



# PROCUREMENT HANDBOOK SUPPLEMENT B

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# QualitEE PROJECT

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The QualitEE consortium comprises 12 partner organisations covering 18 European countries, an expert advisory board, including the European standards body CEN/CENELEC, and 59 supporters from major financial institutions, government bodies, trade associations and certification bodies.

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## DEFINITIONS AND GLOSSARY

Term	Definition
<b>candidate****</b>	means an economic operator that has sought an invitation or has been invited to take part in a restricted procedure, in a competitive procedure with negotiation, in a negotiated procedure without prior publication, in a competitive dialogue or in an innovation partnership
<b>client</b>	means any natural or legal person to whom an energy service provider delivers an energy service
<b>contracting authorities****</b>	means the State, regional or local authorities, bodies governed by public law or associations formed by one or more such authorities or one or more such bodies governed by public law
<b>economic operator****</b>	means any natural or legal person, or a contracting entity, or a group of such persons and/or entities, including any temporary association of undertakings, which offers the execution of works and/or a work, the supply of products or the provision of services on the market
<b>Energy Efficiency Directive (EED)</b>	means Directive 2012/27/EU of the European Parliament and of the Council of 25 October 2012 on energy efficiency
<b>energy efficiency improvement*</b>	means increase in energy efficiency as a result of technological, behavioural and/or economic changes
<b>energy efficiency service (EES)**</b>	means an agreed task or tasks designed to lead to an energy efficiency improvement and other agreed performance criteria
<b>energy efficiency*</b>	means the ratio of output of performance, service, goods or energy, to input of energy
<b>energy management system*</b>	means a set of interrelated or interacting elements of a plan which sets an energy efficiency objective and a strategy to achieve that objective
<b>energy performance contracting* (EPC)</b>	means a contractual arrangement between the beneficiary and the provider of an energy efficiency improvement measure, verified and monitored during the whole term of the contract, where investments (work, supply or service) in that measure are paid for in relation to a contractually agreed level of energy efficiency improvement or other agreed energy performance criterion, such as financial savings
<b>energy savings*</b>	means an amount of saved energy determined by measuring and/or estimating consumption before and after implementation of an energy efficiency improvement measure, whilst ensuring normalisation for external conditions that affect energy consumption
<b>energy service project facilitator (facilitator)</b>	means an advisory company working on behalf of the client to procure and/or implement an energy service project
<b>energy service provider*</b>	means a natural or legal person who delivers energy services or other energy efficiency improvement measures in a final customer's facility or premises
<b>energy service*</b>	the physical benefit, utility or good derived from a combination of energy with energy-efficient technology or with action, which may include the operations, maintenance and control necessary to deliver the service, which is delivered on the basis of a contract and in normal circumstances has proven to result in verifiable and measurable or estimable energy efficiency improvement or primary energy savings

Term	Definition
<b>energy supply contracting*** (ESC)</b>	means a contractual arrangement for the efficient supply of energy. ESC is contracted and measured in Megawatt hours (MWh) delivered
<b>energy*</b>	means all forms of energy products, combustible fuels, heat, renewable energy, electricity, or any other form of energy, as defined in Article 2(d) of Regulation (EC) No 1099/2008 of the European Parliament and of the Council of 22 October 2008 on energy statistics
<b>EPC provider</b>	means an energy service provider which delivers energy services in the form of Energy Performance Contracting
<b>ESC provider</b>	means an energy service provider which delivers energy services in the form of Energy Supply Contracting
<b>Integrated Energy-Contracting (IEC)</b>	means a combination of energy efficiency measures with energy supply contracting typically with short term 'operational verification' rather than ongoing Measurement & Verification
<b>measurement and verification (M&amp;V)</b>	means the process of planning, measuring, collecting and analysing data for the purpose of verifying and reporting energy savings within an individual facility resulting from the implementation of energy conservation measures
<b>savings</b>	means energy savings and/or related financial savings; the financial savings include the costs of energy provision and can also include other operational costs, such as the costs of maintenance and workforce
<b>procurement document****</b>	means any document produced or referred to by the contracting entity to describe or determine elements of the procurement or the procedure, including the contract notice, the periodic indicative notice or the notices on the existence of a qualification system where they are used as a means of calling for competition, the technical specifications, the descriptive document, proposed conditions of contract, formats for the presentation of documents by candidates and tenderers, information on generally applicable obligations and any additional documents;
<b>tender dossier (TD)</b>	technical part of procurement documents to guide tenderers during preparation of indicative tenders
<b>tenderer****</b>	means an economic operator that has submitted a tender
<b>The International Performance Measurement and Verification Protocol (IPMVP)</b>	is the widely referenced framework for "measuring" energy or water savings, which is available at <a href="http://www.evo-world.org">www.evo-world.org</a>

Notes:

\*Definitions according to the Energy Efficiency Directive

\*\*Definition according the European standard EN 15900:2010

\*\*\*Definition is a simplified version of IEA DSM Task Force 16 definition

\*\*\*\*Definition according to the Directive 2014/24/EU of the European Parliament and of the Council of 26 February 2014 on public procurement and repealing Directive 2004/18/EC Text with EEA relevance

# 1 INTRODUCTION

The objective of this document is to provide guidance to encourage the application of energy efficiency services (EES) quality criteria within the procurement phase of a project. The document aims to improve knowledge of stakeholders both on the demand side of EES, that is public and private clients and facilitators, as well as the supply side of EES, that is energy service providers. This handbook provides both general background and detailed advice on application of the quality criteria in Energy Performance Contracting (EPC) and Energy Supply Contracting (ESC) procurement.

This handbook has been developed as part of the “QualitEE – Quality Certification Frameworks for Energy Efficiency Services” project, which is funded by the EU’s Horizon 2020 programme. The QualitEE project aims to increase investment in EES and improve trust in service providers.

EES providers and clients face unclear legislative and administrative rules for public organisations. Decision-makers in the public sector fear the complexity of the evaluation process or claims that the process conflicts with the requirements of the Public Procurement Act.

Currently in EU member states national legislation – that should be consistent with the EU public procurement law – offers a choice between two options when evaluating tenders: either the lowest price (investment cost) or the most economically advantageous offer (the life-cycle costing principle). However, in the vast majority of procurement exercises, the tenders are evaluated according to the lowest price principle, which often works against the client’s interest.

Replacing the lowest investment cost principle with procurement processes based on EES quality criteria would increase quality and improve outcomes in terms of energy consumption.

This Procurement handbook is related to the Guidelines of European Technical Quality Criteria, which have been developed by the expert team working on the QualitEE project (Leutgöb et al. 2019).



## 2 LEGISLATIVE FRAMEWORK FOR PUBLIC PROCUREMENT OF ENERGY EFFICIENCY SERVICES

### 2.1 EU legislative framework

The **Energy Efficiency Directive (EED)**<sup>1</sup> establishes requirements for the **public sector** to purchase - through public procurement - high performing energy-efficiency products, services and buildings. Article 6 of the EED requires central governments to purchase services with high energy-efficiency performance providing that the procurement of these services is consistent with the principles of cost-effectiveness, economic feasibility, wider sustainability, technical suitability and sufficient competition.

For public organisations, the EES provider should be selected in accordance with the procurement requirements of national legislation, which should be consistent with the EU public procurement law for EU member states. The European legal framework for public procurement is composed of the following:

The **principles deriving from the Treaty on the Functioning of the European Union (TFEU)** such as equal treatment, non-discrimination, mutual recognition, proportionality and transparency; and

The three public procurement Directives:

Directive 2014/24/EU of the European Parliament and of the Council of 26 February 2014 on public procurement and repealing Directive 2004/18/EC (Text with EEA relevance);

Directive 2014/25/EU of the European Parliament and of the Council of 26 February 2014 on procurement by entities operating in the water, energy, transport and postal services sectors and repealing Directive 2004/17/EC (Text with EEA relevance);

Directive 2014/23/EU of the European Parliament and of the Council of 26 February 2014 on the award of concession contracts (Text with EEA relevance).

Two Commission Delegated Regulations:

Commission Delegated Regulation (EU) 2015/2170 of 24 November 2015 amending Directive 2014/24/EU of the European Parliament and of the Council in respect of the application thresholds for the procedures for the award of contracts (Text with EEA relevance);

Commission Delegated Regulation (EU) 2017/2365 of 18 December 2017 amending Directive 2014/24/EU of the European Parliament and of the Council in respect of the application thresholds for the procedures for the award of contracts (Text with EEA relevance.)

All public procurement procedures in the EU are carried out on the basis of national rules. For higher value contracts, these rules are based on general EU public procurement rules. The value limits (thresholds) that mark when EU rules are used, depend on the subject of the purchase, and which type of public authority is making the purchase. The main limits are:

EUR 144,000 for most types of services and supplies purchased by central government authorities

EUR 5,548,000 for construction contracts

For lower value tenders, only national public procurement rules apply, however the general EU principles of transparency and equal treatment should be respected.

<sup>1</sup> DIRECTIVE 2012/27/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 25 October 2012 on energy efficiency, amending Directives 2009/125/EC and 2010/30/EU and repealing Directives 2004/8/EC and 2006/32/EC; DIRECTIVE (EU) 2018/2002 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 11 December 2018 amending Directive 2012/27/EU on energy efficiency; DIRECTIVE (EU) 2018/2002 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 11 December 2018 amending Directive 2012/27/EU on energy efficiency

The standard process for awarding contracts is through competitive tendering. Within competitive tendering there are different types of public procurement procedures as described in [Public tendering rules](#) (European Commission 2019).

### Open procedure

In an open procedure any organisation may submit a full tender. This is the most frequently used procedure.

### Restricted procedure

Any organisation may request to participate in a restricted procedure, but only those who are pre-selected may submit tenders.

### Competitive negotiated procedure

In competitive negotiated procedures, any organisation may ask to participate, but only those that are pre-selected will be invited to submit initial tenders and to negotiate. Procuring entities can only use this procedure when negotiations are necessary due to the specific or complicated nature of the purchase however, the procuring entities in defence and security, water, energy, transport and postal services sectors may use it as a standard procedure.

### Competitive dialogue

This procedure can be used by a contracting authority to collect proposals addressing a need defined by the contracting authority.

### Innovation partnership

This procedure may be used when there is a need to purchase a product or service that is still unavailable on the market. Several companies may participate throughout the process.

## 2.2 Selection of procurement procedure for energy services

For public organisations, an EES provider is selected in accordance with the procurement requirements of national legislation, which should be consistent with EU public procurement directives. The basic legislative framework for the procurement of energy services is set by Directive 2014/24/EU on public procurement and Directive 2014/25/EU on procurement by entities operating in the water, energy, transport and postal services sectors. Member States were required to implement these directives into national law by April 2016. Therefore, when preparing a specific project, it is necessary to pay attention to the valid national public procurement rules.

In general, according to the Directive 2014/24/EU on public procurement Member States shall ensure that contracting entities can apply **open or restricted procedures, competitive procedure with negotiation (CPN), competitive dialogue (CD), or innovation partnerships.**

Based on experience acquired in several developed markets, it is recommended that **EPC and ESC procurement** is implemented using a procedure where a **negotiation or a dialogue between contracting authority and tenderers is allowed.** This is allowed in two procedures defined under Directive 2014/25/EU; a **competitive procedure with negotiation** and a **competitive dialogue.** EPC and ESC projects are typically characterised by the fact that various technical solutions can be proposed to meet the stipulated requirements (as permitted in a CPN), or even different approaches to the whole project, about which the contracting authority may not have defined at the time of the procurement (as permitted in a CD).

When preparing complex energy efficiency services projects (EES projects), in particular EPC projects, CPN has proven to be effective. A CPN permits the required degree of flexibility, while at the same time being less organisationally demanding than a CD. While a CD may be applied to EPC and ESC projects, it often demands higher levels of administration and higher management costs on the part of both the client and the supplier compared to a CPN. This pays off especially in larger projects, in particular for ESC. Another disadvantage of a CD is that there is less standardisation of processes in comparison to CPN, especially when comparing tenders. Therefore there is higher risk of error in the results of the

proceedings and higher possibility of legal disputes.

Whether CPN or CD is applied it is highly recommended to use the services of project facilitators as described in the chapter 3.

### 2.2.1 Competitive procedure with negotiation

This type of procurement procedure allows the ESCO to be selected in a manner that allows the proposed technical solutions to be verified and any discrepancies and details to be improved within the negotiation process. It also stipulates that the selected minimum technical conditions do not change during the course of the procurement procedure.

Unlike standard types of procedures, CPN permits contracting authorities to negotiate with participants about their initial tenders in order to improve them according to the requirements and in favour of the contracting authority. The basis of a CPN (unlike a CD) is that all suppliers must submit a bid based on unified procurement conditions (for the same solution).

### 2.2.2 Competitive dialogue

A CD, like a CPN, allows for negotiation with the participants in the procurement procedure with similar conditions and a similar procedure as in a CPN. The difference is that after the qualification phase a separate competitive dialogue takes place – a negotiation between the contracting entity and the participants with the aim of finding one or more solutions appropriate to the needs of the contracting entity. After the completion of negotiations, the contracting entity shall invite those participants whose solutions were chosen to submit final tenders, which are then compared (evaluated) according to predefined evaluation criteria. Compared to CPN, therefore, each participant submits a bid for their own solution<sup>2</sup> that contains all the elements required and necessary for the performance of the project. Unlike a CPN, a CD procedure allows for negotiation with the selected EES provider to some extent even after the submission of tenders.

### 2.2.3 Comparison of CD and CPN

The subject of the negotiations in CPN is largely the standard solutions offered by the participants in the procedure, which must be as adapted as far as possible to the requirements of the contracting entity. In a CD, on the other hand, suitable solutions are developed and defined before submitting tenders.

A contracting entity will opt for a CPN if it already has a clear idea of the manner in which the public contract will be delivered and is able to define the tender specification to such an extent that selected participants will be able to submit indicative tenders.

If the contracting entity is able to define only its requirements (e.g. the energy saving target of the project), but not the specific solution to achieving its requirements, it may select a CD. A CD is more time-consuming and administratively demanding than a CPN.

When preparing an EPC project, CPN proves to be a suitable balance of flexibility and organisational complexity. On the one hand, CPN gives the contracting entity sufficient flexibility to modify and improve the indicative tenders of participants, while on the other hand it ensures a degree of predictability and certainty for participants by fixing minimum technical specifications and evaluation criteria.

A CD may be used in EPC projects but it is better suited to ESC projects.

