

Terms of Reference (ToR)

eef Technical Assistance for the University of Oviedo

Background

The European Energy Efficiency Fund (eef) aims to support the goals of the European Union to promote a sustainable energy market and climate protection. eef pursues environmental goals by offering funding for energy efficiency and small-scale renewable energy projects to public authorities, European municipalities and regions, and the private sector who act on behalf of the public bodies.

The eef dedicates its funding to upgrade public sector infrastructure for facilitating the EU clean energy transition. All the Fund's activities are focused around the public sector with the majority of its capital being provided by public sources.

The University of Oviedo, located in the Principality of Asturias, north of Spain, wishes to participate in the TA programme to develop the project "Smart Energy at the University of Oviedo: Energy Efficiency and Smart Management." The objective is to increase the overall energy efficiency levels in public buildings located on its three campuses (Gijon, Mieres, and Oviedo) by providing (i) the renovation of 58 public buildings, which includes the envelope and insulation improvements in 14 old buildings (i.e., windows and glasses replacement with high-efficiency ones, adding exterior insulation improvements, etc.), installation of remote management systems to get information from the sensors (hardware), and software for buildings, renovation of lighting systems in 56 buildings, replacement of old HVAC systems in 4 buildings, replacement of old boilers for new ones in 36 buildings (ca. 36 boilers as a first estimation). Also, thermal solar systems will be studied in 3 buildings to produce hot water, etc., (ii) the development of energy communities with solar PV systems and/or installation of PV panels in 37 buildings. Also, it will be analyzed the installation of PV panels in other areas, (iii) the development of a district heating network in 3 zones located in Oviedo a Gijon Campus, and (iv) the development of a digital platform for monitoring electric and thermal consumptions in all the project.

These Terms of Reference (ToR) aim to define the scope for all submitted proposals for a contract to perform the following advisory/consulting services:

- Completion of investment energy audits for 58 public buildings (which include the validation or feasibility studies of renewable energy installations – PV installations on 37 buildings selected),
- Validation of public buildings infrastructure,
- Validation of the facilities of biomass district heating: Completion of technical studies or economic feasibility study for 3 biomass district heating sites,
- Completion of technical studies for the development of a digital platform,
- Preparation of the savings calculation and economic viability study of the global investment,
- Preparation of the public tender documentation,
- Assistance to the Public Authority during the evaluation phase of the bidder offers and legal advice until the signing of the ESCO contract.

The subsequent implementation of the key measures shall be completed by the Energy Service Companies (ESCOs hereinafter) who are granted the Project tender (is not subject of these ToRs). The consulting/advisory services will be contracted by eeef and rendered to the Client.

The total budget of the TA proposal by the Consultant is not to exceed **€513.265,43K**.

This document states the requirements to enable the selection and appointment of technical, financial and legal advisors or a consortium of advisors that together possess the necessary technical, financial and legal know-how for the Project. The advisors should provide reports/documents which permit the Client to understand the status/potential impact of the proposed project with respect to its energy consumption and a complete investment plan. The report should focus on how the potential project would improve energy performance and should centralise all project information regarding all energy drivers.

The advisors should present an economic and financial analysis for the proposed investment plan of the Project and should prepare the tender documents for the implementation of this investment plan through an ESCO/PPP model contract. Also, to assist the Public Authority during the evaluation phase of the bidder offers and legal advice until the signing of the ESCO contract.

With this work, eeef and the Client will ensure that the audited facilities follow energy efficiency best practice, as well as the efficient management of available resources.

The Advisor needs to have experience in dealing with the PPP structures and having experience with some public authorities in Spain, especially in the Principality of Asturias.

Scope of work

This section outlines the three phases of work to be completed by the appointed Advisor; a) technical audits and validation (e.g., PV systems and biomass district heating infrastructure) and platform development, b) economic and financial analysis, and c) preparation of the tender documents, assist the Public Authority during the evaluation phase of the bidder offers and legal advice until the signing of the ESCO contract.

The eeef Advisor should organize himself to agree on the scope of work in written form with the Client and present to eeef for sign-off. All deviations from the working programme, the scope and the implementation timeline are to be agreed with the Client and discussed with eeef. According to the contractual obligation with eeef, the Client will be required to nominate at least one representative for the entire duration of the Project to work on the Project with the Advisor.

