ANNEX I: TERMS OF REFERENCE

**Project: “EFFORT: Enhancing Facilities for a Future with an Optimal Resource and Energy Efficiency Trajectory**

**Expert/Company on Energy Efficiency Audit**

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# BACKGROUND INFORMATION

## Partner country

 Municipality of Mirdita, Albania, and Municipality of Junik, Kosovo

## Contracting authority

Co-PLAN, Institute for Habitat Development within the “EFFORT: Enhancing Facilities for a Future with an Optimal Resource and Energy Efficiency Trajectory”, project funded by European Commission in Albania.

## General information of the project

The EFFORT project was launched in December 2023 and is funded by the European Union, under the “Cross-border program Albania – Kosovo, Pre-Accession Assistance (IPA II)”. The contracting Authority is the European Commission. The Municipality of Mirditë, Albania, the Municipality of Junik, Kosova, and Co-PLAN, Institute for Habitat Development, Albania, are part of the consortium implementing the project.

## Current situation

In the Western Balkans, both Albania and Kosovo show promising potential for enhancing energy efficiency. However, they confront various challenges concerning energy security, poverty, and climate change. Reliance on fossil fuels, biomass, and coal renders their energy sectors susceptible to price fluctuations and supply uncertainties.

Albania has made strides in energy efficiency yet has ample room for enhancement. Its per capita energy consumption surpasses that of neighbouring nations, primarily driven by the residential sector. Furthermore, climate change affects the availability of hydropower, a vital energy source. Outdated infrastructure and low-efficiency plague Albania's energy sector, particularly evident in inadequately insulated buildings.

Conversely, Kosovo heavily relies on coal for energy generation, with outdated infrastructure and low efficiency hindering progress. High per capita energy consumption and energy poverty are pressing concerns, especially for marginalized communities. Although Kosovo has initiated energy efficiency measures, substantial potential for improvement persists.

Both countries are devising energy efficiency policies and programs to combat these challenges. Albania's strategy aligns its energy market with EU directives, aiming for integration and enhanced energy independence. Targets set by Albania’s National Energy and Climate Plan for 2030 include an 18.7% reduction in greenhouse gas emissions and a significant increase in renewable energy integration.

Meanwhile, Kosovo's Energy Strategy envisions a sustainable energy sector integrated into the Pan-European market, prioritizing security and affordability. Previous targets aimed at reducing energy consumption were not fully realized, indicating a need for increased local government engagement and incentives. Strategic objectives encompass system resilience, decarbonization, renewable energy promotion, enhanced efficiency, regional cooperation, and consumer protection>

## Existing data

As the initial phase within the project framework, a Baseline Assessment (BA) was conducted, evaluating the physical condition and utilization data of some key public facilities in Municipality of Mirdita and Junik. The BA establishes a database for facilities potentially included in the project, documenting energy consumption (the year 2023) and technical specifications (such as area, energy types and quantities, user numbers, and overall building conditions). This document will encompass data collected up to the contract signing and commencement of the building audit process.

# OBJECTIVES & EXPECTED OUTPUTS

## Overall objective

The overall objective (Impact) to which this action contributes is to develop Energy Efficiency plans (Local Action Plans for Energy Efficiency) for municipality of Mirdita and Junik. These plans aim to identify and offer precise guidance for implementing energy efficiency projects and measures and utilizing renewable resources locally.

## Specific objective

The specific objective of this contract is assisting local institutions in formulating policies, financial planning for energy-saving initiatives, and fostering local renewable energy production.

## Expected outputs to be achieved by the contractor

The Consultant is expected to develop 10 (ten) Energy Audit Reports for 10 (ten) public buildings. The assignment foresees up to 150 working days.

The consultant shall collaborate closely with the EFFORT team (Co-PLAN, Mirdita and Junik Municipalities).

The Energy Audit Reports is expected to include:

Conduct detailed energy audit reports

The consultant shall conduct detailed energy audit reports of public buildings to identify and recommend energy efficiency measures (EEMs) for the implementation of energy efficiency (EE) investment, according to Albanian legislation Law no. 124-2015 “For Energy Efficiency”, Law no. 116/2016 "On the Energy Performance of Buildings" as well as other by-laws or the relevant regulations approved. Also, for a more comprehensive report of each building and the systems that will be installed in it, the use of European Standards and Norms for "Energy Performance in Buildings" should be included.

The activities required to conduct detailed energy audit reports include, but may not be limited to, the tasks shortly described in the following sections.

The Consultant will conduct site visits to complete detailed energy audits for the listed buildings in the final list. This will include, among other things, collecting baseline information on the facility (building description and function, age, heated area, drawings, equipment inventory) as well as analyses on the existing building envelope, heating systems, and other energy-using systems (e.g., lighting, cooling and ventilation, cooking, etc.). The study should also consider buildings connected to the district heating networks, fuel pricing, planned closures/expansions, etc. The baseline energy assessment reports will also evaluate the potential for implementing solar water heating systems in selected buildings where hot water is significantly used.

The consultant will conduct building walk-through energy audits from the prior agreed list of buildings (collecting necessary energy data from the buildings and energy bills, checking the structural soundness of the buildings, and checking the feasibility of implementation of EE measures). From the building walk-through EA, based on findings related to baseline energy consumption, specific energy consumption, and greenhouse gasses (GHG) emission savings, buildings will be selected for preparing a detailed Energy Audit.

The detailed energy audit will develop an energy baseline, assess building envelope measures based on economic criteria (e.g., payback, etc.), assess other changes to shared spaces (e.g., lighting), and alternative heating options (e.g., district heating, solar water heating). The audit report will help the Municipalities determine the most advantageous investments to reduce their energy costs while preserving or increasing their comfort levels.