### 2.2.4 Open procedure

An open procedure is mostly used when competition is limited to a few candidates. All economic operators interested in the contract can submit tenders and all tenderers must be considered without any prior selection process. Selection and evaluation is carried out after the tenders have been submitted.

Since tendering is open to all interested candidates, including ones from other countries, the open procedure promotes

<sup>2</sup> Directive 2014/24/EU does not exclude an approach whereby the contracting entity would create joint specifications or permit (as variants) the submission of bids by the other participants based on the competitive dialogue. In practice, however, this approach comes up against the problem of disclosing the proposals of other participants, as these contain intellectual property which the participants are not inclined to disclose. That is why in practice this has not proven to be effective. According to the Directive 2014/25/EU - Article 48 on Competitive dialogue "in accordance with Article 39, contracting entities shall not reveal to the other participants solutions proposed or other confidential information communicated by a participating candidate or tenderer in the dialogue without its agreement. Such agreement shall not take the form of a general waiver but shall be given with reference to the intended communication of specific information."

competition, in general resulting in better value for money for the contracting authorities.

However, as the study by European Commission, DG Regio (2016) shows, open procedures are not suitable for all types of contracts and can entail greater administrative burden and complex or highly specialised contracts may be better allocated via a more restrictive process. Such specialised contracts include also EPC projects and most types of ESC projects.

Contracting Authorities may use an open procedure for EPC projects when more complex procedures do not generate sufficient interest among participants. This is a case of some emerging markets, where many contracting authorities are not willing to go through more complex CPN or CN procedures, such as in Greece and Slovakia (see section 7.7). However, in emerging markets the use of an open procedure is seen as a first step to develop the market and get the first projects implemented. Application of CPN is expected as a market develops as this procedure can offer better, more complex solutions and can incorporate more qualitative aspects of the project. For instance, during the first decade of the EPC market development in the Czech Republic, open procedures were applied, while now solely CPN is applied.

There are examples of where open procedures are used in developed markets such as the UK; here an open procedure appoints EPC providers to a framework which uses a standard project development process and contract template. Closed 'mini competition' processes (only open to appointed framework EPC providers) are then conducted for individual projects and negotiation of solutions is carried out through an Investment Grade Audit process (see section 7.5).

### 3 THE PROJECT FACILITATOR'S ROLE

It is highly recommended for clients to use the services of a project facilitator when implementing an EPC or ESC project. Most of the issues must be dealt with by someone with expertise, which can be provided by a project facilitator:

- Facilitators provide comprehensive technical, economic, financial and legal expertise.
- A large part of EES procurement matters require energy expertise. Around two thirds In the case of EPC.

Public organisations usually lack the capacity to be trained in these matters (especially for EPC) and it is not generally efficient to train personnel if the organisation implements only one project every 15-20 years, which is a typical frequency.

Facilitators should provide their services in compliance with the European Code of Conduct for EPC.

A facilitator could support the client at the project development stage, including preliminary technical and economic analysis, "make or buy" decision, selection of the most appropriate contract type (EPC, ESC, IEC, installation, maintenance, etc.), project pre-structuring, financial and business model development.

After this, facilitators typically support a client with organisation of the procurement procedure where it is required by legislation or if the client is interested in such support. In these cases a project facilitator provides:

- selection of the most appropriate procurement procedure;
- drafting of the tender dossier including definition of criteria to select the EES provider;
- EPC contract proposal tailored to the client facilities and equipment;
- proposal of financing options for the project;
- 'sense-checking' and recalculation of the service providers' energy savings proposals. i.e. assessing whether they are achievable;
- support with negotiating the appropriate conditions of delivery;
- support with selection of the most economically advantageous tender.

The support during the procurement process may be followed up during the implementation phase by representing the client in terms of project management in some or all phases and by supervising the reporting and verification of the savings achieved.

## 4 USE OF SELECTION CRITERIA IN EPC AND ESC PROCUREMENT

The purpose of evaluating tenders is to identify whether they firstly meet minimum technical and suitability criteria, and thereafter which tender provides the most economically advantageous solution based on published award criteria. Section 4.4. explains that the most economically advantageous tender (MEAT) can be selected through different approaches, not only based on price comparison.

### 4.1 Criteria used in different phases of procurement

Contracting authorities must define the criteria for choosing the most economically advantageous tender in the procurement documents. These criteria must be made publicly available in a clear and transparent way. There are three types of criteria which are used to choose the successful tender:

- Exclusion grounds are circumstances in which an economic operator must be excluded from the procurement procedure;
- Selection criteria which determine the suitability of tenderers to carry out the contract;
- Technical specifications relate to characteristics of the particular work, supply or service being purchased – and not to the general capacities or qualities of the operator;
- Award criteria determine which candidate has developed the most economically advantageous proposal and should therefore be awarded the contract.

Selection criteria, technical specifications, award criteria and contract performance clauses must be linked to the subject-matter of the contract. However, it is not necessary for each individual award criterion to give an economic advantage to the contracting authority.

### 4.2 Exclusion grounds and selection criteria

First, the contracting authority will establish whether there are grounds for excluding economic operators from participating and if any derogation has been established. The contracting authority will then consider whether the economic operators that have not been excluded meet the relevant requirements to be selected as tenderers. The economic operators that have been selected will then be invited to submit tenders, negotiate or participate in dialogue.

**If a candidate fails to comply with an exclusion ground or a selection criterion, the tender should be treated as ineligible, and the rest of the tender should not be evaluated.**

Provisions set by the EU public procurement Directives allow contracting authorities to reject economic operators who have shown poor performance or significant shortcomings in a previous public contract.

Selection is about determining which economic operators are qualified to carry out the contract. The selection criteria aim to identify the candidates or tenderers which are capable of delivering the contract and its expected results.

To be selected, economic operators must demonstrate that they can carry out the contract as a result of their:

- suitability to pursue the professional activity;
- economic and financial capacities; and

- technical and professional abilities.

For more information about the criteria for the selection of EES providers see [“A Guide for Contracting Authorities and ESCOs”](#) (Bleyl Androschin et al. 2011).

## 4.3 Technical specifications and award criteria

Following the selection of candidates which comply with the exclusion grounds and the selection criteria, contracting authorities must choose the best tender on the basis of the technical specifications and award criteria. While the technical specifications are assessed on a pass/fail basis, award criteria are weighted and scored so that tenders offering better performance can be given more marks.

A number of considerations should be taken into account when assessing whether a certain quality characteristic should be expressed as a minimum requirement (technical specification) or a preference (award criterion). By including quality characteristic in the award criteria, it will enable to weight them against other factors including cost.

It may also be reasonable to set a minimum level of performance in the technical specifications, and then allocate extra points for even better performance at the award stage. There is a minimum requirement set for the quality characteristic. In addition, the tenders exceeding the minimum requirement are awarded a score within the evaluation process (see [“Buying green! A handbook on green public procurement published by the European Union”](#), 3rd edition, 2016).

## 4.4 Evaluating award criteria

The evaluation of tenders should be carried out by an evaluation committee whose objective is to issue a recommendation on the contract award to the contracting authority. The evaluation must be conducted in a fair and transparent manner based on the criteria and weightings published in the procurement documents. If a more detailed evaluation methodology was disclosed in the procurement documents, this methodology must be followed. Based on the evaluation committee's recommendation, contracting authorities should launch the necessary internal procedure to get an official award decision. They will then have to notify the tenderers and make the award public. (see [“Public procurement guidance for practitioners”](#), 2018)

**Under the 2014 procurement directives, all contracts must be awarded by the contracting authorities on the basis of most economically advantageous tender (MEAT).** The application of this criterion can be done through three different approaches, all of which involve an economic element:

- price only;
- cost only using a cost-effectiveness approach, such as life-cycle costing;
- best price-quality ratio.

During the drafting of procurement documents, the contracting authority will have taken a decision as to which **evaluation method** to follow. This method must be clearly presented in the procurement documents according to the type of award criteria.

### 4.4.1 Best price-quality ratio

For both EPC and ESC projects, it is recommended that the evaluation method should use the **best price-quality ratio** approach. The MEAT criteria should be based on cost and can also include other aspects within a ‘best price quality ratio’ (quality of tender, organisation, qualification and experience of staff, delivery conditions).

When using the best price-quality ratio, the award criteria will generally be scored using a system that assigns weightings to the different criteria. Detailed **award criteria and their weighting** should be indicated either in the contract notice or in

the procurement documents through a scoring matrix or a clear evaluation methodology. The relative weighting of each criterion must be stated in percentages or in quantifiable scores.

While conducting the evaluation, the evaluation committee should pay particular attention to the following:

- the published award criteria should always include a criterion on price;
- the award criteria and their weightings, including sub-criteria as well as any evaluation methodology, which cannot be modified during the evaluation process.

#### 4.4.2 Formula to rank tenders

Once the award criteria have been evaluated and scored, a specific **formula should be used to rank tenders and to establish which tender should win the competition**. To calculate which tender offers the **best price-quality ratio**, contracting authorities should take into account the quality score and the price, both expressed in the form of indices. The method used must be indicated in the procurement documents and must remain unchanged during the entire procedure.

There is no one required way to define the best price-quality by the EU law. For EPC/ESC tenders' evaluation it is recommended to use the commonly used formula for calculating the score of each tenderer as specified below. The formula gives a final mark out of 100 points. The tender with the highest mark shall be awarded the contract.

$$Score_x = \frac{\frac{1}{P_x}}{\sum_{i=1}^n \frac{1}{P_i}} * w_P + \frac{C_{1x}}{\sum_{i=1}^n C_{1i}} * w_1 + \frac{C_{2x}}{\sum_{i=1}^n C_{2i}} * w_2 + \dots + \frac{C_{mx}}{\sum_{i=1}^n C_{mi}} * w_m$$

Where:

- x is an index identifying the specific tender;
- n is a total number of tenders;
- P<sub>x</sub> is price of tender x;
- C<sub>1</sub>, C<sub>2</sub>...C<sub>m</sub> are the values of the quality award criteria numbered from 1 to m;
- w<sub>P</sub> is a weighting for price criteria expressed in percentage;
- w<sub>1</sub>, w<sub>2</sub> ... w<sub>m</sub> are weightings for the quality award criteria expressed in percentage;
- w<sub>P</sub>+∑<sub>(i=1)^m</sub> w<sub>i</sub> = 100 %.

## 4.5 European Technical Quality Criteria

This procurement handbook provides a guidance on how to apply the Guidelines of European Technical Quality Criteria (Leutgöb et al. 2018) in EPC and ESC tender evaluation. The following chapters (5 and 6) describe how the technical quality criteria listed in the document can be used as technical specifications or award criteria for EPC and ESC procurement and how they can be evaluated.

The Guidelines of European Technical Quality Criteria **published by the QualitEE project team comprises of nine technical quality criteria:**

- QC1 ADEQUATE ANALYSIS
- QC2 QUALITY OF IMPLEMENTATION OF TECHNICAL ENERGY EFFICIENCY IMPROVEMENT MEASURES
- QC3 SAVINGS GUARANTEE
- QC4 VERIFICATION OF ENERGY SAVINGS



- QC5 VALUE RETENTION AND MAINTENANCE
- QC6 COMMUNICATION BETWEEN THE EES PROVIDER AND THE CLIENT
- QC7 COMPLIANCE WITH OF USERS' COMFORT REQUIREMENTS
- QC8 INFORMATION AND MOTIVATION OF USERS
- QC9 COMPREHENSIBLE CONTRACTUAL STIPULATIONS FOR THE CONTRACTING OF SPECIFIC REGULATORY REQUIREMENTS

The table below outlines the categories that have been used to apply the European Technical Quality Criteria - for use in the procurement phase.

**Table 1 Technical specifications and award criteria**

Type	Abbreviation	Description
Technical specifications	TS	Technical specifications provide input data for energy saving measures designed in tenders. Some of the specifications can be adjusted during the negotiation process if not defined as minimum requirements. Tenders that do not fulfil minimum requirements are not evaluated and are either returned for improvement or rejected.
Award criteria	AWC	Award criteria are evaluated within the procurement phase and each tender is awarded by a score reflecting how well is the criteria fulfilled. Tenders can be ranked according how well they fulfil these criteria.
Not applicable	NA	The criteria are not applicable for use in the procurement. In most cases these criteria can only be evaluated after the procurement.

## 5 EPC CPN TENDER EVALUATION

### 5.1 Evaluation in different phases of EPC procurement

Evaluation of EPC tenders in competitive procedure with negotiation is conducted in its different phases as follows:

#### 1. Evaluation of initial tenders

- based on the evaluation of initial tenders, the candidates suitable for further negotiation are selected.

#### 2. Negotiation with tenderers

- After the initial tenders are submitted, several rounds of negotiation with the tenderers follow. Within the negotiations it is possible to adjust the tenders according to the client's additional requirements.
- There is at least one round of negotiation, but usually there are further rounds of negotiation in which the criteria can be evaluated (typically, there are three rounds).
- In each round the procuring authority requests tender improvements and may ask for new additional details of the solutions described in tenders – which are then evaluated in the next round.
- Invitation to submit final tenders.

#### 3. Evaluation of final tenders and selection of the winning tenderer

The tenders are always ranked by the number of points scored.

### 5.2 Technical specifications and award criteria for EPC

Specifications and award criteria, which will be used in the tender evaluation process, must be included in the tender dossier (TD), together with the weighting to be assigned to the award criteria.

For EPC projects, many of the technical specifications should be stipulated as minimum requirements to ensure the procuring authority receives a high quality service. Such specifications can be formulated using the European technical quality criteria as described in the section 5.4 below.

### 5.3 Evaluating award criteria

There are various ways to evaluate award criteria and the method selected may result in a different tenderer would be successful.

If the EPC contract stipulates that the customer will pay a purchase price for the equipment required to fulfil the Contract

(including design and installation, sometimes also including energy management services and M&V cost) a usual approach would be to calculate the net present value (NPV) of price and guaranteed savings over the whole contract period and to select lowest whole life cost offer. Experience from the Czech Republic shows, however, that this approach may put at a disadvantage those tenderers who propose measures that offer higher energy savings but also higher investments, whereas tenders that do not upgrade some of the installed technology (e.g. the obsolete boiler) and only focus on investments with lower costs ("cherry-picking") achieve better results in the NPV evaluation.

To combat this issue an alternative method was developed where an NPV was calculated for a period longer than the contract length. However, this had the unintended consequence that tenderers would promise much higher savings after the end of the contract. As the savings beyond the end of the contract are not guaranteed the tenderer carries no risk for over-promising them.

As a result, another method is now applied in the Czech Republic, where both investments and savings are given individual weightings and the weighting for the savings is always higher. At the same time, there is a requirement for the investment to pay back within the contract term. The contract length is specified in the tender dossier.