Phase 1: Scope of Investment Grade Energy Audits

One example (buildings) has been used to demonstrate the requirements for validated energy audits.

A. Scope of Energy Audits of public buildings

The work involves the realization of energy audits of public buildings and/or public facilities proposed by the Client.

The completion of the work for buildings will follow the following steps and have the scope as reflected below:

1. Energy inventories

58 public buildings, located in Gijón, Oviedo and Mieres Campus, proposed by the Client and included within the investment program should be subject to inventory. Also, 37 buildings from the total mentioned above will be validated for the installation of PV systems.

The inventory of buildings should include the following:

- a) Documentary collection of information necessary for the preparation of the inventory,
- b) Photographic annex, where the main details regarding constructive aspects, building facilities and equipment are collected (e.g., detail about boiler/HVAC system model, capacity and energy performance, etc)
- c) Identification of electrical and thermal building supplies and obtain invoices for such supplies of a period of at least one year,
- d) Validate and complete the proposed investment specific' energy, primary energy and CO2e savings calculations. Once energy data (baseline and post project estimated consumption) have been calculated and validated in accordance with IPMVP, data points need to be entered into greenstem™¹,
- e) Data of the curves of consumption of electricity by meter readings and habits of use,
- f) Measurement of energy parameters *in situ*, (including, if possible, energy use breakdown by source),
- g) Validation of the energy measures proposed (for instance, collect drawing detail of the building infrastructure, with the situation of dashboards, electrical, lighting points and HVAC, etc.

When the appointed Advisor undertakes field work, they should preferably always be accompanied by the Client's nominated representative for the Project. This staff member should be familiar with the buildings in question. The Advisor should propose (in advance) the schedule of site visits and data required for analysis and agree this with the Client.

2. Energy audits memorandum

Below summarises the content of the energy audit memorandum requirements

- a) Description of the buildings and energy consuming systems,
- b) Energy baseline based on IPMVP protocol
- c) Measurements (baseline and post implementation (estimated) measures),
- d) Improvements in energy consuming systems (e.g., lighting, remote management systems, thermostatic valves, variable speed drivers, etc)
- e) Feasibility of a biomass/heat pumps based heating system

B. Scope of validation of public buildings for the renewable energy installation

¹ greenstem™ is an online energy, primary and carbon reporting platform, the access will be giving to qualified advisors.

From the 58 public buildings audited, it has been considered that the photovoltaic systems will be feasible in 37 public buildings. Validation for the installation of the PV systems is required, as well as the analysis for installing PV systems in other areas. Regarding the 37 buildings, these facilities are located in the Campus of Oviedo and Gijón. Photovoltaic solar plants are considered for self-consumption in public buildings: 17 Rooftop PV solutions have been considered for A: shared self-consumption facilities (one facility will share generated PV energy with other buildings), and 20 buildings for the installation of B: self-consumption PV in public buildings (generated energy from each PV will be consumed for each building). The work involves the following:

- a) Data collection and analysis for PV installations on the proposed 37 buildings, i.e., to be taken photographs of the rooftops for PV installation and data to establish the curves of consumption of electricity by meter readings and interviews with users, collect drawings of each building and electricity bills, etc. Also, include in the study other areas where PV systems could be installed, if feasible, i.e., parking lots, etc.
- f) Technical analysis and viability of each PV facility (e.g., identification of surface available for the PVs, energy consumed by the buildings, and an estimation of the energy consumed by the neighbors, etc. Also, consider in the study other areas where PV systems could be installed,
- b) Analysis of the necessary investment and payback of each facility and, if possible, development of a savings plan,
- c) Analysis of energy performance (e.g., habits of use) and measurement of energy parameters in situ.

