



Which tools do we need to galvanise
demand in Energy Efficiency Services?

Technical and financial
quality assessment criteria

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Stakeholder groups for EES in the building sector

✓ Public and private clients

- Schools and universities
- Hospitals and health care
- Hotels
- Large scale multi-family houses
- Etc.



✓ Energy service providers

- Energy Performance Contracting
- Energy Supply Contracting
- Operational Contracting
- Integrated Energy Contracting



✓ Financial Institutions





Handling interfaces through mutual trust



Innovation, best available technology, COP, η , ρ , λ , CO₂, GWh/a, kW, ...



€, €, €, €, €



Lacking trust as market barrier

The lack of trust is one of the main barriers for both EPC and ESC markets, according to the Quality survey results (Sept. 2017; available on www.qualitee.eu)

Figure 19 What are the main barriers to EPC business based on the activities of the last 12 months? (Percentage share of responses by providers and facilitators Sept 2017)

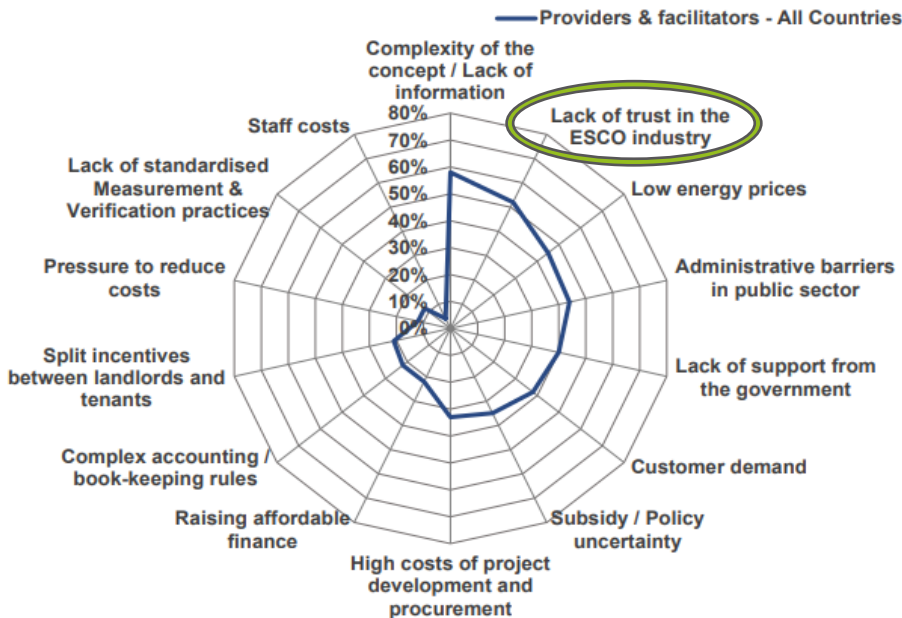
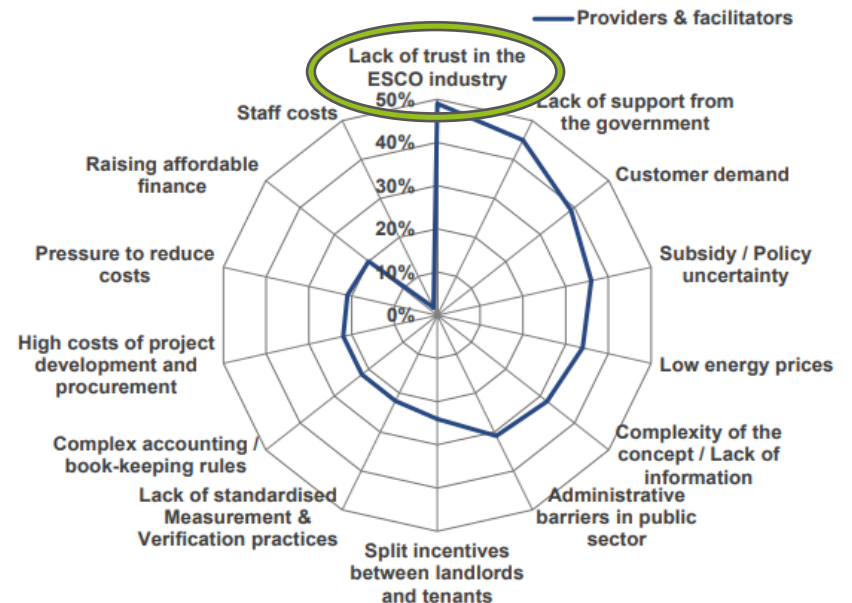