### 5.3.1 Evaluation methodology with individual weighting of investments and guaranteed savings

#### Award criteria

In the Czech Republic, the evaluation approach that has proved to be most effective is where the investment price and the guaranteed savings are weighted separately in the tender evaluation, and where specific emphasis is put on the weighting of guaranteed savings.

When assigning weightings, it is ensured that:

- all award criteria to be used are assigned a weighting; and
- the sum of all weightings totals 100%.

Criteria weightings should be within the range outlined in the table below. Specific weightings depend on the client needs, type and scope of the project. Complex projects should be evaluated using wider range of qualitative criteria in comparison to simple or small projects.

**Table 2 Weighting of award criteria for EPC – individual weighting of investments and guaranteed savings (example from the Czech Republic)**

Award criterion	Weighting range
	Minimum – Maximum
Price	30%-45%
Level of contracted guaranteed savings	40%-55%
Quality of the tender	10%-25%
- where the major component of quality is the assessment of attainability of guaranteed savings	8%-20%

#### Price

The price is the sum that the client would be required to pay to the tenderer for the work and services provided. This must include all costs over the duration of the EPC Contract. Depending on the contract, this may include:

- technical design and equipment;
- installation of the equipment, operation and maintenance costs during the contract period;
- control systems for equipment;

- energy management including annual measurement and verification (M&V) report;
- financing costs (if any).

It is recommended for the contract to use fixed energy prices to make simple calculations. When using the award criteria, inflation can be considered, especially if high inflation is expected. If the client decides to consider expected inflation its forecast must be included in the tender documentation, so all tenders are evaluated using the same value of expected inflation.

Weighting on the tender price is recommended to be between 30-45%. In any case it shall be lower than weighting on the guaranteed savings.

## Guaranteed savings

The key award criteria to be evaluated in tender evaluation process is the level of guaranteed savings stipulated in monetary terms (EUR or in other currency). When calculating the amount of guaranteed savings, the prices (of electricity, gas, etc.) as specified by the client in the tender documentation must be used.

### 5.3.2 Evaluation methodology limiting economic assessment to the level guaranteed energy savings offered

#### Award criteria

In Austria or Germany an approach is used frequently where the remuneration of the EES provider is exclusively linked to the savings achieved, i.e. the investments implemented by the provider are not paid directly, but indirectly through a savings-related payment. In this case, the economic evaluation of tenders only needs to take into account the level of guaranteed savings. The higher the guaranteed savings, the higher the economic benefit in monetary terms for the client. Therefore, the level of guaranteed savings becomes the guiding criteria with the majority weighting in the tender scoring which is usually complemented by a list of “qualitative” criteria, such as: technical quality of proposed investment measures, quality of products proposed for installation, quality of user comfort measures proposed by the tenderer, quality of maintenance concept etc. The list of qualitative measures can be adapted to the specific requirements of the client, whereas total weighting of these criteria is always considerably lower than the weighting given to the level of guaranteed savings (see Table 3 below).

**Table 3 Weighting of award criteria for EPC – economic assessment limited to the level of guaranteed energy savings offered (example from Austria)**

Award criterion	Weighting range
	Minimum – Maximum
Level of contracted guaranteed savings	60%-90%
Set of qualitative criteria (e.g. technical quality of investment measures, product quality, user comfort measures, maintenance concept)	10%-40%

## 5.4 Application of technical quality criteria in the EPC procurement

The table below shows how the technical quality criteria can be applied in the different phases of the procurement. Also, for each phase it specifies which actor is involved in the application of the criterion (F – facilitator; P – provider; C – client). In the last column it is specified whether the criteria are applied as a technical specification – TS or as award criteria – AWC.

**Table 4 Application of technical quality criteria in EPC procurement**

AC	Assessment Criterion	Use in procurement	Procurement documents				Evaluation	
			Phase 1	Phase 2	Phase 3	Phase 4	TS	AWC (weighting)
			before the invitation to submit a tender	before indicative tenders are submitted	before final tenders are submitted	before the winning tender is chosen		weighting in %
1-1	<b>Agreement on the process of energy analysis pursuant to EN 16247-1</b>	Analysis is usually conducted before the submission of indicative tenders, and can be extended as a result of requests for additional information by candidates and/or tenderers.	F/C	F/C	F/C		TS	
1-2	<b>Adequate data collection and analysis</b>	The Tender Dossier (TD) should contain adequate data and analysis for general purpose and will be extended by additional information relating to the measures proposed by candidates and/or tenderers.	F/C	F/C	F/C			
1-3	<b>Adequacy of the derivation of recommended energy efficiency improvement (EEI) measures</b>	Assessment of the adequacy of derivation of recommended energy efficiency improvement measures is conducted during evaluation of submitted tenders with AWC. Communication between C/F and P increase adequacy of proposed measures.			P, F/C	P		AWC 5-10%
2-1	<b>Performance of services in accordance with applicable standards, statutes and official permits</b>	The Contract should commit the EPC provider to comply with the standards and statutory conditions applicable to the object.	F/C				TS	
2-2	<b>On-schedule delivery</b>	The Contract should contain either a fixed schedule or a process that defines how the EPC provider will consult and agree on schedules with the client.	F/C				TS	
2-3	<b>Commissioning of services and documentation of services rendered</b>	The Contract should contain a commitment to apply the respective approaches and tools for the commissioning of EPC services.	F/C				TS	
2-4	<b>Induction of users or operating personnel</b>	The Contract should contain a plan for the induction of users.	F/C				TS	

			Procurement documents				Evaluation	
AC	Assessment Criterion	Use in procurement	Phase 1	Phase 2	Phase 3	Phase 4	TS	AWC (weighting)
			before the invitation to submit a tender	before indicative tenders are submitted	before final tenders are submitted	before the winning tender is chosen		weighting in %
2-5	<b>Ensuring the functionality of newly installed facilities at the end of the Contract</b>	The Contract should contain provisions guaranteeing that all newly installed facilities are fully operational at the end of the contract.	F/C				TS	
3-1	<b>Dependency of remuneration on adherence with the savings guarantee</b>	Stipulated as TS in the contract.	F/C				TS	
3-2	<b>Amount of guaranteed savings</b>	Amount of contracted guaranteed savings is the key AWC. (If applicable in addition there can be stipulated a minimum level of savings as TS in the contract).	F/C				(TS)	AWC 40-50%
3-3	<b>Guaranteed savings achieved</b>	Ex-ante assessment of attainability of guaranteed savings is conducted during evaluation of submitted tenders with AWC.				F/C		AWC 5-15%
3-4	<b>Adequate intervals for the verification of compliance with guarantee promise</b>	Required minimum interval of M&V reports is defined by F/C in TD and the contract.	F/C					
4-1	<b>Application of a standardised method for the calculation of energy-savings</b>	The Contract should contain a commitment to apply one of the two standardised methods: IPMVP or ISO 50015:2014.	F/C	P	P	P	TS	
4-2	<b>Selection of the most appropriate approach to the verification of energy savings</b>	Justification for the selection of M&V approaches. Presentation of the benefits and limitations of the selected approach as compared with possible alternatives by provider. Agreement between service provider and facilitator (client).		P & F/C	P & F/C	P & F/C	(TS)	AWC
4-3	<b>Clear definition of the baseline (reference consumption)</b>	Determination of a baseline based on an assessment of baseline data.	F/C				TS	

			Procurement documents				Evaluation	
AC	Assessment Criterion	Use in procurement	Phase 1	Phase 2	Phase 3	Phase 4	TS	AWC (weighting)
			before the invitation to submit a tender	before indicative tenders are submitted	before final tenders are submitted	before the winning tender is chosen		weighting in %
4-4	<b>Clear definition of the basis of adjustment of the energy savings calculation</b>	Determination of a clearly defined adjustment methodology including for example: <ul style="list-style-type: none"> <li>transparent assessment of factors affecting energy consumption;</li> <li>presentation of specific adjustment equations.</li> </ul>	F/C				TS	
4-5	<b>Transparency and agreement of M&amp;V processes and related responsibilities</b>	Agreement of a procedure for the implementation of M&V (M&V processes). Responsibilities are defined in TS.		P & F/C	P & F/C	P & F/C	TS	
5-1	<b>Compliance with the required system availability</b>	The Contract should contain a precise description of the client needs while operating the system (e.g. recording of operating times and downtimes).	F/C				TS	
5-2	<b>Rapid troubleshooting in case of malfunctions of technical systems</b>	The Contract should contain a precise process for registration of faults reflecting the client needs and system specifics.	F/C				TS	
5-3	<b>Functionality of facility at the end of the Contract</b>	The Contract should contain provisions guaranteeing that all newly installed facilities are fully operational at the end of the contract.	F/C				TS	
5-4	<b>Clear definition of responsibilities of the service provider with respect to maintenance and repair</b>	The Contract should define the duties of the service provider with respect to maintenance and repair.	F/C				TS	
6-1	<b>Disclosure of contact persons</b>	Determination of contact persons in a document related to the Contract where respective tasks are described in detail.	F/C				TS	
6-2	<b>Agreement on accessibility of data and data exchange (in both directions)</b>	Contractual stipulations defining mutual access to data.	F/C				TS	

			Procurement documents				Evaluation	
AC	Assessment Criterion	Use in procurement	Phase 1	Phase 2	Phase 3	Phase 4	TS	AWC (weighting)
			before the invitation to submit a tender	before indicative tenders are submitted	before final tenders are submitted	before the winning tender is chosen		weighting in %
6-3	<b>Capturing and continual updating of all EEl measures taken by the EES provider</b>	Verification whether energy management specified in the contract comprises a tool that offers the option for capturing the measures in a clear and concise manner.	F/C				TS	
6-4	<b>Organisational measures for committing internal operating personnel</b>	Stipulation of organisational measures that will facilitate the continuous exchange of information.	F/C				TS	
7-1	<b>Definition of users' requirements (including regular review)</b>	As long as the respective parameters are affected by the EES, user requirements (e.g. room temperature, humidity etc.) shall be verified and recorded.	F/C				TS	
7-2	<b>Regular verification of compliance with physical comfort parameters</b>	The following actions shall be implemented: <ul style="list-style-type: none"> <li>Regular evaluation of such comfort-related data points that are captured and saved in building automation systems (at least once each year).</li> <li>Additional measurements in cases, in which remarkable deficits in comfort are reported.</li> <li>Corrective actions to ensure compliance with users' requirements.</li> </ul>	F/C				TS	
7-3	<b>Assessment of users' satisfaction</b>	Contractual stipulations regarding the process capturing users' satisfaction shall be part of the contract.	F/C				(TS)	
8-1	<b>Development of a concept for the motivation of users</b>	Availability of a concept motivating specifically all groups of users.	F/C				(TS)	
8-2	<b>Establishment of a suggestion scheme for clients to improve energy efficiency</b>	Availability of a suggestion scheme to facilitate the transmission of users' proposals to the EES and availability of a feedback process to the user shall be guaranteed in the contract. Such suggestion scheme can be regular meetings at least once a year to discuss achieved savings and energy efficiency improvement.	F/C				(TS)	



AC	Assessment Criterion	Use in procurement	Procurement documents				Evaluation	
			Phase 1	Phase 2	Phase 3	Phase 4	TS	AWC (weighting)
			before the invitation to submit a tender	before indicative tenders are submitted	before final tenders are submitted	before the winning tender is chosen		weighting in %
8-3	<b>Provision of action-oriented information on the subject of energy efficiency</b>	Availability of information on specific energy saving actions that can be implemented by different target groups shall be guaranteed in the contract.	F/C				(TS)	
9-1	<b>Ownership transfer</b>	Availability of a contractual regulation in conformity with statutory provisions.	F/C				TS	
9-2	<b>Handling of energy price risk</b>	Availability of a contractual regulation in conformity with statutory provisions.	F/C				TS	
9-3	<b>Insurances</b>	Availability of a contractual regulation in conformity with statutory provisions.	F/C				TS	
9-4	<b>Exit regulations</b>	Availability of a contractual regulation in conformity with statutory provisions.	F/C				TS	
9-5	<b>Legal succession</b>	Availability of a contractual regulation in conformity with statutory provisions.	F/C				TS	
9-6	<b>Unhindered access rights and right of access</b>	Availability of a contractual regulation in conformity with statutory provisions.	F/C				TS	
9-7	<b>Permissibility of different types of financing (Cession, Leasing, Forfeiting)</b>	Availability of a contractual regulation in conformity with statutory provisions.	F/C	(P, F/C)	(P, F/C)	(P, F/C)	TS	
9-8	<b>Regulation on intellectual property rights</b>	Availability of a contractual regulation in conformity with statutory provisions.	F/C				TS	

Abbreviations:

AWC - award criteria

C - client

F – facilitator

P – provider

TD - tender dossier

in brackets () – not compulsory

TS - technical specification

## 6 ESC CPN TENDER EVALUATION

### 6.1 Evaluation in different phases of ESC CPN procurement

A typical approach for ESC tenders is **competitive procedure with negotiation**. In this case, the tender process is conducted in its different phases as follows:

#### 1. Evaluation of initial tenders

- The ESC providers suitable for further negotiation are selected based on:
- compliance of the offer with the specifications listed in the Tender dossier;
- evaluation of initial tenders (offers).

#### 2. Negotiations with tenderers

- After the tenders are submitted, several rounds of negotiations with the tenderers follow. Within the negotiations it is possible to adjust the tenders according to the client's additional requirements.
- There is at least one round of negotiations, but usually there are two or three negotiation rounds in which the criteria can be evaluated.
- In each round there is a new specification of tenders – the contractor asks for further details of the solutions described in tenders – which are then evaluated in the next round.
- Invitation to submit final tenders.

#### 3. Evaluation of final tenders and selection of the winning tenderer

If other procurement procedures are chosen, the process must be adapted accordingly. Since ESC projects are in many cases less complex than EPC projects, the single stage procedure is also suitable in many cases.

### 6.2 Technical specifications and award criteria for ESC

Specifications and award criteria, which will be used in the tender evaluation process, must be included in the tender dossier, together with the weighting assigned to the award criteria.

#### 6.2.1 Technical specifications

In order to guarantee high quality ESC projects, the tender dossier must clearly define which of the technical specifications are mandatory requirements to be fulfilled by each tenderer. If a tenderer fails to fulfil the technical specifications, they may be excluded from the tender procedure. Furthermore, technical specifications as defined in the tender dossier become part of the energy supply contract. When formulating the technical specifications, the European Technical Quality

Criteria offer useful guidance, as described in detail in section 6.3.