**C: Scope of validation of the facilities for the biomass district heating infrastructure:
Feasibility study or technical study for the validation of 3 potential biomass district
heating for the Gijón and Oviedo Campus**

The biomass district heating network will be formed from the 58 public buildings already audited, (mentioned above). The election of buildings will be defined during studies. The work involves conducting the following assessments (but not be limited to) such as²:

- a) Data collection and technical analysis on the site (e.g., drawings of public services and cartography, photographs, general information on the site, energy demand analysis, natural gas or other fuels bills, and thermal generating equipment of the buildings, etc.).
- b) Definition of buildings that will be included (for each district heating) in the studies.
- c) Definition of consumption curves, design of each generating plant: definition of materials, technical solutions, etc. Redaction of documents: project, annex, etc
- d) Economic feasibility analysis or validation of the necessary investment and payback for the installation of the Biomass district heating

D: Scope of validation of the digital platform

It is a tool (software) that will include the remote management system of the buildings. The work of the platform development involves conducting the following assessments (but not be limited to) such as³:

- a) Technical analysis of the functionalities that need to be incorporated into the platform, considering a staged release and a modular platform,
- b) Prepare the study of hardware and software solutions to include in the buildings in order to monitor their energy consumption and control it.

² Please note, more detail will be provided by the Client

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Phase 2: Scope of economic and financial analysis of the proposed energy efficiency measures/investment plan

The economic and financial analysis should confirm and define the conditions for the viability to tender the Project as an ESCO/PPP model and allow the Client to formulate payment conditions/modalities to an ESCO company winning the tender.

In each case, the economic and financial analysis should be presented in the form of an excel workbook. The workbook should include, but not be limited to the following:

- Energy saving improvements: absolute and percentage savings relative to current consumption (baseline) for the total investment. Savings should be listed following eeef due diligence / greenstem™ requirements. Energy consumption / savings should be validated by the technical Advisor, calculated following IPMVP principles. Validated consumption values should be entered into greenstem™ to calculate project primary energy and carbon savings,
- Economic/financial model representing during the project's life (to be outlined) the cash flows estimates and projections, detailing: savings per energy type, current energy prices, (changes in) operating costs, interest and capital,
- Financial conditions assumed as the annual payments to the ESCO

The financial analysis should be fully justified from the view of the economic requirements to require the ESCO to implement the measures, whilst also considering the costs associated with both the PPP contract and the construction/implementation, maintenance and operation of the energy efficiency project, including the tax treatment and tax costs to be borne by the ESCO company.

The economic and financial analysis will include a sensibility analysis to the annual savings and annual payments to the ESCO Company considering changes in the main inputs.

The financial feasibility study, including a detailed risk allocation of the Project, will form the framework for defining the economic and financial requirements and conditions when drafting the tender documents for the PPP/ESCO contract. The global investment must be attractive.

Phase 4: Scope of tender documents preparation for the implementation through an ESCO/PPP model contract. Assistance during the evaluation of bidders offers and legal assistance until contract signing

The scope of this phase will be the preparation of a complete set of tender documents for the implementation of the Project through an ESCO/PPP model contract, considering technical, legal and financial/economic requirements and conditions.⁴ Also, to assist the Public Authority during the evaluation phase of the bidder offers and legal advice until the signing of the ESCO contract.

The tender documentation will include (but not be limited to) information such as:

- The broader context of the Project,

⁴ It is recommended to develop tender documents for the complete package and publish them as a unique project (which comprises public buildings, street lighting, digitalization and e-mobility operations). However, if it is not possible, it will be also considered the possibility to launch the tender documents separately (e.g., one for the public buildings and another for the street lighting project).

- An overview of the Project, including the intended allocation of major risks and envisaged responsibilities of each party,
- A list and summary of the major studies that will be made available to bidders concerning the Project,
- The intended procurement process and implementation time table,
- The qualifications that companies can put forward (e.g. parent or subsidiary companies' qualifications),
- The criteria and tests that will be used to evaluate the prequalification statement,
- Detailed information memorandum about the Project,
- A summary of the key commercial principles, including the obligations of each party and risk allocation,
- Detailed output specifications and the minimum required technical design and technical features,
- A full draft PPP contract (which, in some countries, would be based on mandatory standard contract terms or on required guidelines of some kind),
- Instructions to bidders concerning all the information they must submit and the detailed procedures for submission,
- The evaluation criteria; and,
- Requirements for bid bonds or equivalent security (if required).

From a legal point of view, the document will analyse and incorporate (but not be limited to) the following:

- Applicable procurement requirements at Municipal and/or Regional and/or National level,
- Advice on mechanisms to maximize competition while avoiding unrealistic bids and project vulnerability from overly aggressive bidding,
- Information to be provided by the Client,
- Designing tender procedure, assisting the Client in its assessment of different key aspects of the tender procedure, for example, what rules to set in relation to the assessment of bids (scoring regimes, timing of bids and rejecting of excessively low bids) and how to maximize competition without sacrificing the quality of bids,
- Drafting of tender and contractual documentation governing the Project during construction/implementation, operation and maintenance phases. The tender documents need to be agreed upon with the internal legal department and treasury/fiscal department of the Client and signed off by these for publication.

