



Quality Certification for EPC services

Case studies from AT and CZ



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Transparense project

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www.transparense.eu

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Executive summary EN

The Transparense project aims at supporting the development of a trustworthy Energy Performance Contracting (EPC) market in Europe by creating European and national Codes of Conduct for energy services providers (ESCOs) and their clients

The EPC Code of Conduct introduces a high level of competence, objectivity and reliability in the EPC market. These are prerequisites of ESCOs qualification and certification schemes that enable institutionalisation of quality services in the EPC business.

In a first step this report provides an overview on the heterogeneity of energy efficiency services and their value added chain. In a second step generic questions are asked and answered with respect to quality assurance schemes of energy services in general. Also the results of a comprehensive market survey on most important quality certification schemes for EPC, energy services and other relevant schemes was conducted among Transparense project partners. It represents a link to the existing regulative and market-related framework and shows other existing quality certification systems in related sectors. Another unique element of this report is stipulated with two good practice examples, one from Austria and one the Czech Republic. These countries have advanced EPC markets and existing interest in quality certification among market actors. The Austrian case presents latest developments of quality criteria for energy services, whereas the Czech case proposes a practical implementation of the certification process for the energy service providers and facilitators (consultancies).

The report concludes with recommendations on quality certification and helps market actors to understand the nature of quality related aspects of energy services in general and EPC in particular. Also the report provides the reader with know-how about latest development of certification schemes across Europe.

Executive summary CZ

Smyslem projektu Transparense je podpora rozvoje a věrohodnosti trhu EPC (Energetické služby se zaručenou úsporou) v Evropě. Hlavním nástrojem k dosažení tohoto cíle je Evropský etický kodex pro EPC.

Etický kodex pro EPC přináší vysokou úroveň kompetence, objektivitu a spolehlivosti, které jsou základem pro systémy kvalifikace a certifikace firem energetických služeb (ESCO). Tyto

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systemy umožňují institucionalizaci podnikání v oblasti EPC, pro dosažení vysoké úrovně služeb.

První část této zprávy podává přehled o různorodosti služeb úspor energie a jejich řetězci přidané hodnoty. V druhé části zprávy jsou zodpovídaný obecné otázky týkající se systémů zajištění kvality u energetických služeb. Následně jsou představeny výsledky komplexního průzkumu trhu, který se zabýval nejdůležitějšími systémy zajištění kvality u EPC, energetických služeb a dalšími systémy. Tento průzkum, který byl uskutečněn s partnery projektu Transparense, představuje propojení s existující regulativní a tržní strukturou a poukazuje na systémy certifikace kvality v příbuzných oblastech. Dalším jedinečným prvkem této zprávy je uvedení dvou příkladů osvědčených postupů z Rakouska a České republiky. Tyto státy mají rozvinuté trhy EPC, přičemž aktéři operující na těchto trzích mají zájem o certifikaci kvality. Případová studie Rakouska prezentuje nejnovější vývoj procesu vytváření kritérií kvality.

Závěrečná část zprávy podává doporučení týkající se certifikace kvality a snaží se hráčům na trhu EPC pomoci porozumět podstatě aspektů, které souvisí obecně s energetickými službami a konkrétně s EPC. Kromě toho zpráva čtenáři přináší aktuální informace o vývoji systémů certifikace napříč Evropou.

1 Introduction on quality certification for Energy Performance Contracting services

1.1 Quality assurance and certification for energy services

The prevailing trend of energy service markets in EU shows a slow growth as identified by the Transparense Energy Performance Contracting (EPC) market survey for the last three years (Garnier 2013) and JRC survey for the last ten years (2014). However, there are considerable differences between mature markets and beginners markets. Besides the “traditionally” recognised barriers to the development of the ESCOs market, like low awareness and lack of information, financing problems, non-supportive procurement rules, performance risk, the financial crisis and economic downturn, etc., 44% of European Energy Service Companies (ESCOs) reported mistrust of the quality of energy services as one of the major barriers (Garnier 2013). Some of the reasons why energy service markets have not matured in many countries encompass lack of good quality of energy services, as well as absence of accreditation and standardisation systems.

Also Article 16 of the Energy Efficiency Directive (2012/27/EU) (or EED) refers to accreditation and certification schemes. *"Where a Member State considers that the national level of technical competence, objectivity and reliability is insufficient, it shall ensure that, by 31 December 2014, certification and/or accreditation schemes and/or equivalent qualification schemes, including, where necessary, suitable training programmes, become or are available for providers of energy services, energy audits, energy managers and installers of energy-related building elements (...)."*

In less developed energy efficiency markets, certificates may increase trust, for instance for the service provided. This could be developed at a national or regional level (EACI, 2011). Experiences from practice show that the provision of excellent services for adequate pricing is not self-evident. Therefore, energy service providers or EPC providers that are interested in long-term relationships with their clients need to provide adequate quality in order to acquire confidence.

In advanced energy efficiency markets a label or a certificate for the service provided may be seen as unique selling proposition (USP). A USP refers to aspects of the service which clearly distinguishes service from competition.