## 6.2.2 Award criteria and weightings

Typically, in ESC procurement the **energy supply price** is the award criterion with the predominating weighting.

It is advisable, however, that some weighting is also assigned to non-price criteria (e.g. security of supply, quality of the technical solutions, share of renewable energy sources, emissions, etc.) – unless these are set as mandatory specifications (see section 6.2.1). Using non-price criteria helps the client to avoid awarding the ESC contract to a tenderer who offers a low price, compromised by poor reliability, low quality of supplied energy, or another technical or economic factor.

When assigning weightings, it must be ensured that:

- criteria weightings reflect the objectives of the client;
- all award criteria to be used are assigned a weighting; and
- the sum of all weightings totals 100%.

Table 5 shows typical weighting range for the award criteria. The following section presents a more detailed description of the specifics of the award criteria as included in the table.

**Table 5 Weighting of award criteria for ESC**

Criteria	Weighting (Minimum – Maximum)
<b>Energy supply price (including the price components: investment, amount of energy savings and related costs, and other operational costs)</b>	65%-90%
<b>Long-term operating cost (weighting is higher if lifetime of technology equipment is longer than contract duration)</b>	0%-30%
<b>Residual value</b>	0%-10%
<b>Security of supply</b>	0%-15%
<b>Other technical quality criteria</b>	5%-15%

### Energy supply price

Depending on the contract, the price may be e.g.:

- One component unit energy price (like €/MWh). In such cases, usually there is a specification of a minimum (or take-or-pay) quantity.
- Two component pricing with:
  - unit energy price (like €/MWh), plus
  - fixed annual costs (€/year), covering staff, other O&M costs, assets amortisations, etc.

In any case, the pricing scheme must describe the amounts that the client would be required to pay to the tenderer for the energy supply and all related services. This must include all pre-specified costs over the duration of the ESC Contract. Depending on the specifics of the projects, this typically includes:

- technical design;
- delivery and installation of the equipment;

- operation & maintenance costs during the contract period;
- control system for the installed technology;
- financing costs (if any);
- fuel/electricity/water costs.

When considering the price criterion and its weighting, focus should not be given only to the initial energy price, but also its stability and predictability over time during the contract period. This means that the rules for price adjustment must be fixed. In this context, it is important to consider that often there is third party price risk that is not within the control of the service provider (e.g. for fuel/electricity/water price), therefore a suitable risk distribution between provider and client has to be agreed.

The tender dossier should include a clearly defined methodology for evaluating/comparing the price offers. This methodology can be based on sub-weightings assigned to the "fixed" and "variable" price components. Alternatively, the tender dossier may provide a more detailed evaluation formula, giving fixed parameters (like annual energy consumptions, fuel prices, etc.) for each year of the contract.

### Long-term operational cost

As described above, in a typical ESC project the energy supply price covers all cost over the contract duration. What is important for the client after the end of the project, however, is the long-term operational cost. Therefore, for those projects where the equipment lifetime exceeds the contract duration and equipment ownership is transferred to the client by the end of the contract, the envisaged long-term operational cost should become part of the award criteria matrix. This element puts an advantage to tenderers that increase the initial investment amount (to provide higher quality equipment) to achieve a lower operational cost in the long run. Low operational costs are also beneficial during the contract period, since they reduce the exposure to price fluctuation and related risks.

### Residual value of asset

In some projects, having an award criterion related to residual asset value (after the end of the contract), might motivate tenderers to invest in new (or higher quality) equipment, instead of using the existing or second-hand. Since it must be possible to evaluate this residual value – depending on the case – the criterion might refer to estimated book value of the assets at the end of contract, or to real market value at the tendering stage.

### Security of supply

The following technical quality criteria may be used to assess security of supply:

- Means of availability of the offered technical solution.
- Stand-by capacity (boiler/chiller/transformer, etc.):
  - For example, for a heating consumer with peak load of 1000 kW, an installation with two 700 kW boilers provides a significantly higher reliability than one with a single 1000 kW boiler (at higher CAPEX, of course). In such a context, an award criterion like "Technical solution with two boilers of 500 kW each", might be added (with a weighting of 5-10%) if relevant.
- Back-up fuel:
  - For example, installing a diesel storage and a dual-fuel burner on a gas boiler installation, increases security of supply (compared to gas-only burner). Similar technical solutions might be used directly as an award criterion (with the respective weighting).
- Other criteria, related to security of supply could be e.g.:
  - Specific approaches that will be used to minimise energy supply disturbance during project implementation, or

- Compatibility of the project (technology) with the existing system, etc.

### Other technical quality criteria

Other technical criteria may push tenderers towards improved performance, quality or environmental standards – despite higher initial investment. For example, criteria like the following may be added as technical specifications or award criteria (with respective weightings):

- using a certain share of RES (or waste heat) in the fuel/energy mix; or
- using a fuel with low emissions (natural gas, CNG, biomass); or
- using a chiller with a low ODP/GWP refrigerant, etc.;
- availability or quality of automation/monitoring system(s);
- adequacy of the recommended technical measures.

## 6.3 Application of technical quality criteria in the ESC procurement

The table below shows how the technical quality criteria can be applied in the different phases of the procurement. Also, for each phase it specifies which actor is involved in the application of the criterion (F – facilitator; P – provider; C – client). In the last column it is specified whether the criteria are applied as a technical specification – TS or as award criteria – AWC.

Table 6 Application of technical quality criteria in ESC procurement

AC	Assessment Criterion	Use in procurement	Procurement documents				Evaluation	
			Phase 1	Phase 2	Phase 3	Phase 4	TS	AWC (weighting)
			before the invitation to submit a tender	before indicative tenders are submitted	before final tenders are submitted	before the winning tender is chosen		weighting in %
1-1	<b>Agreement on the process of energy analysis pursuant to EN 16247-1</b>	Typically, the client – supported by a facilitator – conducts an energy analysis as a basis for the procurement.	F/C	F/C	F/C		TS	
1-2	<b>Adequate data collection and analysis</b>	Typically, the client – supported by a facilitator – is responsible for data collection, as the Tender Dossier (TD) should contain adequate data on which the tenderers may form their tenders.	F/C	F/C	F/C		TS	

			Procurement documents				Evaluation	
AC	Assessment Criterion	Use in procurement	Phase 1	Phase 2	Phase 3	Phase 4	TS	AWC (weighting)
			before the invitation to submit a tender	before indicative tenders are submitted	before final tenders are submitted	before the winning tender is chosen		weighting in %
1-3	<b>Adequacy of the derivation of recommended energy efficiency improvement (EEI) measures</b>	As the tenderers select the technical measures at their own discretion, 1-3 can be used as award criterion, based on an assessment of the tender submission. Communication between C/F and P increases adequacy of proposed measures.			P, F/C	P		(AWC 5-10%)
2-1	<b>Performance of services in accordance with applicable standards, statutes and official permits</b>	The ESC provider is obliged to comply with the standards and statutory conditions applicable to the object.	F/C				TS	
2-2	<b>On-schedule delivery</b>	The TD should contain either a fixed schedule or a process that defines how the ESC provider will consult and agree on schedules with the client.	F/C				TS	
2-3	<b>Commissioning of services and documentation of services rendered</b>	The TD should contain a commitment to apply the respective approaches and tools for the commissioning of EPC services.	F/C				TS	
2-4	<b>Induction of users or operating personnel</b>	The TD should contain a commitment to provide a plan for the induction of users.	F/C				TS	
2-5	<b>Ensuring the functionality of newly installed facilities at the end of the Contract</b>	The TD should contain provisions guaranteeing that all newly installed facilities are fully operational at the end of the contract.	F/C				TS	

AC	Assessment Criterion	Use in procurement	Procurement documents				Evaluation	
			Phase 1	Phase 2	Phase 3	Phase 4	TS	AWC (weighting)
			before the invitation to submit a tender	before indicative tenders are submitted	before final tenders are submitted	before the winning tender is chosen		weighting in %
QC3	<b>Savings guarantee</b>	Typically, QC3 Savings Guarantee is not applicable to ESC projects, except for those cases where ESC is combined with the provision of energy savings at the demand side (Integrated Energy Contracting).						
QC4	<b>Verification of energy-savings</b>	Typically, QC4 Verification of energy savings is not applicable to ESC projects, except for those cases where ESC is combined with the provision of energy savings at the demand side (Integrated Energy Contracting).						
5-1	<b>Compliance with the required system availability</b>	The TD should contain a precise description of the client needs while operating the system.	F/C				TS	
5-2	<b>Rapid troubleshooting in case of malfunctions of technical systems</b>	The TD should contain a precise reflection of the client needs and system specifics.	F/C				TS	
5-3	<b>Functionality of facility at the end of the Contract</b>	The TD should contain provisions guaranteeing that all newly installed facilities are fully operational at the end of the contract.	F/C				TS	
5-4	<b>Clear definition of responsibilities of the service provider with respect to maintenance and repair</b>	The TD should define the duties of the service provider with respect to maintenance and repair.	F/C				TS	
6-1	<b>Disclosure of contact persons</b>	Determination of contact persons in a document related to the contract where respective tasks are described in detail.	F/C				TS	

			Procurement documents				Evaluation	
AC	Assessment Criterion	Use in procurement	Phase 1	Phase 2	Phase 3	Phase 4	TS	AWC (weighting)
			before the invitation to submit a tender	before indicative tenders are submitted	before final tenders are submitted	before the winning tender is chosen		weighting in %
6-2	<b>Agreement on accessibility of data and data exchange (in both directions)</b>	Contractual stipulations defining mutual access to data.	F/C				TS	
6-3	<b>Capturing and continual updating of all EEI measures taken by the EES provider</b>	The TD should define the approach of capturing the implementation of technical measures in a clear and concise manner.	F/C				TS	
6-4	<b>Organisational measures for committing internal operating personnel</b>	Stipulation of organisational measures that will facilitate the continuous exchange of information.	F/C				TS	
7-1	<b>Definition of users' requirements (including regular review)</b>	The TD should define the user requirements applicable to ESC (e.g. flow temperature) and the way how they shall be verified and recorded.	F/C				TS	
7-2	<b>Regular verification of compliance with physical comfort parameters</b>	An approach should be defined in the TD	F/C				TS	
7-3	<b>Assessment of users' satisfaction</b>	An approach should be defined in the TD, but typically this criterion is not applicable to ESC.	(F/C)				(TS)	
QC8	<b>Information and motivation of users</b>	Typically, QC8 is not applicable to ESC. If the ESC project includes some responsibilities in this field, then they must be defined in the TD.	(F/C)				(TS)	
9-1	<b>Ownership transfer</b>	Approach defined in contractual regulation in conformity with statutory provisions.	F/C				TS	
9-2	<b>Handling of energy price risk</b>	Approach defined in contractual regulation in conformity with statutory provisions.	F/C				TS	



AC	Assessment Criterion	Use in procurement	Procurement documents				Evaluation	
			Phase 1	Phase 2	Phase 3	Phase 4	TS	AWC (weighting)
			before the invitation to submit a tender	before indicative tenders are submitted	before final tenders are submitted	before the winning tender is chosen		weighting in %
9-3	<b>Insurances</b>	Approach defined in contractual regulation in conformity with statutory provisions.	F/C				TS	
9-4	<b>Exit regulations</b>	Approach defined in contractual regulation in conformity with statutory provisions.	F/C				TS	
9-5	<b>Legal succession</b>	Approach defined in contractual regulation in conformity with statutory provisions.	F/C				TS	
9-6	<b>Unhindered access rights and right of access</b>	Approach defined in contractual regulation in conformity with statutory provisions.	F/C				TS	
9-7	<b>Permissibility of different types of financing (Cession, Leasing, Forfeiting)</b>	Approach defined in contractual regulation in conformity with statutory provisions.	F/C	(P, F/C)	(P, F/C)	(P, F/C)	TS	
9-8	<b>Regulation on intellectual property rights</b>	Approach defined in contractual regulation in conformity with statutory provisions.	F/C				TS	

Abbreviations:

AWC - award criteria  
C - client P – provider

F – facilitator TD - tender dossier  
in brackets () - not compulsory

TS - technical specification

## 7 PROCEDURES FOR EPC AND ESC PROCUREMENT APPLIED IN VARIOUS EU COUNTRIES

An overview of the procurement procedures of the EES services in seven EU countries is provided below, illustrating various approaches currently applied. Moreover, the following two chapters offer detailed descriptions of procedures applied for EPC in the Czech Republic and ESC in Bulgaria.

**Table 7 Overview of EES procurement procedures applied**

Country	Procedure type	Services procured
<b>Belgium</b>	Competitive procedure with negotiation	EPC
<b>Czech Republic</b>	Competitive procedure with negotiation	EPC
<b>France</b>	Competitive dialogue	EPC and ESC
<b>Slovenia</b>	Competitive dialogue	EPC and ESC
<b>UK</b>	Open procedure	EPC
<b>Greece</b>	Open procedure	EPC, ESC and other EES
<b>Slovakia</b>	Open procedure	EPC, ESC and other EES

### 7.1 Competitive procedure with negotiation - Belgium

**Type of the procedure:** Both VEB and RenoWatt use CPN (other providers may use different procedures - CD or another procedure)

**Type of the EES procured:** EPC

In Belgium various EPC market facilitators or 'one-stop-shops' are active, which do not necessarily apply the same approach. The text below describes the approach of the two most active market players (VEB and RenoWatt), which both use CPN.

#### VEB

VEB is a semi-public agency that was created by the Flemish Government. VEB is mainly operational in the Flanders Region, but is not strictly limited to it. VEB's mandate covers 4 areas, always with focus on public buildings and organisations:

- Facilitating the implementation of energy-efficiency measures in public buildings, through EPC amongst other means.
- Assisting public bodies in optimising their purchase of energy.
- Managing a database of energy consumption data. This database is linked to existing databases containing real estate data.
- Organising networking opportunities for energy-efficiency professionals active in the public realm.

#### RenoWatt

RenoWatt is a 'one-stop-shop' for the acquisition of energy services in the public sector in Wallonia. RenoWatt initially covered the Province of Liège, but has recently expanded to the entire Walloon Region. RenoWatt's mandate is to facilitate the procurement of EPC services.

### 7.1.1 Steps in the procurement procedure

1. Open procurement procedure.
2. Selection of 3-5 ESCOs, based on a mix of qualitative and quantitative criteria (references, solvency, ...).
3. Typically, three to five ESCOs deliver tenders; evaluation of the tenders and invitation of one to three ESCOs for negotiation.
4. Negotiations resulting in ESCOs delivering their best and final offer.
5. Awarding of contract to the winning ESCO.