Advisor Profile and Response to ToRs

This section outlines the Advisor' role regarding human and technical resource.

Human Resources:

The Advisor shall be responsible for mobilisation of qualified human resources with the proven experience in the scope of works. It is anticipated that the Advisor's team shall include the following key expertise with support as required in other disciplines:

- Two industrial engineers with proven experience in energy audits and energy efficiency related installations
- Financial advisor who can demonstrate experience in economic and financial viability analysis and the structuring of ESCO/PPP contracts,
- Lawyer or financial expert with legal background with specialization in national/local regulatory framework (LCSP Ley de Contratacion del Sector Publico) and proven experience in structuring and drafting of ESCO/PPP tender documents and contracts.
- The Advisor needs to have experience in dealing with the PPP structures and having experience with the public authorities in the Asturias region and being fluent in Spanish and English.

All experts shall preferably have a minimum of 8 years of experience within a similar role to which they are proposed to complete for the eeef. The support team must be composed of at least 5 professionals to meet the deadlines and work.

The advisor team will be requested to respond to these TORs in English (proposal) until **16 September 2023** per email to lada.strelnikova@dws.com, krosales@eeef.lu and technical_assistance@eeef.eu

- a) Proposal to include how it will intend to manage the workflow described above and organize the advisor's consortium
- b) Present a general company presentation, and the relevant project list related to the scope of work included in these TORs and CVs of the related personnel to be involved in the project. Please note that awarding of the contract is done on the basis of the CVs included in the response to these ToRs.
- c) The advisor consortium/consulting company is expected to present the reports and tender documents in Spanish.
- d) eeef is not covering any travel costs or accommodation. The Advisor is requested to present an all-inclusive price for the whole scope of work.

Technical Resources:

The Advisor should provide a list of all technical equipment that they propose to use to conduct the energy audits.

Eeef will invite the bidders to discuss their offers in interview in person or over the phone after the submission date. The final decision to award the contract will be taken by **the end of September** so that works could be started immediately on **02 October 2023**. Term of the Technical Assistance Contract, Control and Monitoring

The total scheduled execution time and maximum delivery time is 12 months⁵ approximately until the tender publication of the ESCO contract. After that, the Advisor will assist the Public Authority during the tender phase and commercial close.

For the effective control and monitoring of the work, the following meeting schedule with specified attendees should be adhered to:

- **Kick-off Meeting.**
A detailed project plan should be presented for approval. This will list the tasks, responsibilities, key dates/milestones and execution time and also confirmed participation by each of the Client
- **Progress meetings and monthly updates.**
The meetings/updates should be organised by the Advisor. Meetings/updates should summarise project status, completed tasks, and upcoming tasks to execute. The meeting will be held on the premises of the Client.
- **Final presentation.**
Presentation of the work to the Client. Once the Client has signed off, the final report(s) also need to be signed off by the eeef.

Organisational requirements

- The Advisor has to ensure that one person from the Client is collaborating and providing access to documents/infrastructure etc. required to enable them to perform their duties,
- The Advisor agrees on the timeline with the Client and achieves their sign off for it,
- All works to be performed on the Client's site should be agreed with the Client and signed off by the Client,
- The Advisor could replace the proposed experts only with a prior approval of the Fund
- The Advisor prepares monthly time sheets that include Euro (€) value and presents these to the Client for approval. Approved timesheets should be forwarded to the eeef, eeef sign off time sheets every month only after these have been signed off by the Client.
- The Advisor reports all project delays and conflicts that arise in above-mentioned points to the eeef.
- The relationship between eeef and the Advisor is regulated by the contract, which is concluded when the bid is firmly awarded

⁵ The 12-month timeframe starts once a technical assistance contract between the eeef and the Client has been executed. Advisors are expected to complete and deliver Phase 1-3 of the Scope of Work within 12 months i.e. complete all energy audits, complete economic and financial analysis and prepare the tender documents and final reports.