Figure 30 What are the main barriers to the ESC business based on the activities of the last 12 months? (Percentage share of responses by providers and facilitators Sept 2017)

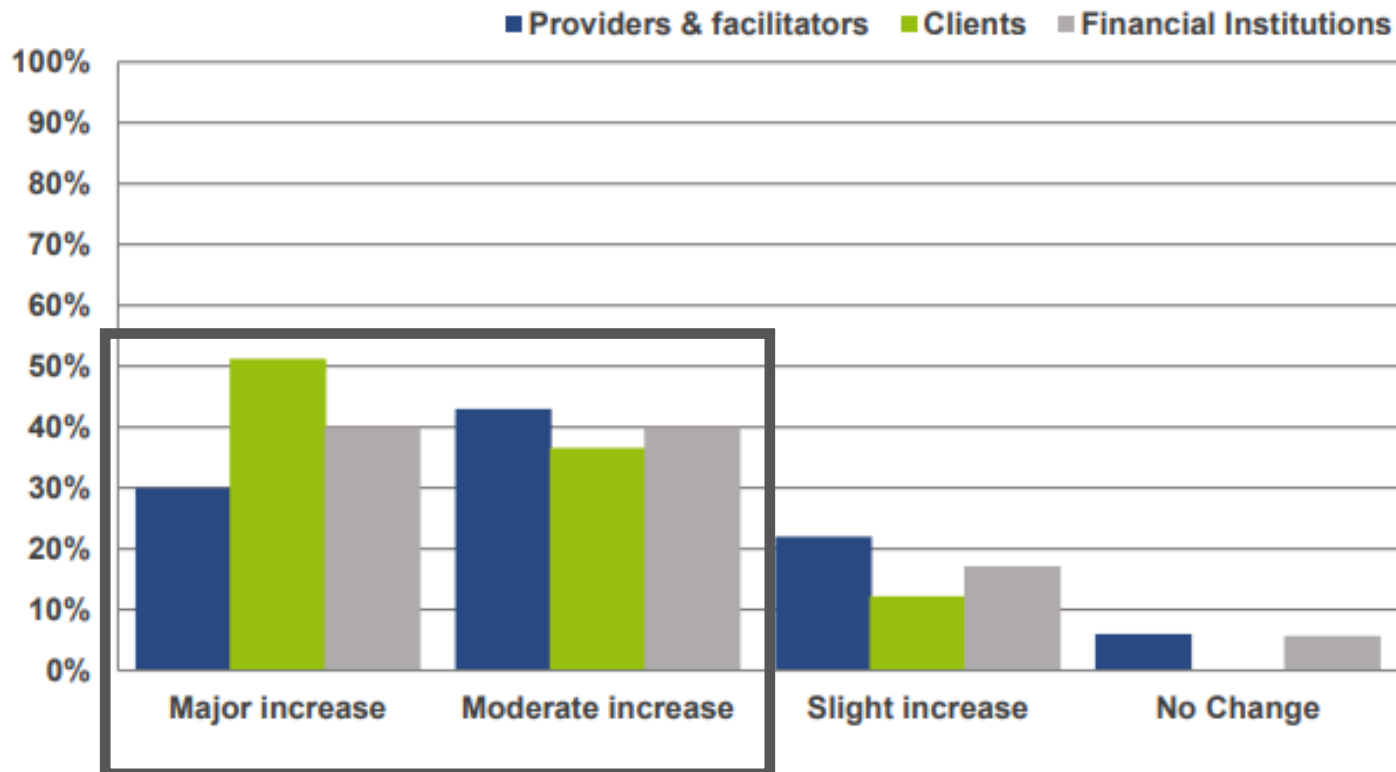


Note: Respondents may have selected multiple answers. The chart shows the proportion of respondent selecting each answer out of overall