### 7.1.2 Roles in the procurement procedure preparation and implementation

Both VEB and RenoWatt conduct the procurement process on behalf of their public clients (municipalities, provinces, hospitals, etc.).

### 7.1.3 Criteria and methodology applied to select the winning tender

Both quality of the tenders (around 30% of the score, based for instance on the quality of the project-plan and proposed measures) and quantity/price (around 70% of the score, based on for instance guaranteed savings, investments, yearly maintenance costs).

## 7.2 Competitive procedure with negotiation - The Czech Republic

**Type of the procedure:** CPN

**Type of the EES procured:** EPC

The various phases of **competitive procedure with negotiation** for an EPC project are described below.

Based on the preliminary analysis the customer's senior management decides whether or not to use EPC to deliver the identified energy saving measures. It is essential to secure the support of key decision makers which must approve the final EPC contract. This should be done before any effort is made to progress beyond the initial stage.

Once the senior management decides on using EPC for the given project, procurement of an EPC provider is the next step within the EPC process. The public procurement procedure is often prepared in cooperation with an EPC project facilitator, which is able to define the appropriate procurement criteria and prepare the contract specification documentation. They will also help to evaluate the tenders received.

There is usually no commitment for the customer until signing of the EPC contract. Up until that time, the customer may decide not to implement the EPC project except for covering the costs of the energy audit and technical design completed to date.

### 7.2.1 Steps of the procurement procedure

For EPC projects in the public sector, the procurement procedure must be in compliance with the Public Procurement Act No. 134/2016 Coll. Which came into effect on 1 October 2016.

The timing of the procurement procedure will vary among the projects depending the particular circumstances. The table below gives an example of a typical EPC CPN process.

#### Preparation of tender dossier

The contracting authority usually initiates this first phase by notifying its intention to award a public contract within a CPN in the relevant national public procurement journal and in the Official Journal of the European Union (required if contract value is equal or above €443,000, which is the threshold defined by Commission Delegated Regulation (EU) 2017/2364).

The contracting authority prepares tender dossier including contract template and publishes these documents on the registered website of the contracting authority.

**Table 8 EPC competitive procedure with negotiation**

Step in the process	Actors
Commencement of work and initial negotiations	Facilitator & client
Preparation of draft tender documentation, including a draft contract for the provision of energy services in both technical and formal terms, and preparation of the draft tender evaluation approach	Facilitator
Discussion of the tender documentation with the contracting authority, comments, finalisation and approval by the contracting authority.	Facilitator & client
Publication of a procurement notice in the Public Procurement Bulletin, including the publication of qualification requirements (including a call for applications)	Facilitator & client
Deadline for submitting applications and demonstrating qualifications	Tenderers
Tenderers which met the required qualifications receive a written invitation to tender	Facilitator & client
The tenderers conduct site visits where they may ask questions of the facilitator and the contracting authority, which then in turn provide answers. These answers are noted in the updated tender documentation.	
Tenderers submit their tenders by the submission deadline.	Tenderers
Several rounds of negotiations are conducted with the tenderers which submit tenders. The proposed measures are discussed, and tenderers must explain how they expect to achieve their proposed guaranteed savings.	
Evaluation of tenders and initiation of successive rounds of negotiation.	Facilitator & client
Selection of the winning tender based on the evaluation of the final tenders in accordance with the pre-set award criteria.	Client
Discussion, modification and signature of the final contract and its conclusion	Facilitator & client

## Assessment of EES providers qualifications

In this phase the contracting authority assesses the qualifications by the EES providers (**economic operators**) which **submitted a request to participate** in response to a call for competition by providing the information for qualitative selection that is requested by the contracting entity. The qualification of economic operators may relate to the EES providers' qualifications and/or accreditations and/or certifications, where available at national level<sup>3</sup>. Economic operators in the CPN which did not fulfil the qualifications in the required scope or which were not selected in the later rounds of the CPN are excluded from the procurement procedure.

## Submission of indicative tenders

Economic operators in the CPN which proved the required qualifications and were not excluded in earlier round (**candidates**) are invited in this phase by the contracting entity to **submit indicative tenders**. The economic operators are invited at the same time and under the same conditions.

## Negotiation on indicative tenders

The contracting entity negotiates the indicative tenders with candidates in the CPN with the aim of improving the indicative tenders for the benefit of the contracting entity.

In the negotiations, if conducted, the number of indicative tenders that are negotiated may be decreased if the contracting authority stipulated this as a possibility in the notification at the commencement of the CPN or in the **contract notice** with which the contracting authority commenced the procurement procedure.

<sup>3</sup> EED, Article 16, Availability of qualification, accreditation and certification schemes

## Subject of negotiations on the indicative tenders

The contracting authority is entitled to negotiate with candidates about any terms and conditions in their indicative tenders, and the subject matter of the negotiations may also include terms and conditions which are not the subject of the assessment criteria.

The contracting authority may also change or make additions to the tender conditions in the course of the negotiations, in particular technical conditions, although not the minimum technical conditions<sup>4</sup>. The contracting authority must inform the candidates in the CPN of such a change or addition in writing and provide a reasonable period of time to adjust the indicative tenders.

The candidate may modify the indicative tender during the negotiation period with the contracting authority. Thus, in the course of the negotiations a modified version of the indicative tender may be submitted.

In the course of the negotiations the contracting authority shall provide information to the candidates subject to the procurement procedure in a non-discriminatory manner. The contracting authority is entitled to share confidential information with other candidates in the CPN only where written consent of the candidate is granted in relation to specific information.

## Manner of negotiation on indicative tenders

The negotiations on the indicative tenders can take place in one round or over several rounds, during which the number of candidates in the CPN may be gradually reduced.

The contracting entity may negotiate with all candidates at the same time or separately.

The contracting entity is obliged to notify the candidates when negotiations terminate, or the schedule / conditions for termination.

## Submission of tenders and the contracting authority's approach after submission of tenders

The contracting authority is subsequently obliged to invite all candidates in the CPN (which have not been legally excluded from the procurement procedure) to submit tenders in accordance with the final version of the tender conditions and the results of negotiations regarding the indicative tenders. It is also obliged to stipulate a reasonable deadline for the submission of final tenders. These tenders are final and further negotiation is not permitted.

After opening the envelopes containing the tenders, the assessment and evaluation phase begins followed by the selection of the winning (i.e. most economically advantageous) tender. Signature of the contract with the chosen EES provider follows.

### 7.2.2 Roles in the procurement procedure preparation and implementation

Though the full responsibility for the procurement process and selection of the winning provider lies with the client, in almost all EPCs in the Czech Republic the client is supported by a project facilitator in conducting the required steps. The facilitator provides comprehensive technical, economic, financial and legal expertise.

The project facilitator completes the preliminary analyses of the EPC to recommend objects (buildings etc.) suitable for EPC, while the client approves the final selection of objects for energy saving measures and sets a requirement for the desired comfort level.

### 7.2.3 Criteria and methodology applied to select the winning tender

Emphasis is placed on the weightings of the non-price criteria and especially the amount of guaranteed savings.

When assigning weightings, it must be ensured that:

<sup>4</sup> Selected guaranteed performance parameters can be set as minimum technical conditions.

- all award criteria to be used are assigned a weighting;
- the sum of all weightings totals 100%; and

Criteria weightings are to be within the range outlined in the table below.

**Table 9 Weighting of award criteria for EPC – emphasis on guaranteed savings (example from the Czech Republic)**

Award criterion	Weighting range Minimum - Maximum
<b>Price</b>	30%-40%
<b>Amount of contracted guaranteed savings</b>	40%-50%
<b>Preliminary assessment of attainability of guaranteed savings</b>	5%-25%
<b>Other technical quality criteria</b>	5%-10%

Price

The price is the sum that the client would be required to pay to the tenderer for the work and services provided. This must include all costs over the duration of the EPC contract. Depending on the contract, this could include:

- technical design;
- equipment;
- installation of the equipment, operation and maintenance costs during the contract period;
- control system of the installed equipment;
- energy management including annual measurement and verification (M&V) report;
- capital costs (if any).

It is recommended to use fixed energy prices.

Weighting of the tender price is recommended to be between 30-40%. In any case it shall be lower than the weighting of the guaranteed savings.

## Guaranteed savings

The key award criteria to be evaluated in tender evaluation process is the amount of contracted guaranteed savings stipulated in monetary terms (EUR or in other currency).

## 7.3 Competitive dialogue – France

**Type of the procedure:** CD

**Type of the EES procured:** EPC and ESC

For EPC projects, **competitive dialogue** is used in about 60% of cases in France (Les premiers résultats de l'Observatoire des Contrats de Performance Énergétique 2017). Even though this procedure does not constitute an obligation, the public market opts most of the time for it. Introduced by Directive 2004/18/EU, competitive dialogue is a suitable solution for the award of particularly complex contracts where the contracting authorities are not objectively able to define the technical solution for their needs or where contracting authorities are not able to specify the legal and/or financial components of a

project. In France, given their global aspect and the operator's commitments over time, EPC projects are regarded as being "particularly complex" and hence competitive dialogue is the most used solution. In France, competitive dialogue is also used in ESC projects and follows the same procedure.

In French public procurement, for EPC projects two legal tools can be used: an Energy Performance Partnership Contract (contrat de partenariat de performance énergétique, CPPE), which falls under the category of Public-Private Partnerships (PPP), or an Energy Performance Public Contract (marché public de performance énergétique, MPPE) (ADEME 2016)

### 7.3.1 Steps of the procurement procedure

Competitive dialogue is a procedure in which the contracting authority enters a dialogue with the candidates admitted to participate in the procedure in order to define or develop solutions that meet its needs and based on which of these candidates are invited to submit a tender.

The competitive dialogue procedure is composed of three phases: selection of applications; dialogue and submission of complete tenders by candidates.

#### 1. Selection of applications:

- Notice of a competitive public procurement procedure (AAPC) is published by the contracting authority.
- The selection of applications is carried out by the contracting authority in accordance with the applicable provisions (for instance after verification of their tax situation, sufficient guarantees, technical and financial capacities, etc.).

#### 2. Dialogue:

- After the selection of the candidates, when the dialogue is initiated, there is still no specific offer from the applicants, and the contracting authority will not yet have drafted precise specifications. The dialogue aims to identify and define the best ways to meet the needs of the contracting authority from a previously developed functional programme, or from a partially defined project. Thus, the contracting authority may discuss with successful candidates all aspects of the contract and discussions can therefore last as long as necessary, until the goal is achieved.
- The contracting authority can decide to have one or more phases in the dialogue. It must however mention this in the AAPC or in the consultation regulation. Choosing to have several phases will facilitate the rejection of applicants whose projects do not correspond to the requirements or that are not able to carry out the project. If it chooses not to split the dialogue into phases, it will have to continue the dialogue with all the candidates until the end of the dialogue phase.
- The dialogue involves the candidates meeting with representatives from the contracting authority under equal conditions. The contracting authority may not reveal to the other candidates proposed solutions or confidential information provided by a candidate within the framework of the discussion, without agreement of the candidate.
- The end of dialogue is when the contracting authority deems it appropriate.

#### 3. Submission of final tenders:

- The candidates submit their final tender based on the solution(s) they presented and specified during the dialogue.
- Selection of the most economically advantageous tender.

### 7.3.2 Roles in the procurement procedure preparation and implementation

The contracting authority must only define a functional programme and does not have to describe an expected solution. It is useful if the contracting authority is assisted by an EPC project facilitator.

### 7.3.3 Criteria and methodology applied to select the winning tender

The most economically advantageous tender is chosen according to the selection criteria announced at the beginning of

the procedure.

### 7.3.4 Advantages in comparison to Competitive procedure with negotiation

The use of competitive dialogue has the advantage of giving greater freedom to the tenderers, thus making better use of their expertise. It is a contracting process that promotes innovation and creativity, and that can lead the contracting authority to opt for solutions that it may have not imagined at the outset.

In a competitive dialogue procedure, suitable solutions are first found and defined before submitting tenders. The project owner must only define a functional programme and does not have to describe an expected solution, which can be particularly convenient for EPCs. This makes it possible to optimise energy savings.

In addition, for MPPEs, the issues related to the financing of the project are not addressed during the dialogue, which simplifies the negotiations and allows focus on the technical solutions proposed by the candidates (Centre d'études techniques de l'équipement Nord-Picardie 2013).

## 7.4 Competitive dialogue – Slovenia

**Type of the procedure:** CD

**Type of the EES procured:** EPC and ESC

In selecting a public-private partnership contractor the **procedure of competitive dialogue** is used for selecting the most advantageous bid for service concession. The public-private partnership contractor is known as a 'Concessionaire'.

The selection of concessionaire and operation of the concession relationship is governed by the act regulating concession partnerships (**Public-Private Partnership (PPP) Act**). The subject, rights and obligations of a concession partnership, the procedure for selecting the private partner and other elements of an individual PPP relationship are framed in an instrument establishing a PPP (hereinafter: concession instrument). The concession instrument is adopted in the form of a Government decree, a decision by the representative body of the self-governing local community or a general instrument of another public partner issued based on public authorisation provided by a special act. The concession instrument defines the type of EES and is used both for the EPC and ESC.

### 7.4.1 Steps of the procurement procedure

The competitive dialogue involves the following steps:

#### Step 0 - PPP process at the contracting authority (decision for PPP service concession model)

In selecting the method of implementing the energy efficiency project that might be the subject of PPP, the public authority first assesses, based on the project fiche and Local Energy Concept (municipalities), whether the project can be carried out as a PPP/EPC/ESC, assessing the project feasibility and comparing EPC/ESC concession with a public purchase procurement option. Therefore, the interest of promoters (ESCOs) is checked and a decision on the PPP/EPC/ESC project taken respectively. The concession act defines the subject, rights and obligations of the municipality (contracting authority) and the concessionaire (PPP contractor), the concessionaire selection procedure and other components of the PPP relationship. The contractual partnership is selected in the form of services concession; i.e. a bilateral legal relationship between the contracting authority as the awarding authority and an ESCO as a concessionaire, in which the awarding authority awards to the concessionaire the exclusive right to perform energy efficiency services in the public interest.

#### Step 1 - EPC project appraisal (investment grade audit, feasibility study)

In order to enable deep energy renovation of public buildings, cohesion grants are being provided in the period 2016–2020. The cohesion funds are combined with private and public investments and therefore the public sector in the procurement of EES acts in compliance with the regulation on a uniform methodology for the preparation and treatment of investment documents in the field of public finance and requirements for receiving funding from the cohesion funds. These additional requirements, inter alia, comprise obligatory preparation of the investment grade energy audit, energy performance certificates, feasibility studies and project documentation based on standardised methodology and processes. The PPP energy efficiency services must be performed based on the standardised EPC



model.