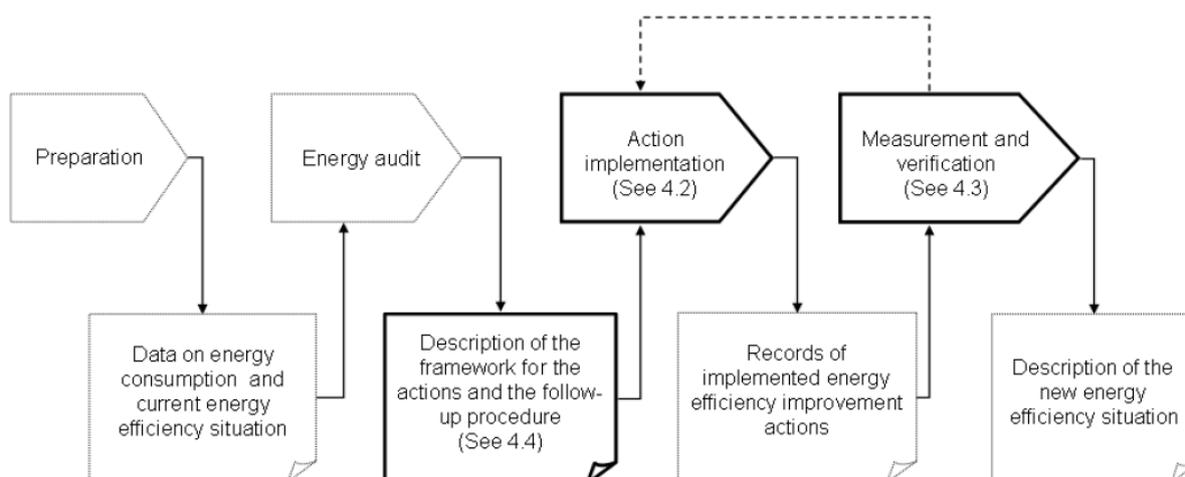
ISO 9000, ISO 14000 and ISO 50001 can constitute a meaningful preliminary validation various abilities. ISO promotes various international standards among industry and commerce. The ISO 9000 family addresses various aspects of quality management of a

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company. The ISO 14000 focuses on environmental management and the ISO 50001 specifies energy management systems. A company can be certified in conformance with ISO, but this does not guarantee the compliance, and therefore the quality, of end products and services.

On an European level the European body of standardization (CEN) has developed definitions and requirements for EES. The **European Standard** EN 15900:2010 about energy efficiency services may serve as a reference document for appropriate qualification, accreditation and/or certification schemes for providers of EES. It is written for customers and providers of EES. Figure 1 illustrates a typical EES provision process.

Figure 1: Typical energy efficiency service provision process according to EN 15900:2010



Against this background, this report

- describes the heterogeneity of energy services as one of the starting challenges when defining their quality;
- provides generic questions that emerge when quality assurance schemes of energy services are going to be implemented;
- presents an overview on existing frameworks across Europe for quality assurance and certification;

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- specifies the Austrian development about quality criteria for energy services by a working group of DECA, the Austrian Association of Energy Service Providers and e7 Energie Markt Analyse GmbH;
- presents proposal of establishment of the list of energy service providers certification of energy service providers and facilitators; the proposal have been developed by the Czech Association of Energy Service providers (APES) in co-operation with the Ministry of Industry and Trade ;
- and concludes with recommendations derived on the basis of various stakeholder workshops during the Transparensense project.

1.2 Objectives of the Transparensense project

The goal of the European project Transparensense, co-financed by the Intelligent Energy Europe (IEE) programme, is to increase the transparency and trustworthiness of EPC markets throughout Europe. One of its main outputs is the development and testing of the European Code of Conduct for EPC (Staničić et al., 2014). The Code is a set of values and principles that are considered fundamental for the successful, professional and transparent implementation of EPC. Compliance with the Code serves as a guarantee of the quality of EPC projects implemented across Europe. EPC providers that are ready to adhere to the principles of the Code are expected to raise confidence in using EPC by the potential clients. The Code is a voluntary commitment, is not legally binding and represents a fair energy service business model. The European Code of Conduct can be found at www.transparensense.eu.

1.3 What is Energy Performance Contracting

According to the EED, Energy Performance Contracting "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."

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Within this report, EPC provider means an energy service provider¹ who delivers an energy service² in the form of EPC. Such definition respects the fact that EPC is only one type of energy services, and is in line with the definition of the energy services provider specified in the Energy Efficiency Directive 2012/27/EU (EED). Within this report, we use the commonly used term “ESCO” as equivalent of the energy service provider.

Client means any natural or legal person to whom an EPC provider delivers energy service in the form of EPC.

EPC allows facility owners and managers to upgrade ageing and inefficient assets while recovering capital required for the upgrade directly from the energy savings guaranteed by the EPC provider (ESCO). The ESCO takes the technical risk and guarantees the savings.

The ESCO is usually paid a management fee out of these savings (if there are no savings, there is no payment) and is usually obligated to repay savings shortfalls over the life of the contract. At the end of the specific contract period the full benefits of the cost savings revert to the facility owner.

The **key characteristics** of an EPC project are the following:

- **Without the need for up-front capital:** Energy efficiency investments are repaid directly from energy savings and related financial savings, so there is not need for up-front capital on the customer’s side.
- **Turnkey service:** The energy service company (ESCO) provides all services required to design and implement a comprehensive energy saving project at the customer’s facility, from initial energy audit to measurement and verification (M&V) of savings.
- **Risks for customers minimized:** The ESCO assumes the contractually agreed performance risks of the project.
- **Savings guaranteed:** The ESCO guarantees the achievement of the contractually agreed level of savings and is obliged to compensate savings shortfalls.