respondents to the question. Results therefore do not sum to 100%



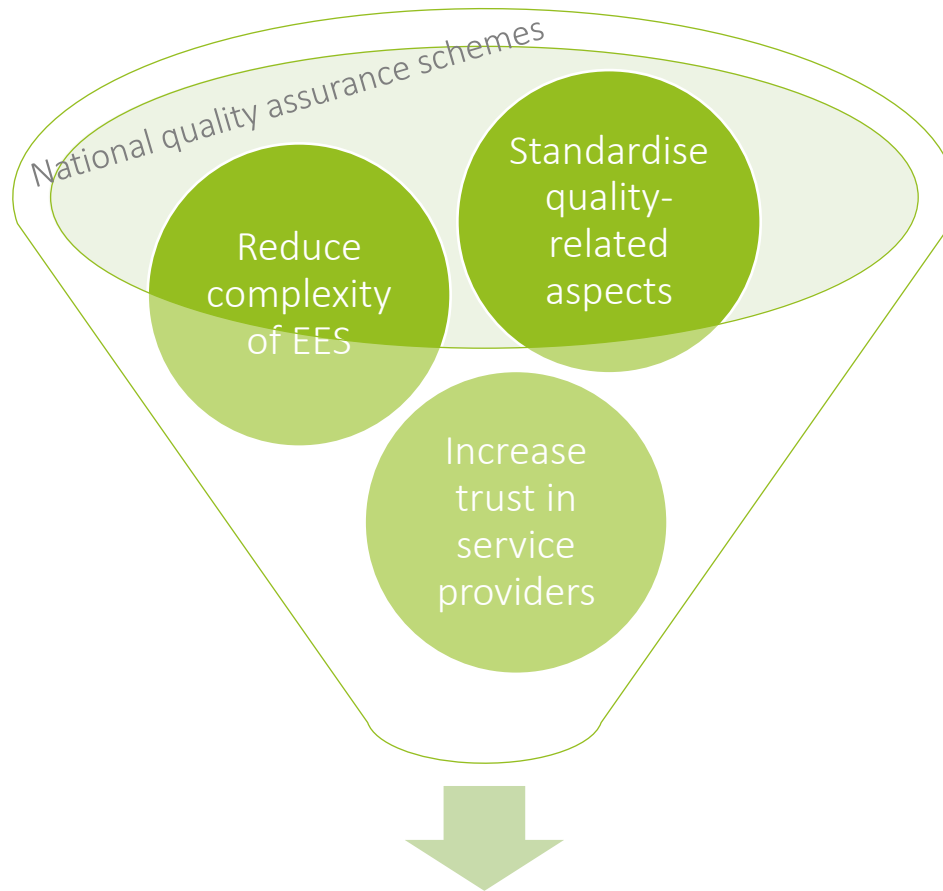
Perceived benefits of quality assurance

Figure 46 To what extent would a quality assurance scheme increase client trust in EPC/ESC services and providers? (Percentage share of responses by providers and facilitators; and clients¹⁹ Sept 2017)