## Step 2 - Publication of Call for Tenders

In selecting a PPP contractor, the procedure of competitive dialogue is used for selecting the most economically advantageous bid solutions.

## Step 3 - Invitation to participate in competitive dialogue

In the first stage of CD, in compliance with the terms set out in the public tender, the contracting authority selects candidates with which it conducted a dialogue at determining and defining the funds and the most appropriate solutions to satisfy the aims and requirements of the public partner in the second stage of the procedure. In the CD the public partner discusses with the selected candidates all aspects of the PPP/EPC project and solutions proposed, until it finds solutions that correspond with its aims and requirements.

## Step 4 - Invitation to submit final tender

After the dialogue concludes, the contracting authority notifies the candidates that have participated in the final stage of the dialogue, and calls upon it to submit tenders drawn up to take into account the solutions presented and defined during the dialogue. The final tenders contain all elements required and necessary for implementing the PPP/EPC project.

## Step 5 - Contract signature

The contracting authority assesses received tenders on the basis of criteria set out for the assessment of tenders in the public tender and awards the PPP/EPC concession to selected candidate/concessionaire.

**Table 10 An example of PPP EPC project timescale**

Assessing the possibilities for PPP – Project fiche	June 2016
Call to promoters	August 2016
Promoter submits application of interest in operating the PPP	September 2016
Public Private Partnership Act adopted by the Municipality Council	January 2017
Public call for tenders - Granting a service concession for the EPC project »Deep energy renovation of the Primary School and the Health Center«	February 2017
Competitive dialogue	June 2017 – July 2018
Invitation to the bidders to submit final tenders	August 2018
Application for grant funding	September 2018
Award of energy efficiency services concession	October 2018
Concession contract signed	November 2018
Deep renovation	March 2019 – October 2019
The PPP EPC project operation / guarantee phase (15 years)	November 2019 – October 2034

### 7.4.2 Roles in the procurement procedure preparation and implementation

The complete responsibility for preparation of procurement documents and procurement procedure lies with the public partner. The “public partner” is the state or a self-governing local community, which establishes a PPP in which it also grants the right to the private partner to perform EPC or ESC service concession.

It is common practice for a facilitator, usually local energy agency or specialised experts, to support the public partners

throughout the concession award process (preliminary procedure assessing whether EPC or ESC service can be carried out as a PPP, instrument establishing PPP, public procurement procedure, concluding contracts).

### 7.4.3 Criteria and methodology applied to select the winning tender

The current EPC market development in the Slovenian public sector is underpinned by the Operational Programme for the Implementation of the EU Cohesion Policy 2014-2020 (OP ECP) support scheme throughout the period 2016 -2020 and public clients are assisted by the Public Buildings Energy Renovation Projects Implementation Unit operating within the Ministry of Infrastructure. In order to reach a higher energy cost baseline as a prerequisite to improve feasibility of EPC projects subject to high transactional cost, the OP EPC support scheme stimulates pooling of smaller buildings energy renovation projects. The minimum investment range of EPC project(s) in the framework of that scheme is set to EUR 750,000. (Stanicic 2018)

Investment support, which grants up to 40% of eligible costs, primarily aims to encourage the combination of public and private financing strands via EPC and PPP.

#### Conditions

The EPC project must demonstrate compliance with the following conditions to be eligible for investment support:

- the public partner has performed a preliminary procedure, in line with the PPP Act, based on which the decision is made to operate a PPP EPC project through the energy efficiency service concession;
- the PPP EPC project is designed as a comprehensive energy renovation of the public building(s);
- only part of the investment that contributes to required and guaranteed level energy end-use savings and use of RES is supported;
- buildings have undergone investment grade energy audits and have energy performance certificates;
- a measurement and verification plan has been prepared;
- the investment is over 750,000.00 € excluding VAT;
- sources of finance are identified and the 'funding gap method' was used to demonstrate the financing needs and proportionality of the state aid foreseen to be granted to the EPC project; private financing should be more than 50%;
- in the case of building(s) co-ownership an owners' agreement on co-financing and implementation of the EPC project is put in place;
- municipalities should have an adopted Local Energy Concept. (Ministry of Infrastructure of the Republic of Slovenia 2018)

#### Requirements

Beside common provisions of the Cohesion Fund there are some specific requirements, that are included in the invitations to tender and must be fulfilled:

- the applicant/beneficiary must ensure that, in the event that the EPC provider is also an energy distributor and/or retail energy sales company which sells energy to energy users, the energy savings that result from the energy efficiency measures implemented and are subject to co-financing should not also be taken into account under the national energy efficiency obligation scheme;
- in the case that ELENA (EIB, EBRD) funds have already been received for the costs of preparing PPP EPC project documentation necessary for applying for the public calls, these funds are considered as a non-eligible expense (Ministry of Infrastructure of the Republic of Slovenia 2018)

## Award criteria

The proposed projects that fulfil the prerequisite eligibility conditions are assessed on the basis of a set of award criteria. The criteria are divided into three award sets defined by sub-indicators and a supplement for cultural heritage buildings:

- Energy efficiency (weight 50%)
  - The ratio between the annual final energy savings and the energy renovated building(s) area, which must be at least 30 kWh/m<sup>2</sup>/year, otherwise the bid is rejected, (sub-weight 80%)
  - The ratio between additional production of energy from RES and the final energy consumption after energy renovation of building(s), (sub-weight 20%)
- Cost efficiency (weight 35%)
  - The ratio between the annual final energy savings and the value of the PPP EPC eligible costs, which must be at least 15%, otherwise the bid is rejected, (sub-weight 100%)
- Contribution to social change and raising social awareness (weight 15%)
  - The ratio between PPP EPC 'cohesion operation' investment cost without VAT and total 'cohesion operation' investment cost, (sub-weight 30%)
  - The 'cohesion operation' investment cost without VAT, which must be at least EUR 750,000, (sub-weight 50%)
  - Setting up electric vehicle charging station(s), yes/no, (sub-weight 20%)
- Specific award criteria for buildings of cultural heritage considering "virtual energy savings" of measures which, due to the protection of cultural heritage, cannot be fully or partially implemented, ("annual final energy savings" = "actual annual final energy savings" + "virtual annual energy savings") (Ministry of Infrastructure of the Republic of Slovenia 2018)

**Table 11 Weightings of award criteria**

Award set / Sub-indicator	Weight	Sub-weight	Max. no. of sub-points	Max. no. of points
<b>A. Energy efficiency and RES</b>				
1. The ratio between the annual final energy savings and the energy renovated building(s) area	0.50	0.80	100.00	40.00
2. The ratio between additional production of energy from RES and the final energy consumption after energy renovation of building(s)		0.20	100.00	10.00
<b>TOTAL A</b>	<b>0.50</b>	<b>1.00</b>	<b>100.0</b>	<b>50.00</b>
<b>B. Cost efficiency</b>				
1. The ratio between the annual final energy savings and the value of the eligible PPP EPC costs	0.35	1.00	100.00	35.00
<b>TOTAL B</b>	<b>0.35</b>	<b>1.00</b>	<b>100.00</b>	<b>35.00</b>

Award set / Sub-indicator	Weight	Sub-weight	Max. no. of sub-points	Max. no. of points
<b>C. Contribution to social change and raising social awareness</b>				
1. The ratio between PPP EPC 'cohesion operation' investment without VAT and total 'cohesion operation' investment cost	0.15	0.30	100.00	4.50
2. The 'cohesion operation' investment cost without VAT		0.50	100.00	7.50
3. Setting up electric vehicle charging station(s)		0.20	100.00	3.00
<b>TOTAL C</b>	<b>0.15</b>	<b>1.00</b>	<b>100.00</b>	<b>15.00</b>
<b>TOTAL A + B + C</b>				<b>100.00</b>

#### 7.4.4 Advantages in comparison to Competitive procedure with negotiation

The procedure is prescribed by the EPC/ESC framework legislation (PPP Act) and service concession type selected. There are no identified advantages when compared to CPN.

## 7.6 Open procedure – UK

**Type of the procedure:** Single stage open procedure (followed by restricted mini competitions)

**Type of the EES procured:** EPC

There are four major Energy Performance Contracting frameworks in the UK that have been procured for use by Public Sector Authorities.

- **RE:FIT** – used primarily by local authorities (municipalities), but also by some public hospitals (NHS) and higher education institutions.
  - RE:FIT London
  - RE:FIT England
  - RE:FIT Cymru (Wales)
- **NDEEF - Non-domestic energy efficiency framework (Scotland)** – used primarily by local authorities to date
- **The Carbon & Energy Fund (CEF)** – used primarily by public hospitals (NHS) to date
- **Essentia Trading** – used primarily by public hospitals (NHS) to date

To form each of these frameworks several EPC providers are pre-procured via an OJEU tender. They are selected based on capability, pricing methodology and on their agreement to follow a standard project development process and standard contract template (that have been developed by the framework owner). After the framework is established, individual EPC projects are procured in a closed 'mini-competition' which is only open to pre-qualified EPC providers on the framework.

#### 7.6.1 Steps of the procurement procedure

- **Step 1: Procuring the Framework** – the Framework 'owner' / contracting authority (e.g. the Greater London Authority (GLA) and Local Partnerships LLP for RE:FIT) establishes an open procurement procedure in the OJEU to solicit tenders from EPC providers. The Framework 'owner' appoints several EPC providers that meet their criteria.

- **Step 2:** Developing a project – the Framework ‘owner’ typically has a delivery unit (internal or external) that is responsible for finding clients (municipalities, universities, hospitals etc.) and developing EPC projects for the EPC providers to bid on. This delivery unit acts in the facilitator role – helping the client to develop the project and tender dossier. They also provide technical assistance throughout project development and delivery.
- **Step 3:** Mini-competition – the project tender dossier (Invitation to Mini Competition) is sent out in a restricted procurement procedure to pre-qualified EPC providers on the Framework. EPC providers are provided with project specific energy / building data and are typically invited to take part in site visits. EPC providers submit their tenders and the client, with support from the delivery unit, selects a ‘preferred bidder’. In their tender, the bidder may have been asked to commit to a maximum project (capital) cost and a minimum guaranteed savings that they will offer.
- **Step 4:** Development Contract – the ‘preferred bidder’ will sign a development contract with the EPC provider (known as ‘call-off contract 1’ in RE:FIT) which covers the development of an Investment Grade Proposal (IGP) by the EPC provider. In RE:FIT the IGP is defined as a “detailed proposal that should include comprehensive coverage of the Energy Conservation Measures (ECMs) to be installed, capital costs, savings (including financial and tonnes of CO2), payback period and the measurement & verification (M&V) plan. The IGP should also detail how and when the Service Provider proposes to install the identified ECMs.” The process of developing the IGP typically involves detailed site audits and data analysis, initial design and competitive procurement of individual ECMs. The development of the IGP has an associated cost which is typically paid as part of the service fees after signing of the EPC contract. However, if the EPC service provider has not been able to achieve a final project within the maximum project cost and minimum guaranteed saving thresholds committed to in the bid then the client does not have to pay for the IGP and can return to the second highest scoring bidder to undertake the IGP. If the client decides not to proceed with the EPC contract for any other reason, then it is liable to pay the EPC provider for the agreed IGP cost.
- **Step 5:** EPC Contract – once the IGP has been accepted the parties agree the EPC contract based on the framework template contract. This contains details of the guarantee value and reconciliation mechanism as well as other contractual terms required for the delivery of the service. The IGP may be appended as a schedule to the contract or key information extracted to include in the contract. Where the project focusses on a set of initial construction activities the parties may focus the EPC contract on the ongoing services (guarantee, M&V, operation & maintenance etc.) and agree a separate works contract for the initial construction works.

### 7.6.2 Roles in the procurement procedure preparation and implementation

- Framework Owner / Central Contracting Authority – this organisation sets up the framework on behalf of several contracting authorities that may wish to procure EPCs. For example RE:FIT was originally set up by the Greater London Authority for use by the 33 municipalities and other public sector organisations within London. The framework owner develops standard project development and procurement processes and a template contract. They run an open OJEU tender to select EPC providers to sit on the framework. They may also engage with finance providers as they can act as an aggregator to access more cost-effective financing. The framework owners / central contracting authorities are as follows:
  - **RE:FIT** – The Greater London Authority (London) and Local Partnerships (the rest of England and Wales). Procured via the Crown Commercial Service.
  - **NDEEF** – The Scottish Government
  - **CEF** – Countess of Chester Hospital NHS Foundation Trust
  - **Essentia** – Essentia Trading Ltd. which is owned by Guy’s and St Thomas’ NHS Foundation Trust.
- Project Delivery / Support Unit – the framework owner typically has an ‘in-house’ or outsourced support unit that acts in the facilitator role and comprises of procurement, project management and technical experts. They also perform marketing and business development functions to find public sector clients to use the framework. Once a client is engaged they will support them in identifying a project and establishing the high-level business case. They will then support the client with developing the tender specification and dossier to run the mini competition, and thereafter support them with tender evaluation and selection of the preferred bidder. The support unit will continue to offer support through the development contract and signing of the EPC contract through to delivery of the service.

- Contracting Authority – the Contracting Authority (client) is ultimately responsible for the procurement process from the mini competition stage onwards, but with support from the support unit.
- EPC Provider – EPC providers respond to the framework tender and, if selected, have the option to respond to invitations to mini-competitions. Once selected they lead the development of the investment grade proposal.

### 7.6.3 Criteria and methodology applied to select the winning tender

**Framework tender (to pre-select EPC providers)** - Please see an example of criteria for the RE:FIT 3 tender:

The most economically advantageous tender in terms of

1. Project management (weighting 15)
2. Analysis and design (weighting 15)
3. Installation phase (weighting 15)
4. Performance delivery (weighting 15)
5. Financing (weighting 5)
6. Achieving strategic goals and wider benefits (weighting 5)
7. Pricing approach (weighting 30)

**Mini-competition (to select a framework EPC provider for a particular project)** – Typically, similar criteria to the Framework tender will be used but the focus will be more project specific. EPC providers will be required to provide outline details of the Energy Conservation Measures (ECMs) that form their solution along with costs, savings and paybacks, also project specific project management, service and M&V proposals. In some cases, the EPC provider will be required to commit to a maximum project (capital) cost and a minimum guaranteed saving that they will offer.