¹ EED defines "energy service provider" as a natural or legal person who delivers energy services or other energy efficiency improvement measures to a final client's facility or premises.

² EED defines "energy service" as 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.

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- **Support in finding financing** – The capital to finance the EPC project can either be supplied out of the Client's own funds, by the EPC provider or by a third party. Provision of financing by the EPC provider is an option, not a necessary part of the EPC project.

1.4 Methodology of this report

In order to assure a feedback loop and quality check from stakeholders active on the EPC market various draft versions of this report were discussed within the frame of workshops in Austria and in the Czech Republic.

In Austria especially chapter 3.2 Generic questions regarding quality assurance of energy services as well as chapter 4.1 Austria: Development of quality criteria for energy services were discussed. At this time, all invited stakeholders were in the board of the the Austrian Association of Energy Service Providers (DECA). In this way feedback from three of the biggest EPC providers could be obtained.

In the Czech Republic, the proposal of certification system for energy services has been developed following up the requirement of the EED and on the basis of the interest of the members of the Association of the energy service providers (APES). The Ministry of Industry and Trade responsible for the implementation of EED in the Czech Republic subcontracted APES to prepare two studies developing proposal of the certification system. The studies have been commented on by the APES members and by the representatives of the Ministry of Industry and Trade.

Their comments are gratefully acknowledged and incorporated in this report.

Table 1: National steering committee meetings resp. workshops for feedback on the draft report.

Country	Date	Time	Location	Stakeholders
Austria	30 Oct 2014	10.00-13.00	e7	Board of DECA
Austria	19 Jan 2015	14.00-17.00	e7	Board of DECA
Czech Republic	27 May 2014	10.00-12.00	Ministry of Industry and Trade, Prague	Members of Board of APES, Ministry of Industry and

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				Trade of the Czech Republic
Czech Republic	29 May 2015	13.30-14.30	Berchtold castle, Kunice	Members of APES, Ministry of Environment, State Environmental Fund of the Czech Republic

2 Heterogeneity of energy efficiency services

2.1 Regulative background

Energy Efficiency Directive (2012/27/EU)

The EED sets the overall policy framework with respect to market introduction of energy services. As part of the adoption of the Directive the EU Member States have to submit national energy efficiency action plans to the European Commission. The directive emphasises on *“the need to increase energy efficiency in the Union to achieve the objective of saving 20 % of the Union’s primary energy consumption by 2020 compared to projections. (...) Projections made in 2007 showed a primary energy consumption in 2020 of 1 842 Mtoe. A 20 % reduction results in 1 474 Mtoe in 2020, i.e. a reduction of 368 Mtoe as compared to projections.”*

As Persson (2014) highlights, there are provisions related to the availability of qualification, accreditation and certification schemes for providers, inter alia energy audits, under the EED. Energy audits can be carried out by qualified and or accredited experts according to qualification criteria. Auditors for instance are affected by Article 16, which states where *“Member State considers that the national level of technical competence, objectivity and reliability is insufficient, it shall ensure that, by 31 December 2014, certification and/or accreditation schemes and/or equivalent qualification schemes, including, where necessary, suitable training programmes, become or are available for providers of energy services, energy audits, energy managers and installers of energy-related building elements (...).”* The schemes shall provide transparency to consumers, be reliable and contribute to national energy efficiency objectives.

European standards

The European standard EN 15900:2010 defines EES as an agreed task or tasks designed to lead to an energy efficiency improvement³ and other agreed performance criteria. EES shall include an energy audit (identification and selection of actions, e.g. according to EN 16247) as well as the implementation of actions and the measurement and verification (M&V, e.g. according to IPMVP) of energy savings. A documented description of the proposed or agreed framework for the actions and the follow-up procedure shall also be provided. The

³ According to EED "energy efficiency improvement" means "an increase in energy efficiency as a result of technological, behavioural and/or economic changes".

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improvement of energy efficiency shall be measured and verified over a contractually defined period of time through contractually agreed methods.

Also worth mentioning is EN 16212 about Energy Efficiency and Savings Calculation. It provides a general approach for energy efficiency and energy savings calculations with top-down and bottom-up methods. The general approach is applicable for energy savings in buildings, cars, appliances, industrial processes, etc. It deals with savings on energy supplied to end-users.

2.2 Energy efficiency services and their value chain

Although EN 15900:2010 presents an overall framework of energy efficiency services, it does not fully reflect the wide scale of different forms of energy services (including energy efficiency services), that are offered on European markets. Energy services do not inevitably include energy improvement measures and therefore do not have to lead to less energy consumption.

To show the case of Austria, the association DECA distinguishes seven core energy services which are summarized in Figure 2. They are given in form of a matrix including the belonging value chain (A-I). The different forms of energy services also include energy efficiency services, e.g. EPC. Energy delivery contracting for instance, cannot be defined as an energy efficiency service per se, as a contract on energy delivery must not lead to a reduction in energy consumption. However, it is possible that energy delivery contracting is combined with preceding energy efficiency improvement measures and, therefore, the amount of energy to be delivered can be reduced.

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Figure 2: Energy efficiency services and their value chain.