Objectives of QualitEE project



Increase investment in energy efficiency services (EES) in the building sector



Quality assurance schemes to increase trust and reduce complexity of EES

Quality assurance



Quality Criteria
technical & financial



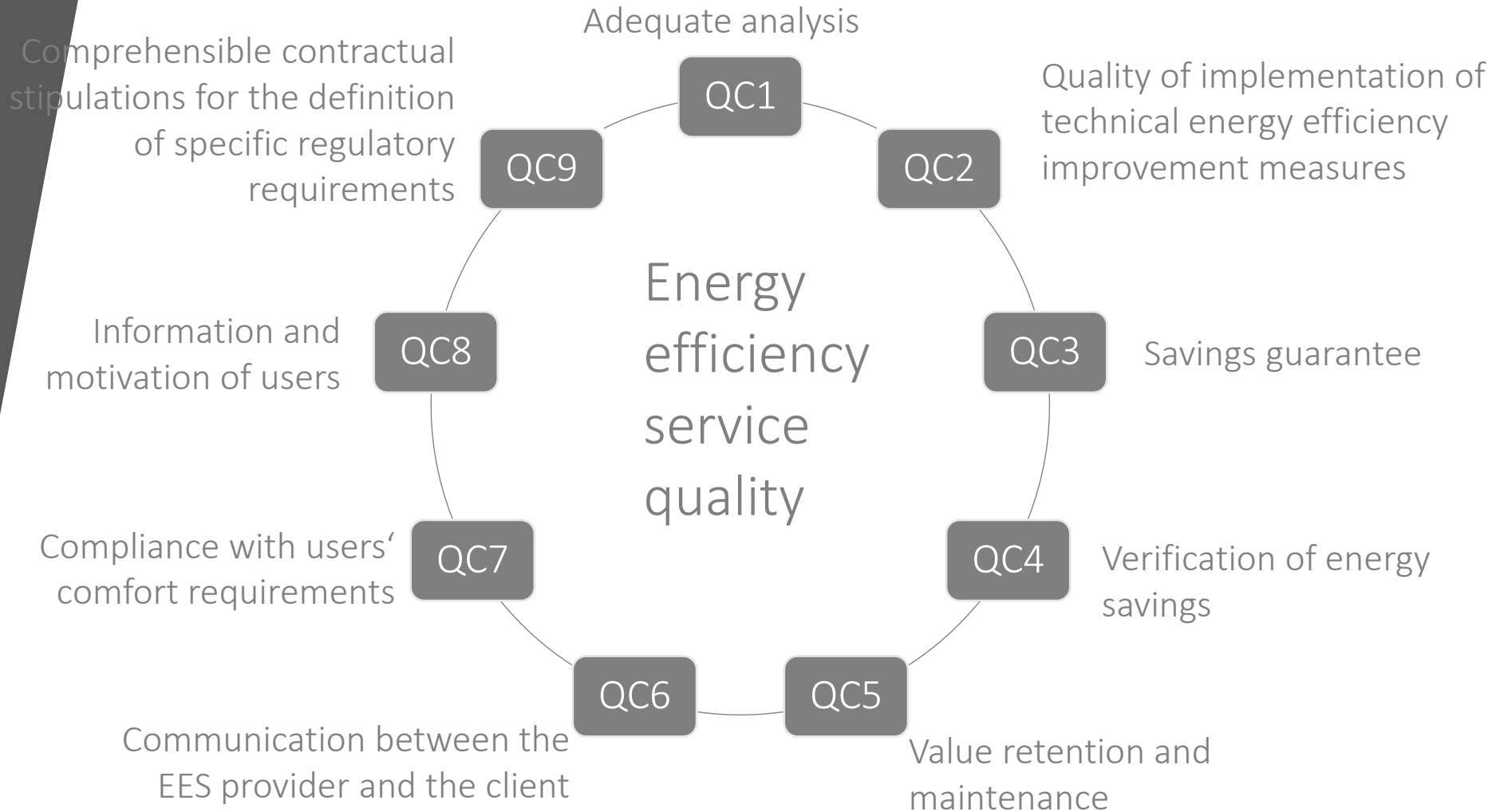
Common understanding and collaboration of stakeholders