Whilst some of the content of response may be – to some extent – similar to the response to the Framework tender the EPC provider is now selling themselves to the Contracting Authority rather than the Framework owner. EPC providers will often provide client specific case studies and examples of documentation from similar projects in the past.

### 7.6.4 Advantages in comparison to Competitive procedure with negotiation

The main benefits of the procurement frameworks are as follows:

- Only one OJEU level tender is required to cover several projects. This reduces the administration burden for public sector clients.
- The framework owners are often seen as trusted intermediaries by public sector clients as they are run by other public sector organisations.
- Standardised project development, procurement and contract templates reduce burden and project development costs for clients and EPC providers.
- Expert facilitation is provided as part of a turnkey package.

## 7.7 Open procedure - Slovakia

**Type of the procedure:** Single stage open procedure (in accordance with the Public Procurement Act 343/2015)

**Type of the EES procured:** facilitator and provider for both EPC and ESC

### 7.7.1 Steps of the procurement procedure

In case of EPC project, two tenders are required. Firstly, an EPC facilitator is selected in a first public procurement. Secondly, the EPC facilitator prepares documentation and supports the client in organising the second public procurement to select an EPC provider / ESCO.

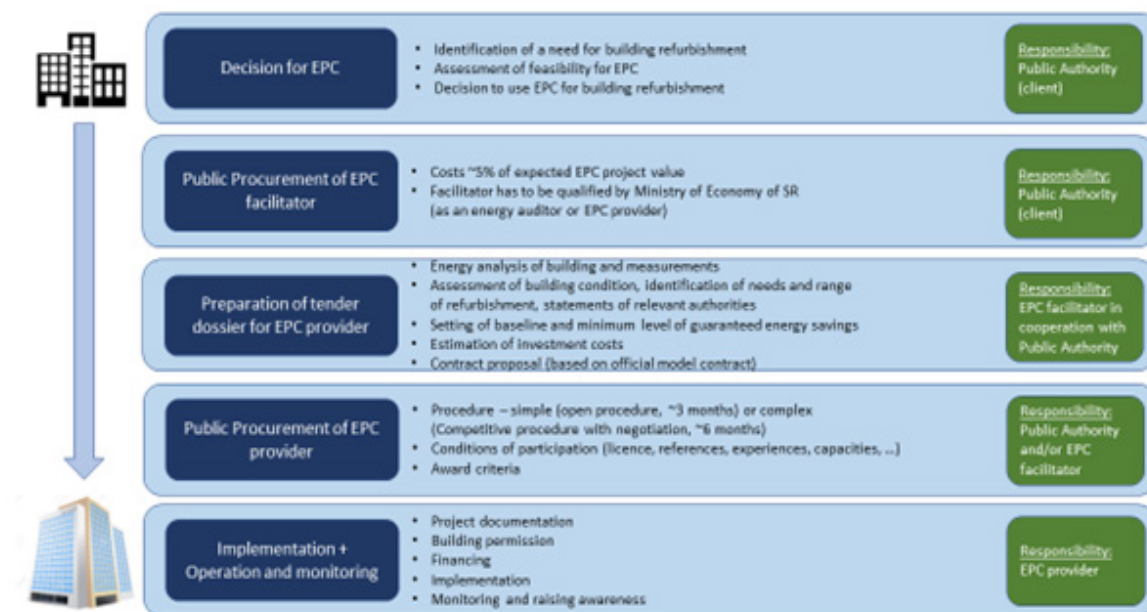
The tender notice and tender dossier are published by the client on the registered website of the contracting authority.

In public procurement of an EPC provider, the achievement of energy savings as such is procured (thus “result”/service), not a specific technical solution.

The ESCO should prepare an offer based on the mandatory functional and performance parameters of the EPC project. These are usually part of tender dossier as “Description of the contract subject”. Additionally, technical analyses of the current status made by EPC facilitator should be attached as annex in tender dossier. However, for interested ESCOs it is possible and advised to visit the site/s in the EPC project in order to obtain data for the preparation of their offer.

The tender dossier specifies the scope of energy efficiency improvement measures and minimal amount of total annual savings that the offer needs to cover. The EPC contract template is part of the tender documents and the tenderer is required to accept the wording of this contract. Each ESCO’s tender must be delivered in closed envelopes before the deadline for tenders’ submission specified in tender notice.

**Figure 2 Scheme: EPC preparation and implementation process**



Source: Strategy for wider development of Energy Performance Contracting in public sector (2018)

### 7.7.2 Roles in the procurement procedure preparation and implementation

The role of an EPC facilitator in public sector EPC projects has recently been outlined in the document “Strategy for wider development of Energy Performance Contracting in public sector”. Section 2.2 declares that “after decision to use EPC, the public authority must employ a professional independent facilitator to prepare technical analyses and other documentation needed for public procurement of ESCO.”

Description of obligatory outputs delivered by EPC facilitator as stated in strategy:

- Energy analysis of buildings
- Technical condition of building and identification of needs and modernisation extent

- Setting of baseline conditions and guaranteed savings
- Expected investment costs
- Contract proposal based on national model contract

Description of possible outputs delivered by the EPC facilitator (or alternatively executed by client):

- Type of public procurement (open tender or competitive procedure with negotiation)
- Conditions of participation (licence, references, experiences, capacities, ...)

### 7.7.3 Criteria and methodology applied to select the winning tender

The evaluation is focused on the most economically advantageous offer.

The award criteria can be:

#### 1. Price for a unit of guaranteed savings

The assessed value is then the coefficient of economic feasibility  $B / A$ , where:

Value A = Total annual savings (amount of guaranteed and additional savings)

Value B = assessed total price of the project

The successful tenderer is the one whose offer gives the lowest value of the economic efficiency ratio.

#### 2. Weighted criteria system

According to the "Strategy for wider development of Energy Performance Contracting in public sector", there are two possible approaches to evaluate tenders:

1) Lowest price per unit of guaranteed energy savings.

2) Use of a weighted criteria system, which includes a higher weight (55%) given to the volume of guaranteed savings and a lower weight (45%) to the total price that the public body pays to the ESCO when the guaranteed savings are achieved. The evaluation criteria can also include the quality of the entire project, e.g. non-measurable parameters such as the appearance of the modernised building, safety, environmental safety, etc.. A broader reflection of the project quality such as this is recommended and would also allow for application of the QualitEE technical criteria.

### 7.7.4 Advantages in comparison to Competitive procedure with negotiation

An open procedure is commonly used by public authorities, and the process is well-known as opposed to the CPN. It is sometimes difficult to convince public authorities to change the process of procurement they commonly use. In this case, the open procedure is usually the easiest place to start:

- Could be more appropriate model for emerging EPC markets.
- Suitable for smaller, simpler projects - a cheaper and easier process.
- Highly qualified and skilled consultant is required.

Both procedures (open and CPN) are officially recommended for tendering EPC by the Ministry of Economy of the Slovak Republic but only the open procedure has been used in practice so far. However, application of CPN is expected with market development and increase of project aggregation as this procedure can offer better, more complex solutions and can reflect more qualitative aspects of the project.



## 7.8 Open procedure – Greece

**Type of the procedure:** Single stage open procedure

**Type of the EES procured:** EPC, ESC and all other EES

Regarding procurement procedures, Greece has fully harmonised its legislation with the relevant EU Directives. Therefore, it is now possible to publish a tender for a competitive procedure with both negotiation and competitive dialogue.

However, a significant difficulty is that most contracting authorities have very few, and sometimes no employees who are experienced and competent in Energy Performance Contracting.

Also, negotiation and competitive dialogue are procedures that are very new to the Contracting Authority employees and they are therefore very reluctant to adopt them as they consider them too complex for smaller budget projects which is mainly the case for energy efficiency in buildings.

The negotiation procedure has never been used in any type of public project Tender, whilst the competitive dialogue procedure has only had limited use in very large-budget Public Private Partnerships (i.e. the construction of highways, the construction of solid waste management sites etc.) and not in energy efficiency projects.

Another considerable difficulty for contracting authorities is that, due to the financial situation in Greece, most contracting authorities do not have available funds to subcontract to an experienced facilitator who could provide them with valuable technical support during the implementation of a tender with a negotiation or competitive dialogue. Furthermore, for reasons of transparency and equal competition, even if the Contracting Authority has the necessary funds, it would have to publish a Tender for a services contract in order to subcontract the Facilitator. This would further delay the whole procedure.

Due to all of the aforementioned reasons, Contracting Authorities seem to prefer the option of a **single-stage procedure** for the award of an energy services contract. This has been very successfully implemented by many municipalities for street lighting projects (mainly concerning the installation of new, LED lighting fixtures and wireless smart-city control systems).

For energy efficiency in buildings, only one (1) energy performance contracting project has been implemented in Greece in the public sector. This project was implemented at the CRES central office building and the contracting authority was CRES. However, this is not a very representative case study for the public sector, as the CRES employees are very knowledgeable in energy efficiency matters and energy performance contracting, unlike the majority of the public sector employees.

### 7.8.1 Steps of the procurement procedure

The negotiation and competitive procedure has never been used for energy efficiency services projects.

### 7.8.2 Roles in the procurement procedure preparation and implementation

The contracting authority is responsible for and prepares all the procurement documents and procurement procedures.

### 7.8.3 Criteria and methodology applied to select the winning tender

According to the Greek legislation, in harmonisation with the European Directives, weighting of criteria is a possibility. However, the contracting authority employees prefer not to use them as they introduce a certain level of subjectivity (i.e. particularly in the allocation of the weighting). They prefer to use objective criteria for the selection because they cannot be accused of bias. Therefore, they prefer to use the following selection criteria in the single-stage process:

#### Step 1: Eligibility criteria of the Contractor.

These are PASS-FAIL criteria. If the Contractor does not comply with all of the criteria, then they cannot proceed to step 2 of the evaluation procedure.

## Step 2: Technical criteria of the proposal.

These are PASS-FAIL technical quality criteria. If the Contractor does not comply with all of the criteria, then they cannot proceed to step 3 of the evaluation procedure.

## Step 3: Financial criterion of the proposal.

This is a single weighted-cost criterion. The proposal with the lowest offer is awarded the contract. The criterion is the following:

$$\text{Financial Criterion } (\text{€}/\text{kWh}) = \frac{C(\text{€})}{E(\text{kWh})}$$

Where:

$C(\text{€})$  = Cost of the energy service during the life cycle of the project. The cost of energy services is a sum of the cost of initial investment and the cost of repair and maintenance during the life cycle of the project. The life cycle of the project is defined in the Tender (for example, in street lighting project this is equal to 12 years).

$E(\text{kWh})$  = Energy saved during the life cycle of the project

Therefore, using the above, the proposal with the lowest cost per kWh of energy saved during a defined life-cycle is awarded the contract.

### 7.8.4 Advantages in comparison to Competitive procedure with negotiation

The CPN successfully applied in the developed markets for the EPC procurement could be also implemented in Greece in compliance with the existing legislation. However, it would require the following:

- The need for contracting authorities to subcontract technical support services to Facilitators.
- Experienced contracting authority staff in EPC for the evaluation of the proposals.
- Confident and experienced contracting authority staff so that they can justify the weighting criteria adopted.

Unfortunately, the aforementioned are not available at the moment in Greece and this is the reason why the negotiation and competitive dialogue procedures have still not been implemented.

## 8 CASE OF THE CZECH REPUBLIC: APPLICATION OF EUROPEAN TECHNICAL QUALITY CRITERIA IN EPC PROCUREMENT

Savings measures will be implemented in four buildings of the Academy of Fine Arts (AVU) in Prague as part of the energy performance contracting project. A contract with a selected energy service provider was signed at the end of 2018, while the installation of energy-saving measures began in May 2019.

This EPC project also provides feedback on the European guidelines for technical quality criteria for energy efficiency projects developed under the QualitEE project.

### 8.1 Energy saving measures

The AVU buildings selected for the implementation of energy-saving measures within the EPC project are protected buildings, and therefore the planned reconstruction of the building envelope had to be discussed with the National Heritage Institute. The client sought to reduce its energy consumption both by technological measures and possibly by replacing obsolete technologies with new ones. Based on the approval of the National Heritage Institute, building modifications, repair or replacement of windows and roof insulation on two buildings and other technical measures are being carried out:

- A new monitoring and control system common to all four buildings is being installed in the main building, while a measurement and regulation system (MaR) installed in each building separately.
- Most of the savings result from building modifications (especially insulation and draught proofing) and cost-effective lighting measures (replacement of selected sources with energy-saving LED sources).
- A feature of this EPC project is the installation of an air-conditioning unit in the Modern Gallery of the AVU, which allows for precise temperature and humidity stabilisation in some rooms (heating, ventilation, and air-conditioning system – HVAC). Such stabilisation is necessary to preserve the paintings in the gallery.

### 8.2 Procurement procedure

The initial negotiations and preparation of the project started in autumn 2017. The public procurement notice was launched at the beginning of 2018 and the procurement procedure was conducted in a negotiated procedure with publication. Achieving a minimum of 30% savings was technically challenging, which was why, despite four energy service providers participating in the review, only two submitted a preliminary tender. After three rounds of negotiations in which tenderers gradually improved their tenders, they were invited to submit a final tender.

Both submitted final tenders had a similar score after the evaluation, although their content differed. While one tender had lower savings and lower costs, the second tender had higher savings at higher cost. After the final evaluation of the final tenders, ENESA's tender with higher savings won. This will allow the client to achieve even greater savings after the end of the contract, as most savings measures have a lifetime longer than the 10-year length of the contract.

An application for financial support from the State Environmental Fund (SEF) was submitted during the tender. The expected subsidy was included in the tender dossier so that the contracting authority could request a minimum of 30% savings on the baseline energy consumption. For this reason, after the qualification requirements were evaluated, the project was put on hold for a quarter of year while the client awaited confirmation of the subsidy amount from the SEF.

## 8.3 Savings guarantee

The winning tender guarantees the client energy savings of 33% and cost savings of over CZK 3 million per year. In particular, the service provider will achieve this savings by reducing heat consumption by 2,526 GJ and electricity consumption by 391 MWh per year. It will further reduce water, natural gas and some other operating costs.

The cost of energy services will be gradually covered by annual cost savings over the 10-year EPC contract between 2020 and 2029. Over the 10 years of the contract The EPC provider guarantees the contractual annual amount of savings and must fully compensate any deficit. Over the whole period, the guaranteed cost savings will reach more than CZK 30 million, which constitutes about 33% of the overall costs of energy, water and other related costs. The client will use this amount to cover CZK 30 million in service costs. The total price of the service provided within the EPC project will exceed CZK 50 million, of which approximately CZK 20 million will be paid by the SEF subsidy. The total cost of the service includes regular energy management throughout the term of the contract.