Steps of the Value Chain	Different Forms of Energy Services						
	1 Energy consulting	2 Energy performance contracting	3 Energy delivery contracting	4 Operational contracting	5 Implementation techn. energy efficiency actions	6 Re-Commissioning	7 Energy management
A Information and motivation							
B Consulting and analysis							
C Planning							
D Finance and public funding							
E Installation and technical implementation							
F Energetic optimisation of operational phase							
G Monitoring and Measurement & Verification							
H Warranty services							
I User motivation							

According to the IEE project ChangeBest (Leutgöb et al., 2011) the value chain reflects the implementation process of an energy efficiency improvement action, which directly leads to a reduction in energy consumption.

It is obvious that the heterogeneity of energy services has to be reflected in different elements of quality. More information on quality of energy services can be found in chapter 4.1.

3 Generic questions and existing approaches

3.1 Certification, accreditation, labelling and qualification schemes

The main objective of standardization is usually that everybody adheres to the same procedures or product specifications. They eliminate barriers to trade, complement European legislation and, as a result, form a basis of the Internal Market. However, an increase in quality is not an automatic result of standardization.

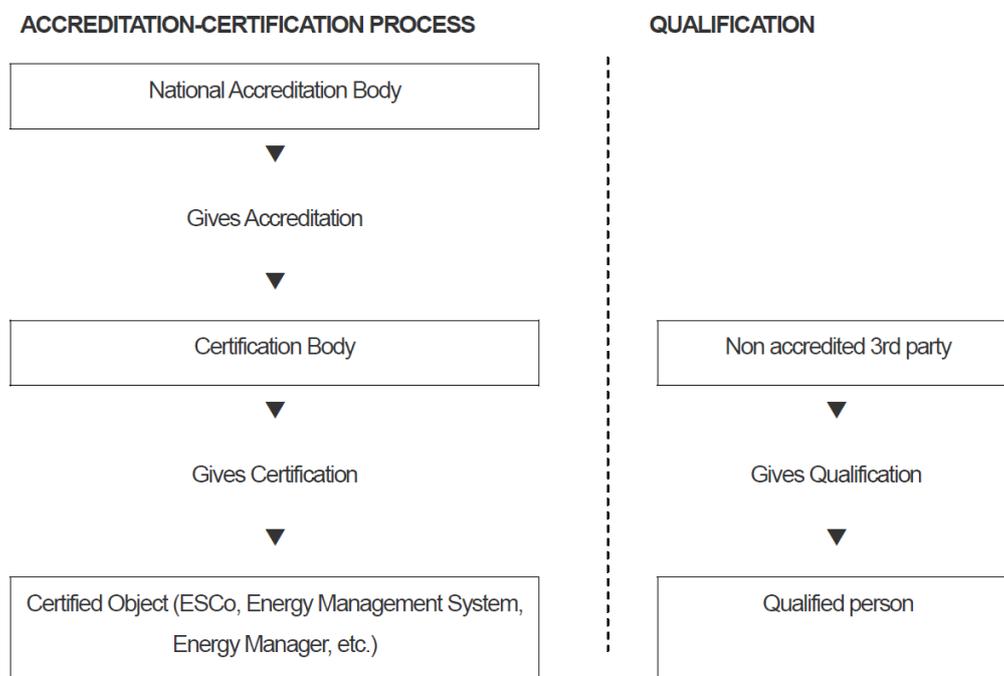
According to ISO (2015), certification can be a useful tool to add credibility, by demonstrating that a product or service meets the expectations of the client. **Certification** means the provision of a written assurance (a certificate) by an independent body (a certification body), that the product, service or system in question meets specific requirements (compliance with certain international standards). One certification body may execute several different certification programmes. They are evaluated and accredited by an authoritative body. Figure 3 provides a process flow diagram on accreditation certification and qualification.

Accreditation means the formal recognition by an independent body, generally known as an accreditation body that a certification body operates according to international standards. The foundations are given in ISO/IEC 17000:2004. Also ISO 17024 and ISO 17065 are of importance.

A certification label is a **label** or symbol indicating that compliance with certain standards has been verified. Usually a standard-setting body controls the use of a label. According to FAO (2015), certification bodies certify against their own specific standards, the label can be owned by the certification body. Ecolabels, for instance, are intended to educate and increase consumer awareness of the environmental impacts of a product and bring about environmental protection by encouraging consumers to buy products with a lower environmental impact (ISO, 2012).

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Figure 3: Accreditation certification and qualification process flow diagram. (Source: Franco and Forni, 2010).



According to Franco and Forni (2010), **qualification**, mostly referring to persons, applies when the competences are verified by somebody that is not an accredited third party certification body, e.g. a national or local authority. There is a difference between qualification and accreditation-certification schemes.

In many European Member States a multitude of accreditation and certification schemes of energy services as well as qualification are available. An overview of Europe and USA provides Kulterer (2014). Furthermore, two in-depth case studies from Austria and Czech Republic can be found in chapter 4.