Technical quality criteria for EES

Basis for the evaluation of quality in energy efficiency services and foundation of the national quality assurance schemes





Assessment criteria

QC 1	Adequate analysis
AC 1-1	Agreement on the process of energy analysis pursuant to EN 16247-1
AC 1-2	Adequate data collection and analysis
AC 1-3	Adequacy of the derivation of recommended energy efficiency improvement (EEI) measures
QC 2	Quality of implementation of technical energy efficiency improvement measures
AC 2-1	Performance of services in accordance with applicable standards, statutes and official permits
AC 2-2	On-schedule delivery
AC 2-3	Commissioning of services and documentation of services rendered
AC 2-4	Induction of users or operating personnel
AC 2-5	Ensuring the functionality of newly installed facilities after the end of the Contract
QC 3	Savings guarantee
AC 3-1	Dependency of remuneration on adherence with the savings guarantee
AC 3-2	Guaranteed savings achieved (only applicable to saving guarantee type 1)
AC 3-3	Adequate intervals for the verification of compliance with guarantee promise
QC 4	Verification of energy savings
AC 4-1	Application of a standardized method for the calculation of energy-savings
AC 4-2	Selection of the most appropriate approach to the verification of energy savings
AC 4-3	Clear definition of the baseline (reference consumption)
AC 4-4	Clear definition of the basis of adjustment of the energy savings calculation
AC 4-5	Transparency and agreement of M&V processes and related responsibilities



QC 9	Comprehensible contractual stipulations for the definition of specific regulatory requirements
AC 9-1	Ownership transfer
AC 9-2	Handling of energy price risk
AC 9-3	Insurances
AC 9-4	Exit regulations
AC 9-5	Legal succession
AC 9-6	Unhindered access rights and right of access
AC 9-7	Permissibility of different types of financing (Cession, Leasing, Forfeiting)
AC 9-8	Regulation on intellectual property rights

In total 9 Quality Criteria with 38 Assessment Criteria along the value chain of EES





Example AC 2-1

Assessment Criterion	Proof	Assessment	Comment
2-1 Performance of services in accordance with applicable standards, statutes and official permits	<p>Compliance with technical standards relevant for the implementation of technical measures, covering among others the following topics:</p> <ul style="list-style-type: none">▪ General provisions for construction services▪ Individual technical standards for those technical systems that are improved by the EES▪ Compliance with official permits that are relevant for the rendering of EES	<p><u>ex-ante:</u> (a) Does the Contract commit the EES provider to comply with the standards stated in the 'proof' column, with official permits and statutory conditions applicable to the object? (b) Does the Contract commit the EES provider to verify the official permits applicable to the object with respect to their relevance to the EES to be rendered?</p> <p><u>ex-post:</u> Were the standards, statutory conditions and official permits complied with while rendering the services?</p>	<p>A complete, exhaustive list of standards to be complied with cannot be compiled here due to the heterogeneity of EES. Furthermore, country-specific technical standards must be applied.</p>



Application of quality criteria to the **procurement process**

- ✔ Technical quality criteria give **guidance within the procurement phase** of a project – independent from selected procedure
 - Competitive procedure with negotiation
 - Competitive dialogue
 - Single stage procedure

- ✔ Criteria are applied at **different levels**
 - **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 that delivers the expected results and should therefore be awarded the contract.