The audit reports will be presented and explained to the EFFORT team and municipalities (Mirditë and Junik) indifferent.

Structure and Content of the Report:

The report should be presented in Albanian language (with a summary of the main information and findings/suggestions in English) and will have the following sections:

1. On-site inspections

2. Building info

Building state description: location, building orientation, etc.

Collection of energy bills for the past year (all forms of energy should be included in this analysis) Review of available documentation (e.g., heating installation, etc.)

Interviews with building users and facility managers.

3. Equipment info

Equipment lists for main energy-using equipment.

4.HVAC

HVAC (Boiler and Chiller part);

Other HVAC System equipment (radiators, etc.);

Package units (Heat pumps, Rooftop Units (RTU), etc.);

5. Domestic Hot Water (DHW)

Showers, kitchen, laundry, etc

6. Lighting (Interior and Exterior)

7. Pumps and fans (electrical motors, if not addressed in the HVAC chapter)

8. Mechanical systems insulation

9. Energy calculations

10. Establishment of an existing energy class of the building

11. Identified measures for EE and scenarios

12. Establishment of the energy monitoring system

13. Establish different investment scenarios according to the proposed energy efficiency measures and appropriate scenarios

14. CO2 emission calculations

Write-ups of the detailed energy audit report

Based on analysis, the detailed energy audit report will propose technically viable EE measures and make assumptions about energy savings, investment costs, payback times, net present value (10% discount rate), environmental benefits, and CO2 emission savings.

Possible EE and renovation measures should include, but not be limited to: building envelope measures (e.g., windows, wall/floor/roof insulation and repair, doors), efficient heating (water and space) systems, heat meters and controls (for those with DH connections), fuel switching (including renewable energy such as solar, considering possible investments from the project in PV systems, biomass, and ground-source heat pumps), cooling and ventilation systems, fans and pumps, lighting system (indoor and outdoor).

The audit report will propose technically viable EE measures and calculate energy savings (based on achieving heating norms and expected actual energy savings).

The reports must be evaluated, any deficiencies identified, and additional data collected to upgrade them into complete and up-to-date reports.

The detailed energy audit report's conclusions and recommendations will help the municipalities prepare ToRs for the detailed renovation/intervention design.

The experts or contracted companies will meet with stakeholders to discuss the findings of the EA reports and the final results presented by them. At the end of this phase, the draft reports should be revised (if necessary).

It should be considered that the EFFORT project envisages the installation of PV panels in 10 public facilities in which (in case the facilities are the same as those that have been subjected to the energy audit process) the savings that will be generated by the production of energy from this source and the impacts should be considered in the flow or energy functions/consumption (for possible investments) of objects

# LOGISTICS AND TIMING

## Geographical area to be covered

The buildings expected to undergo the energy audit process are located respectively in

- Mirdite Municipality, Albania (Rrëshen, Rubik)

- Junik Municipality, Kosovo (Junik)

## Start date & period of implementation

The intended start date is on July 2024 and the period of implementation of the contract will be 150 days from this date until the end of December 2024.

# REQUIREMENTS

## Key expertise and Qualifications and skills

The EFFORT project intends to assign a contract to a consultant with the following requirements:

* The consultant should hold relevant licenses for preparing EE audits applicable to Albanian laws.
* At least 10- ten years of relevant work experience as an Energy Audit and Energy Efficiency expert.
* Possession of a design license in the field of energy production or auditing constitutes an asset.
* Previous experience with international or local organizations or institutions and/or with EU or other donor-funded projects will be an asset.
* Good coordination skills and a high sense of responsibility (up to two reference letters).

Guidance notes on consultant inputs:

1. Working days: performance of the contract (and therefore payment) is based solely on working days. The consultant will only be paid for days actually worked on the basis of the daily fee rate approved. Tenderers must annex the ‘Estimated number of working days’ worksheet contained in the spread sheet for Annex III to their organisation and methodology (Annex II) to demonstrate the correspondence between the proposed methodology and the expert inputs.

 The fee rates for all experts must include all the ‘administrative costs of employing the relevant experts, such as transport, accommodation, and other employment benefits given to the experts by the consultant’.

## Equipment

The consultant should possess and certify the ownership of technical-professional equipment for performing energy audits (such as a Luxmeter, Digital Multimeter, Humidity Meter, Thermometer, Anemometer, Laser Distance Meter, Variable Speed Fan, Digital Indicator, and Differential Manometer, etc.

# REPORTS

## Reporting requirements

Timeline of the reports and payment will be as follows:

|  |  |  |  |
| --- | --- | --- | --- |
| **Name of report** | **Content** | **Time of submission** | **Payment (% of total payment)** |
| Inception Report Delivery/ Advance payment | Analysis of the existing situation and work plan for the project | No later than 2 weeks after the start of implementation | 30 %  |
| Draft detailed energy audit reports per each building |  | No later than 11 weeks after the Inception report | 30 % after the approval of the draft reports |
| Final detailed energy audit reports per each building |  | No later than 11 weeks after the draft report.  | 30 % after the approval of the draft reports |
| Final Approval |  |  | 10% |

## Submission & approval of reports

The reports shall be submitted to and approved by the project working group separately in each of municipalities. The evaluation will be conducted based on the requirements specified in these Terms of Reference (TORs), followed by their final official approval.

# MONITORING AND EVALUATION

## Definition of indicators

The main deliverables and indicators for the Expert are foreseen in the ToRs, including the scope of work for the assignment.

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