3.2 Generic questions regarding quality assurance of energy services

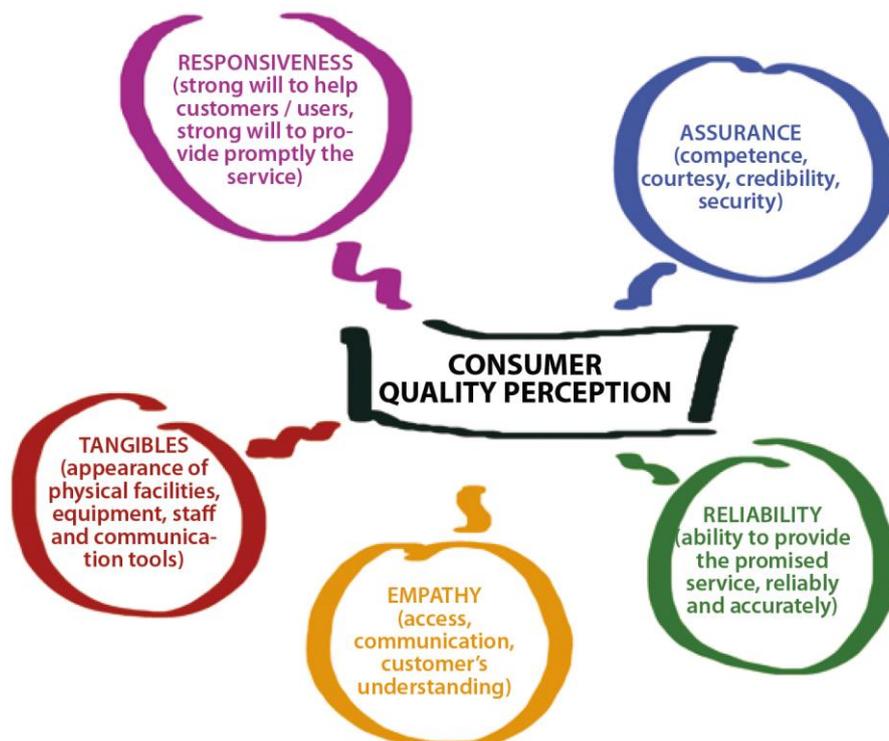
3.2.1 What means quality? Understanding of quality within the Transparense project

According to Staničić and Bevk (2014) the EPC quality within the Transparense project is a measure of how well the EPC service level delivered by the EPC provider (ESCO) matches client's expectations. In Figure 4 areas are described that clients consider being important when they use a service. Five areas are essential and influence the quality perception of the

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consumer: responsiveness, assurance, reliability, empathy and tangibles. A comprehensive explanation about quality with respect to ECP is provided by Staničić and Bevk (2014).

Figure 4: Consumer quality perception and important areas for clients. (Source: Staničić and Bevk, 2014)



3.2.2 What should be certified?

When talking about certification of quality following three dimensions can be certified:

- Certification of the energy service **provider**;
- Certification of the quality standards for the **service** provided;
- Certification of **order** quality (preparedness of the client).

A quality certification scheme should be offered with reasonable costs and efforts in order to avoid of additional (entrance) barriers as the market of energy services is still a young one. Therefore the required criteria must be selected carefully. The aim is i) the acceleration of the energy services market, ii) supporting transparency and comparability and iii) boosting

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competition among EPC providers in order to achieve a fair market price for high quality services. Clearly black sheeps need to be banished from the energy services market.

In Figure 5 quality criteria for EPC providers, energy services and clients are given in form of a matrix. Additionally each criterion is differentiated in sub-criteria. A detailed explanation of sub-criteria for energy services can be found in chapter 4.1. Also Eurocontract (2007) provide suggestions on an EU-wide certification system for ESCOs and energy services. Depending on the level of development of the respective energy service market the weighting of quality criteria may differ. Nonetheless quality criteria base on core values and principles. For EPC projects these are given in chapter 3.3.1. An in-depth example on quality criteria for EPC services can be found in chapter 4.1.

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Figure 5: Generic set of quality criteria for energy service providers, energy services and order quality for clients linked to different forms of energy services.

	for providers							for services									for clients			
	Educated and experienced staff	References	Duration of market presence	Portfolio of services	Coverage of the portfolio of services	Market appearance	Other quality assurance instruments	Adequacy analysis	Service level regarding the implementation of technical measures	Savings guarantee	Verification of savings	Conservation of value and maintenance	Communication between provider and client	Adherence of user comfort	User information and motivation	Transparency and completeness of contractual stipulations	Adequacy of performance description	Process of provider search / tender phase	Support during performance delivery	Credit-worthiness
	1.1.	1.2.	1.3.	1.4.	1.5.	1.6.	1.7.	2.1.	2.2.	2.3.	2.4.	2.5.	2.6.	2.7.	2.8.	2.9.	3.1.	3.2.	3.3.	3.4.
1 Energy consulting																				
2 Energy performance contracting																				
3 Energy delivery contracting																				
4 Operational contracting																				
5 Implementation technical energy efficiency actions																				
6 Re-Commissioning																				
7 Energy management																				

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3.2.3 Who is going to do a certification process?

A certificate is provided by an independent body, a so called certification body, assuring that the product, service or system in question meets specific requirements. Typically a certificate bases on International, European or national norms. Other than that comprehensive guidelines for instance can be used. It is important that a broad consensus on these guiding principles is given among most important stakeholders. Of course guidelines can be further developed towards a norm. Depending on the underlying document – referring to a norm or guideline for instance – the certification body can be chosen. If a company or association wants to develop a certificate for energy efficiency services for instance a certification body has to be chosen. It is advisable that several certification bodies are evaluated and which standard they apply. Also it is beneficial to check if the certification body is accredited. Accreditation provides independent confirmation of competence, but accreditation is not compulsory.