Application of quality criteria to the **procurement process**

Table 4 Application of technical quality criteria in EPC procurement

			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 %
1-1	Agreement on the process of energy analysis pursuant to EN 16247-1	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	Adequate data collection and analysis	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	Adequacy of the derivation of recommended energy efficiency improvement (EEI) measures	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	Performance of services in	The Contract should commit the EPC provider to comply with the	F/C				TS	



Financial quality criteria for EES

- ✔ Establishment of a common understanding between service providers, clients and financial institutions for the assessment of the bankability of energy efficiency projects
 - What defines quality of an EES project from a financing point of view?
 - Which information is important at the interfaces between project sponsors and FIs
- ✔ Interlinkage with, but also distinction from Technical Quality Criteria
 - FIs do not need to know all technical details of a project
 - FIs need to understand how values are generated and secured in an EES project



Financial quality criteria for EES

✓ Selection of financial quality criteria (FQC)

- Is the cash flow generated through **reliable** energy savings? (How big is the performance risk?)
- What are the risks associated with **potential failure or bankruptcy of EES provider**?
- What are the risks associated with **potential failure or bankruptcy of the client** of the EES project?
- To which degree can the **technical equipment** be used for collateralisation?
- What role play **non-energy benefits** for assessing the bankability of EES projects?



Financial quality criteria for EES

- ✔ FQC 1: Quality of cash flow prediction
- ✔ FQC 2: Incentive structure for cash flow generation
- ✔ FQC 3: Exploitation of cash flows
- ✔ FQC 4: Value and exploitation of assets (technical equipment)
- ✔ FQC 5: Non-energy benefits of EES projects



FQC 1 Quality of cash flow prediction

☑ Cash flows are the result of energy savings

- main source for repayment
- energy savings cannot be measured
- energy efficiency \neq energy savings
- definition of baseline: What would have happened without the EES action?
- measurement and verification (M&V) concept

☑ Assessment Criteria

- Availability of M&V plan
 - Specification of standard used
 - Timing of M&V activities
 - Responsible stakeholders
- Clear definition of baseline
- Scenarios for worst, real and best case
- Application of best available technology



FQC 4 Value and exploitation of assets

✓ Parts of the technical equipment can be used as collateral, but conditions need to be fulfilled:

- technical exploitation: assets can be removed
- economic exploitation: assets can be sold
- legal exploitation: ownership of remaining assets

✓ **Assessment Criteria**

- Value of removable parts of technical equipment is defined in the project documentation
- Technical equipment can be used for different processes and branches
- Contract defines ownership



Summary

✓ What are quality criteria for?

- Quality criteria contain quality requirements for services or goods with reasonably defined characteristics

✓ How can they help me?

Client

- Help to specify needs
- Help to define requirements when procuring energy efficiency services
- Assessment of service quality during and after the energy efficiency service project based on project documentation

Provider

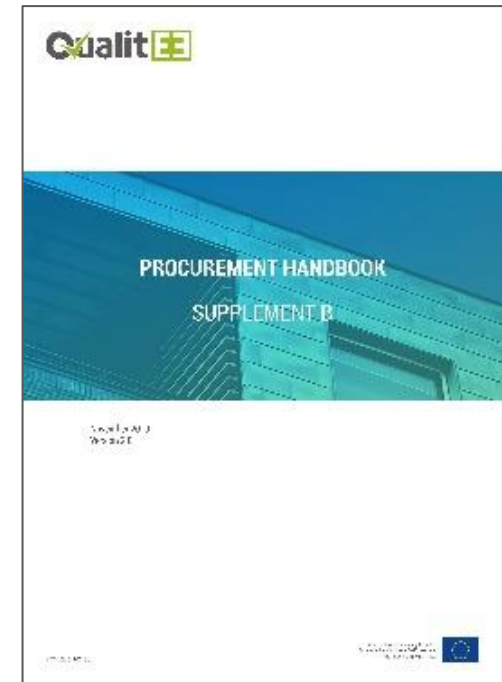
- Help to define and describe own services
- USP
- (Internal) assessment of service quality during and at the end of the energy efficiency service project
- Define internal quality standards for own services, use for internal quality management/continuous quality improvement
- Development of an internal procedure and service quality standard

Financial Institutions

- Differentiation between quality assured and non-quality assured projects
- Easier and more standardised financial appraisal of EES projects



Thank you



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