## 8.4 Procurement process timetable

Step in the process	Actors	Timing
Commencement of work and initial negotiations	SEVEn & AVU	9/2017
Preparation of draft tender documentation, including a draft contract for the provision of energy services in both technical and formal terms, and preparation of the draft tender evaluation approach	SEVEn	10 – 11/2017
Discussion of the tender documentation with the contracting authority, comments, finalisation and approval by the contracting authority	SEVEn & AVU	12/2017
Discussing the Tender Documentation with the National Heritage Institute and obtaining permission to carry out construction modifications	SEVEn	12/2017
Publication of a procurement notice in the Public Procurement Bulletin, including the publication of qualification requirements (including a call for applications)	SEVEn & AVU	1/2018
Deadline for submitting applications and demonstrating qualifications	Tenderers	2/2018
Four tenderers met the required qualifications and received a decision including a written invitation to tender	SEVEn & AVU	3/2018
An application for a subsidy for energy-saving measures was submitted from the State Environmental Fund and the SFP pledged a grant after discussing the application and additional questions were answered.	SEVEn & AVU	3 – 6/2018
All the tenderers surveyed the buildings in question and raised several questions to which the facilitator and the contracting authority provided answers, which were also specified in the tender documentation.		
Two tenderers submitted their tenders by the submission deadline.		
(one tenderer did not submit on time and the other stated that the tender was too technically difficult for their capabilities)	Tenderers	7/2018
There were three rounds of negotiations with two tenderers, where some measures were specified to suit the contracting authority and at the same time the tenderers had to explain how to achieve guaranteed savings. Since painting is taught in the buildings, the client demanded above-standard illumination and lighting, which does not distort colours. These issues were discussed in the negotiated procedure.		
(Evaluation of tenders and initiation of 3 successive rounds of negotiated procedures)	SEVEn & AVU	8 – 10/2018
Decision on the choice of the most appropriate tender based on the evaluation of the final tenders in accordance with the pre-set criteria.	AVU	11/2018

Step in the process	Actors	Timing
Discussion, modification and signature of the final contract and its conclusion	SEVEn & AVU	12/2018
Preparation of implementation project documentation, discussion of administrative documents	Winning tenderer	1 – 4/2019
Start of installation of energy-saving measures according to the contract	Winning tenderer	5/2019
Start of the guaranteed savings period	Winning tenderer	1/2020
End of the guaranteed savings period and repayment of the investment	Winning tenderer	12/2029

## 8.5 Evaluation and ranking of tenders

### 8.5.1 Award criteria

The table below provides an overview of the award criteria selected and applied for evaluation of the submitted tenders. While in the first column there is a name of the award criterion or sub criterion, in the second column, there is an 'EU criterion' (relating to the QualitEE project's Guidelines to European Technical Quality Criteria for EES) to which this criteria corresponds. In the third column the applied weighting is listed.

Award criterion	EU criterion	Weighting
<b>A. Price</b>		35%
<b>B. Guaranteed savings (CZK)</b>	3-3 Amount of contracted guaranteed savings	45%
<b>C. Quality of technical design and other technical quality criteria</b>		15%
<b>C.1 Sub-criterion 1 Correctness of savings estimate</b>	3-4 Guaranteed savings achieved Ex-ante Preliminary assessment of attainability of guaranteed savings.	1.5%
<b>C.2 Sub-criterion 2 Adequacy of costs</b>	1-3 Adequacy of the derivation of recommended energy efficiency improvement (EEI) measures	1.5%
<b>C.3 Sub-criterion 3 Completeness and clarity of measures (analysis processing)</b>	1-2 Adequate data collection and analysis 1-3 Adequacy of the derivation of recommended energy efficiency improvement (EEI) measures	10.5%
<b>C.4 Sub-criterion 4 Other benefits like durability, reliability, compliance with operating requirements (user-friendly solution)</b>	5-3 ex-ante functionality of facility at the end of the contract  Duty to perform actions stated in the "proof" column shall be specified in the contract.	1.5%
<b>D. Amount of excess of the minimum level of the required savings</b>	3-3 Amount of contracted guaranteed savings	5%

### 8.5.2 Formula to rank tenders

Once the award criteria have been evaluated and scored, a specific formula has been used to rank tenders and to establish which tender should win the competition. To calculate which tender offers the best price-quality ratio, the client - contracting authority took into account the quality score and the price, both expressed in the form of indices. The method used has been indicated in the procurement documents. The formula for calculating the score of each tenderer is specified below. The formula gives a final mark out of 100 points. The tender with the highest mark was awarded the contract.

## 9 CASE OF BULGARIA: APPLICATION OF EUROPEAN TECHNICAL QUALITY CRITERIA IN ESC PROCUREMENT

The ESC project was implemented at a primary school, located in a small town near Sofia, where neither district heating nor a gas distribution network exist. In January 2019 the school was heated by a 35 year old hot water boiler on diesel fuel. The equipment was in poor technical condition, oversized, and inefficient. The latter, together with the high fuel price, leads to elevated variable heating costs.

The school does not have budget to invest in new equipment, and was therefore keen to launch a public procurement procedure for energy supply (thermal energy in the form of hot water), including replacement of the obsolete heat production equipment and change of the fuel (to CNG, which offers lower OPEX).

### 9.1 The Energy Supply Contracting service

The concept of the desired ESC service is signing a 5-year contract where the service provider:

- invests in design & installation of the new fuel supply and heat production equipment;
- delivers the fuel, maintains the equipment and supplies hot water (i.e. thermal energy) to the heating distribution system of the school for the duration of the contract;
- transfers the ownership of the equipment to the School at the end of the contract period.

### 9.2 Contract notice

The Contract notice, publicly launching the procurement procedure, was published by the School (the Contracting Authority) in both the national State Gazette and the Official Journal of EU in March 2019. The document contained key information about the subject of the supplies and services, timeline and terms, forecasted contract value, main relevant bodies, information where to find all procurement documents, and key information about the award criteria and selection criteria.

### 9.3 Technical specifications

The Technical specification includes a list and description of the technical activities to be conducted, the related obligations of the EES provider, and time schedule. In the considered case, some of these relate to the application of the technical quality criteria:

- Major energy consumption parameters of the ES service, which result from the technical analyses (under QC1), or related to the verification of energy supplied (QC4):
  - new fuel to be implemented: CNG (compressed natural gas);
  - required total thermal capacity of the new boiler(s): min 400 kW; max 600 kW;

- minimum capacity of the CNG storage: 2000 nm<sup>3</sup>;
- expected annual thermal energy consumption: 400 MWh (based on historical diesel use); while the technical solution should fit the range of annual thermal energy consumption within the range: min 250 MWh (note: based on detailed analysis of achievable energy savings); max 500 MWh;
- temperature regime of the hot water to be supplied: 80/60°C at outdoor temperature of 14°C (at the terminals of the heating installation);
- time-related consumption regimes (daily & weekly building occupancy, start/end of heating season).
- measurement method and location requirements: obligation to install a new ultrasonic heat meter with Qn = 25 m<sup>3</sup>/h, mounted on a pipe connecting the boiler and distribution collectors.
- Other technical details, relating to the quality of the EES, the quality of implementation (QC2), or asset value retention (QC5):
  - Responsibility for maintenance and repair of the newly installed equipment: Provider;
  - Responsibility for maintenance and repair of heating distribution: Client (school);
  - Deadline for new installations' commissioning and start of the energy supply: 15.10.2019;
  - Emergency reaction time for service provider interventions (in school working hours): 4 h, etc.
  - Obligatory compliance of the new installations with the applicable standards, statutory requirements for gas installation, pressurised equipment, etc.

## 9.4 Selection criteria

The selection criteria ensure that the tenderers are suitable to carry out the contract. In this ESC procedure, tenderers were required to:

- prove relevant past experience (energy supply or heat production with capacity > 116 kW);
- declare a minimum turnover from energy supply, heat production, or similar activities during the recent 3 years;
- demonstrate that they have personnel with professional certification to install and operate gas installations and hot water installations;
- present a valid ISO 9001 standard certification;
- present an insurance policy to cover risks during the installation/operation/maintenance activities during contract execution.

## 9.5 Specifications

Specifications should determine range of energy consumption level

## 9.6 Award criteria

In this ESC procurement, the predominant weight (90%) is assigned to the award criterion related to pricing. The remaining 10% is shared between two award criteria aimed at promoting tenders with enhanced savings and security of supply, respectively.

The table below provides an overview of the award criteria selected and applied for evaluation of the submitted tenders.

Award criterion	EU criterion concerned	Weighting
<b>Estimated annual service price (Pannua)</b>		<b>90%</b>
<b>Pf: Fixed Annual Price</b>		
<b>Pv: Variable Heat Price</b>	related to: QC3 (Savings)	
<b>Modulating burner (savings)</b>	related to: QC3 (Savings)	<b>5%</b>
<b>Security of supply (possible substitution of boilers)</b>	related to: QC5-1 (System availability) QC4-2 (Quality of energy supply)	<b>5%</b>

### 9.6.1 Price

The procurement documentation requires participants to offer a 2-component price of the procured EES, namely:

**P<sub>f</sub>**: a fixed annual price (BGN), (covering maintenance staff and materials, CAPEX payback, etc.)

and

**P<sub>v</sub>**: unit energy price (BGN/MWh), covering variable costs (mainly compressed natural gas))

The award criterion (assigned a weight of 90%) is the estimated annual price ( $P_{\text{annual}}$ ), calculated as:

$P_{\text{annual}} = P_f + P_v \times 400$  , where 400 [MWh] is the baseline annual heat consumption.

This award criterion structure was selected to promote the most economically advantageous offer that delivers the optimum combination of both low fixed costs, optimised CAPEX, and low energy price ( $P_v$ ).

### 9.6.2 Efficiency/Savings

The pricing formula above implicitly promotes the selection of tenders that provide high level of energy efficiency – since the variable heat price,  $P_v$ , depends on boiler efficiency.

Still, in order to guarantee low OPEX for the school after the end of the contract, an award criterion “Modulating burner” is evaluated using a 5% weighting. This means that tenderers that offer a technical solution with a modulating burner were awarded the additional 5%. Tenderers, relying on fixed (2 or 3 stage) burners were not awarded these 5%.

### 9.6.3 Security of supply

Award criterion “**Redundancy of boiler capacity**” was evaluated using **5% weighting**. It requires a commitment by the ESC provider to implement a technical solution with two or more new boilers, giving the total installed capacity of 400 kW, required in the technical specification. The objective was to encourage tenderers to offer a solution with higher reliability (despite the higher CAPEX).



## 9.7 Formula to rank tenders

The following formula has been designed to calculate the score of each tenderer, in order to rank tenders and to establish which tender should win. The tender with the highest score is to be awarded the contract.

$$Score_x = \frac{P_{annual,MIN}}{P_{annual,X}} \times 90\% + MB_X \times 5\% + BR_X \times 5\%$$

<b>X</b>	is an index identifying the specific tender;
$P_{annual,X}$	is the estimated annual service price (as calculated in 9.5.1) of tenderer X;
$P_{annual,MIN}$	is the lowest offered estimated annual service price (as calculated in 9.5.1);
$MB_X$	is a variable, given a value of "1" or "0", depending on whether tenderer "X" has ( $MB_X = 1$ ) or has not ( $MB_X = 0$ ) offered a modulating burner (as per 9.5.2)
$BR_X$	is a variable, given a value of "1" or "0", depending on whether tenderer "X" has ( $BR_X = 1$ ) or has not ( $BR_X = 0$ ) offered a solution with more than one boiler (see 9.5.3).

## 9.8 Draft contract

The draft contract contained clauses, which relate to the technical quality criteria (QC), as follows:

**QC1:** The contract refers to the technical specification/technical offer for the technical energy production/consumption parameters.

**QC2:** The contract refers to the technical specification for the provider's obligation to comply with the applicable standards, statutory requirements and official permit procedures (regarding both the initial implementation and the following service provision during the contract). It also obliges the provider to keep to the offered schedule for implementation and starting the energy supply.

**QC4:** The contract defines (with reference to the technical specification) the measurement and verification in terms of the methodology, location, units, frequency etc., together with the provisions for ongoing checks/verification of the heat meter. It also includes clauses, describing the actions (and penalties) in case certain parameters are out of specified ranges.

**QC6:** The contract describes the communication channels between the parties.

**QC9:** The contract defines key business model elements (part of QC9 sub-criteria) namely:

Ownership transfer: All new assets are to be transferred to the school at the contract end at a fixed value.

Energy price risk: Under the selected 2-component pricing scheme, it is handled as follows:

- the fixed component  $P_f$  is not modifiable during the contract;
- the risk related to the variable heat price  $P_v$  is to be shared between the parties, as:
  - $P_v$  is offered at a baseline CNG price [BGN/nm<sup>3</sup>]
  - $P_v$  shall be indexed on the basis of the CNG price, but only within 15% of the baseline CNG price.

Exit regulations: The contract lists the conditions for both sides to exit the Contract. It also contains (in Appendix) the

amounts due by each party in case of exit on its side. These amounts are defined as a function of the offered fixed price Pf and the number of months, remaining until the end of the contract.

Right of access: The contract defines the rights of access of the service-provider's representatives to the premises of the School.

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## THE QUALITEE PROJECT

Funded by the **EU's Horizon 2020 programme**, the QualitEE project aims to increase investment in energy efficiency services in the building sector within the EU and improve trust in service providers. To achieve these aims, quality assessment criteria and business cases for quality assurance schemes have been developed.

The QualitEE consortium comprises **12 partner organisations covering 18 European countries**, an expert advisory board including the European standards body CEN/CENELEC, and 59 supporters from major financial institutions, government bodies, trade associations and certification bodies.

## PROCUREMENT HANDBOOK FOR ENERGY EFFICIENCY SERVICES

The procurement handbook for energy efficiency services (EES) provides guidance to encourage the application of quality criteria within the procurement phase of a project.

The handbook aims to improve knowledge of stakeholders both on the demand side of EES, including public and private clients and facilitators, as well as energy services providers on the supply side of EES.

It provides both general background information and detailed advice on the application of quality criteria in Energy Performance Contracting (EPC) and Energy Supply Contracting (ESC) procurement.

It also offers an interesting overview of approaches to the procurement of energy efficiency services (EES) in several European countries, as well as covering the relevant legislation and recommended procurement procedures, evaluation criteria and methodology.

This procurement handbook has been developed to sit alongside financial guidelines and guidelines for European technical quality criteria to provide a toolkit for the procurement and quality assessment of energy efficiency services.

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