As the energy service markets across Europe as well as the already existing quality assurance instruments are highly diverse in beginner markets, intermediate markets and advanced markets it is advisable that own working groups are established (e.g. within associations, interest groups or networks), which discuss the generically described questions of chapter 3. Within the frame of such working groups it can be discussed if either a label or a certificate will be developed for the service provider, the energy service or the order quality. Labels and certificates can be developed from scratch or can be developed on the basis of existing labels or certificates.

However, it is important that compliance is given at least with the EPC core values of the European Code of Conduct which provide security and, hence, added-value to all market actors. Therefore, beginner and intermediate markets should refer to the core values of energy performance contracting (see chapter 3.3.1). Additionally some well selected quality criteria for EPC providers, the energy service or the client itself could be referred to as well in order to develop the energy services markets. Examples on quality criteria for energy services are given in see Figure 5 and chapter 4.1. In advanced markets a stringent set of quality criteria can be expected and should be applied in order to increase comparability between services and EPC providers (see Figure 5).

3.2.4 By which means should be certified?

This chapter deals with the operationalization of quality criteria. In order to be able to apply quality criteria, either for the service provider, the energy service provided or the order

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quality (see chapter 3.2.2), in a transparent and traceable way it is necessary to operationalise them. This is seen as precondition for applying them in a certification scheme.

In a first attempt operationalisation can be limited to the quality criteria for one of the three described dimensions in chapter (3.2.2). In this context operationalization needs to cover the following directions:

1. Check which dimension you are going to certify (see chapter 3.2.2).
2. Assign the relevant quality criteria to the energy services. So it needs to be discussed which quality criteria are relevant for which energy service. For instance, while carrying out an energy audit it will not be required to apply the quality criteria Energy Savings Guarantee.
3. After this quality criteria need to be specified by assessment criteria, of which the (degree of) fulfilment can be checked ...
4. by a suitable evidence scheme and
5. traceable verification methodologies.
6. Finally, comments are helpful to take notes on arrangements or specific findings.

Table 2: Operationalisation of quality criteria step by step (developed by DECA and e7)

Step 1	Step 2	Step 3	Step 4	Step 5	Step 6
What should be certified?	Which QC are relevant?	Assessment criteria	Evidence scheme	Verification scheme	Comment
1 – service provider	...				
2 – the energy service	...				
	2-3 energy savings guarantee	2-3-1 adequate level of savings guarantee			
		2-3-2 remuneration depends on the attainment of the savings guarantee			
		...			
	2-4 verification of savings				

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	...				
3 – order quality	...				

A complete examples on this can be found in chapter 4.1. In this way a high level of quality – either of the service provider, the energy service or the order quality – can be assured.

3.3 Selection of existing approaches

3.3.1 EPC quality determinants according to the European Code of Conduct

The European Code of Conduct for EPC (Staničić et al.2014). comprises EPC core **values** and related **principles**. With this respect values define quality determinants of EPC services. Principles put values into action. The outcomes are result of an EU-wide survey. For details see the whole text of the Code of Conduct⁴.

EPC core values

The EPC core values identified in the European Code of Conduct for EPC (Staničić et al.2014) are those that define the goals and virtues of professional EPC practice and clients' expectations of them. The EPC core values are grouped in three areas:

- **Efficiency** – energy savings; economic efficiency; sustainability in time.
- **Professionalism** – expertise; high-quality service; health and safety concerns; good name in the sector and project; reliability; responsibility; respect; responsiveness; objectivity.
- **Transparency** – integrity; openness; long-term approach; transparency of all steps and financing arrangements; clear, regular and honest communication.

Guiding principles on EPC projects according to the European Code of Conduct

- The EPC provider delivers economically efficient savings.
- The EPC provider takes over the performance risks.

⁴ The European Code of Conduct can be downloaded from the Transparensense project website: www.transparensense.eu/eu/epc-code-of-conduct

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- Savings are guaranteed by the EPC provider and determined by M&V⁵.
- The EPC provider supports long-term use of energy management.
- The relationship between the EPC provider and the client is long-term, fair and transparent.
- All steps in the process of the EPC project are conducted lawfully and with integrity.
- The EPC provider supports the Client in financing of EPC project.
- The EPC provider ensures qualified staff for EPC project implementation.
- The EPC provider focuses on high quality and care in all phases of project implementation.

3.3.2 Existing quality assurance instruments for energy services

Baumgartner et.al. (2008) explain that the quality of services is less obvious in comparison with tangible products. Mostly, the result after completing a service is more important than the way the service was performed. Quality assurance instruments (QAI) for energy services add security for most of the clients and can relieve ESCOs' efforts and risks. According to Baumgartner et.al. (2008) following QAI used within energy efficiency services are at hand:

