energy class of the building;
   - Data on the person who issued the energy certificate;
   - Data on the building (e.g. usable area, volume of the heated part of the building, coefficient of heat transmission loss);
   - Results of the analysis on the construction performance of the building in terms of technical protection and heat loss through individual elements of the building envelope;
   - Data on climate characteristics (e.g. the average outdoor temperature during the heating season, interior design temperature during the heating season);
   - Data on thermo-technical systems of the buildings (e.g. energy performance of air-conditioning and ventilation);
   - Data on required energy (e.g. annual energy use for heating based on reference climate data, on actual climate data, energy use for hot water consumption, etc.);
   - Data on energy supply and emission of CO2;
   - Suggestions for improvements of energy efficiency of the building, including through changes in maintenance practices;
   - Technical description of the energy certificate;
   - A detailed description of the regulations, standards and procedures for the determination and calculation the data specified in the energy certificate;

2. Input data sheet for each building for the buildings database

3. Training inception report for trainings for energy managers (Task 2) with a detailed suggestion on the training methodology, content to be covered, type of training material, logistical set-up, etc. -- to be submitted in three (3) hard copies and one (1) copy on CD ROM (MS Word, Power Point, Excel) in local and English language;
4. Summary report on conducted Buildings Energy Efficiency Training for municipal/cantonal and building energy managers, including training material and other relevant information (e.g. results from the satisfaction survey, contact details of the participants, energy savings tips provided, etc.) -- to be submitted in three (3) hard copies and one (1) copy on CD ROM (MS Word, Power Point, Excel) in local and English language (presentation, number of participants, participants satisfaction report…).

5. Time Schedule

The Consultant is expected to provide required activities from May to June 2020.

No.	Reports Name	Submission Date
1.	Conducted energy certificates report	May/June 2020
2.	Input data sheet for each building for the buildings database	May/June 2020
3.	Proposed methodology report for conducting training/education for energy managers	May 2020
4.	Conducted trainings report for energy managers	May/June 2020

6. Qualification requirements

Interested Consultant must provide information indicating that they are qualified to perform the services by fulfilling following requirements:

- General qualification of the firm (including documents defining the constitution or legal status, place of registration, and principal place of business of the Consultant firm, year of establishment, fields of expertise);

- Hold a license from FMPP for detailed energy audit and certification of buildings (Module 1 & 2) or if not available will be obtained within 30 days as condition to sign the contract. Such consultant shall provide a confirmation along with the EOI that he will secure the license in case he is selected to submit technical/ financial proposals;

- Reference list of similar assignments: Minimum three (3) energy certifications assignments conducted and minimum one (1) training/education/seminar conducted on energy efficiency/ energy management in the last five (5) years. The reference list

should contain the list of issued energy certificates with individual number / label of each certificate, and a list of the training programs conducted with the number of participants. All submitted lists will be checked in FMPP's database.

The key personnel:

- At least one (1) university graduate mechanical engineer, architecture/civil and electrical engineers, with minimum five (5) years of professional experience or minimum 3 years in buildings energy audit conducting;

- Engineers have to have proof that they have passed competency examination and completed training program for Module 2 (energy auditing and certification for complex technical systems) as well as have to have proof experience in training programs in a trainer/teacher role in energy efficiency.

Annexes

Annex 1 - The list of buildings with details

No.	School Name and Place	Location	Canton	Area (m2)	Fuel (before)	Fuel (after)	Fuel Costs (BAM)	Energy Consumption Before $Q_{H,nd}$ (kWh/year)
1	JU Srednja škola za okoliš i drvni dizajn Sarajevo	Vilsonovo Šetalište 1, Sarajevo	Kanton Sarajevo	2639	Natural gas	Natural gas	91.226,33	651.616,60
2	Osnovna škola „Drvar“	Pionirska b.b.	Kanton 10	5893	wood	wood	50.845,48	363.182,00
3	JU Srednja prometna škola/ srednja mašinsko - saobraćajna škola Mostar	Dr. Mile Budaka 26, Mostar	HNK	2900	LUEL	pellet	42.469,7	303.355,00
4	Dom zdravlja Čapljina	Fra Didaka Buntića bb, Čapljina	HNK	2470	El. Heating pumps	El. Heating pumps	38.848,6	277.490,00
5	Dom Zdravlja Čitluk	Stjepana Radića br.3	HNK	2004	El. Heating pumps	El. Heating pumps	51.504,97	367.892,60
6	JU Srednja škola Prozor-Rama	Kralja Tomislava bb, Prozor	HNK	1905	LUEL	pellet	26.052,46	186.089,00
7	Narodni univerzitet Konjic/Društveni dom u Konjicu	Varda 1, Konjic	HNK	3578	El. Energy Partial heating	El. Energy Partial heating	110.205,5	787.182,00