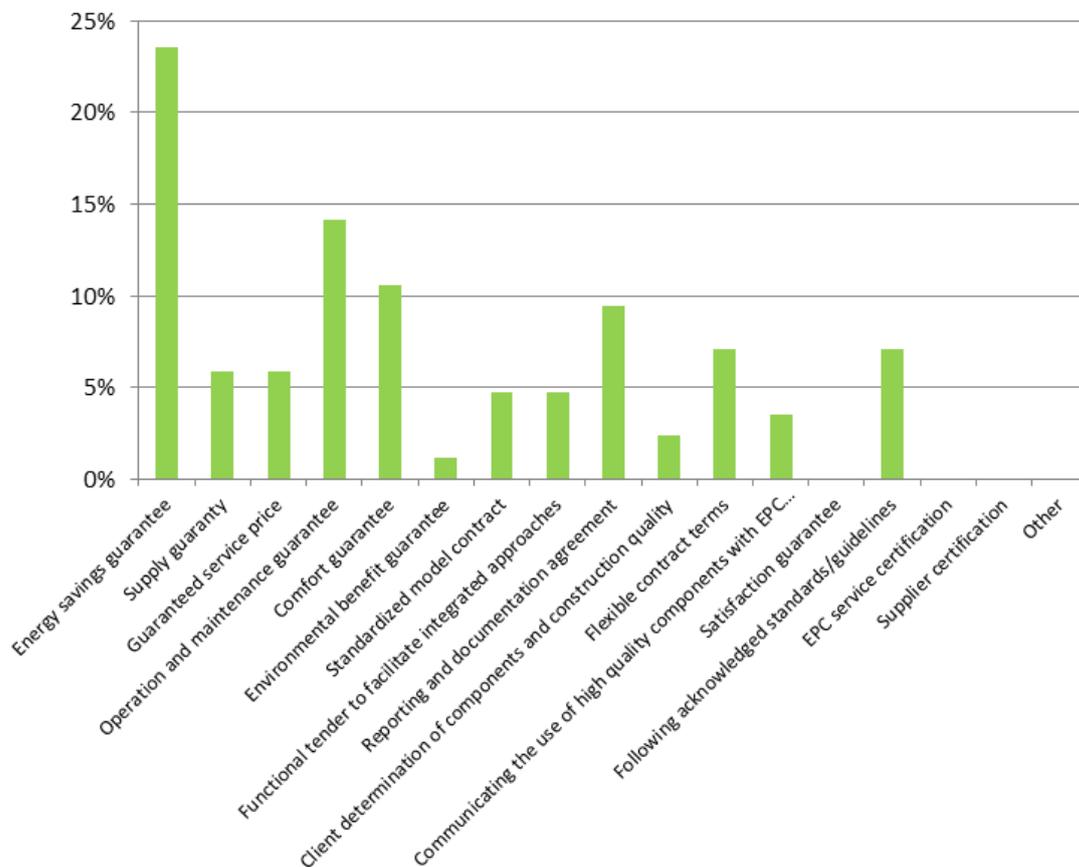
- Energy savings guarantee;
- Supply guarantee;
- Guaranteed service price – all costs included;
- Operation and maintenance guarantee;
- Comfort guarantee;
- Environmental benefit guarantee;
- Standardised model contracts for EPC services;
- Functional tender to facilitate integrated approaches;
- Reporting and documentation agreement;
- Client determination of components and construction quality;
- Flexible contract terms;
- Communicating the use of high quality components within EPC projects;
- Communicating the high construction quality within EPC.

⁵ M&V can be carried out according to the International Performance Measurement and Verification Protocol (IPMVP), www.evo-world.org.

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Following Staničić and Bevk (2014), the results from the EPC Quality Survey of November 2013 the **energy savings guarantee** is the most used EPC quality assurance instrument across the EU. Furthermore, **operation and maintenance guarantee** and **comfort guarantee** are outstanding, as shown in the Figure 6. Other instruments are unevenly present showing diversity of approaches at the complex and unevenly developed EU EPC markets.

Figure 6: EPC quality assurance instruments used across EU. (Source: Staničić and Bevk, 2014)



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3.3.3 Overview of the most important quality certification schemes

This chapter represents a link to the existing regulative and market-related framework and shows other existing quality certification systems in related sectors. Within the frame of the Transparensense project, a project internal market survey on most important quality certification schemes for EPC, energy services and general and other relevant schemes was conducted. The survey covers 20 European (Transparensense project partners) countries.

Table 3 shows that in seven European countries (Austria, the Czech Republic, Germany, Denmark, Norway, Portugal and UK) a certification scheme for EPC or related quality assurance schemes for EPC are at hand. The Austrian test case on quality criteria is described in detail in chapter 4.1. Currently it is in the test phase and will be probably launched in 2016. A related service is Thermofit, a quality label on contracting services. Currently in the Czech Republic a different variants of the certification system institutionalisation are discussed. In 2012 Germany implemented a certificate for energy services including energy saving contracts. Denmark and Norway are even going towards standardisation and will be implemented within the year 2016 in Denmark resp. 2015 in Norway. In Portugal the legal framework conditions, the minimum requirements for operation, inspection and accreditation of the ESCO business and the establishment of EPCs are in place. Therefore Portugal started an EPC programme, which is currently in the test phase. In the year 2016 an EPC Code of Practice will be implemented. Currently the guidance is in the test phase.

Beside EPC related certification schemes also quality assurance schemes for energy services and other related services were survey. A big number of quality assurance schemes for energy services could be identified, e.g. the Deontological code of the Flemish association of Energy service providers in Belgium. In Spain, ANESE (one of the national ESCO associations) has established some requirements to become a "Quality ESCO". TÜV certifies the fulfilment of the requirements.

A matrix with an overview on the whole survey can be found in the Annex section. Furthermore, Kulterer (2014) provides an overview of accreditation and certification schemes of energy services as well as qualification in Europe and USA.

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Table 3: Results from Transparense internal market survey on quality certification schemes for EPC (2015).

Country	Name of system	Scope (EPC, ES or other)	Brief explanation (1-2 sentences)	Status of implementation (in development; test phase; approved; implemented; cancelled)	Year of (expected) implementation	Name of institution(s) involved	Website(s) and/or contact details	Brief comment on experiences / market feedback / Link to further reading.
Austria	DECA – quality criteria for energy efficiency services	EPC and other	A quality assurance system for energy services was developed. The criteria are operationalised in order to apply them in a transparent and traceable way. Also an evaluation method and tool was developed.	test phase	2016	Board of DECA - Austrian Association for energy efficiency service providers and contracting; e7 Energie Markt Analyse GmbH	www.deca.at www.e-sieben.at	Currently the criteria undergo an ex-post analysis in two pilot projects (1 client; 1 ESCO). Feedback will be incorporated; Updated quality criteria will be made public in summer 2015.
CZ	Proposal of the certification system for EPC providers	EPC	Different variants of the certification system institutionalisation are discussed. List of requirements for certified ESCOs has been made.	under development	n.a.	Ministry of Industry of the Czech Republic (MPO), Czech association of the energy service providers - APES	www.mpo.cz www.apes.cz	
DE	Blauer Engel - Energiedienstleistungen mit Energiespar-Garantie-Verträgen	EPC	Certificate for energy services including energy saving contracts. Main criteria: CO2-eq savings of >=30% Primary Energy savings of >=25%	implemented	2012	RAL gGmbH	https://www.blauer-engel.de/en/products/energy-heating/energy-services-provided-under-guaranteed-energy-savings-contracts	No active auditing companies on the market.
DK	Danish Standards (S-432)	EPC and other	Danish Standard has established a Committee to develop standards within energy management, ESCO and energy efficiency. Several standards/guides are under way including for monitoring and verification of energy savings and for establishment of baselines.	under development	2016	Danish Standards, Danish Energy Authority, Danish Nature Protection Agency, Danish Ecological Council, Alectia, Danish Gas Technology Centre	http://www.ds.dk/udvalg/kategorier/ledelsesystemer/energieffektivitet-escos-og-energieffektivitet	
NO	NS 6430:2014	EPC	National standard for EPC contracts.	implemented	2015	Standard Norway	www.standard.no	First EPC projects published using the new standard in February 2015. Development of facilitator market happening.
PT	ECO.AP	EPC	The main objectives of the programme are: - Promote the efficient use of energy in Central Government; - Promote the development of the ESCO market in Portugal, both on the public and private sector; - Contribute to achieve the goals established in NEEAP to reduce energy consumption in Public Administration Sector in 30% until 2020. Main measures: -Existence of an Energy Manager in all Central Government Bodies; -Development of the Barometer ECO.AP in order to evaluate the energy efficiency Central Government Sector -Development of Energy Performance Contracts in the buildings/equipments with an higher energy consumption (or inefficiency); -Development of energy efficiency action plans for the remaining buildings or equipment.	test phase	2011	DGEG and ADENE	http://ecoap.adene.pt/	The legal framework conditions, the minimum requirements for operation, inspection and accreditation of the ESCO business and the establishment of EPCs are in place and the potential for improvements is high. However, to accelerate the diffusion of EPCs in Portugal, it is necessary that the decision makers are consciousness, have the knowledge and trust about the advantages of establishing EPC contracts, and especially there is a need to establish/create a financing mechanism that joint efforts from the Portuguese government, EU funds and commercial banks to develop long term financing solutions for Energy Efficiency projects. The Fund for Energy Efficiency already exists but it needs to be provided with more funds.
UK	ENERGY PERFORMANCE CONTRACTING (EnPC) UK CODE OF PRACTICE & GUIDANCE	EPC	EPC Code of Practice for the UK expected to reference the EU CoC for EPC. Much longer at 32 pages. Seeks agreement from all parties involved in EPC in the UK.	Draft, Test Phase.	2016?	Energy Managers Association	http://www.theema.org.uk/latest-initiatives/	Last draft in March 2014 - the current aim is to test it with a pilot project and feedback with practicalities before publishing the Code. We haven't seen any activity for a while. Strategy board developing the code includes major ESCOs and facilitators... • AECOM (Davis Langdon) • British Gas plc. • Balfour Beatty Plc. • EDF Energy • E.ON SE • Honeywell UK • NIFES Consulting Group • Pinsent Masons LLP • Telefónica O2 UK • Willmott Dixon Group

4 Good practice examples – proposals for certification schemes

4.1 Austria: Development of quality criteria for energy services

Austria is one of the most advanced energy service markets in Europe. With estimated 250 EPC projects since the middle of the nineties this form of energy services has been particularly successful. DECA, the Austrian Association of Energy Service Providers, gathers about 30 energy service companies, which represent different branches of origin (EPC providers, utilities, technology suppliers, building service companies, energy consultants etc.). Although compared to most other EU countries energy services are well-known many customers still react with reluctance as soon as they get energy services offered because they have difficulties to separate “good-quality” from “bad-quality” offers. Therefore, a set of Quality Criteria was defined and operationalised by assessment variables.

For example, it is not enough to draw the attention to the quality criterion “energy savings guarantee” for instance. In order to become operable for providers, clients and banks quality criteria need to be supported by the following further features:

- Assignment of quality criteria to the addressed EPC related energy services
- Specification of each quality criterion by a set of assessment variables, of which their degree of fulfillment can be checked easily.
- The assessment requires transparent and traceable verification methodologies.
- A suitable evaluation method needs to be developed in order to provide an overview of the achieved results.

Therefore in 2013 DECA decided to develop a quality assurance system for energy services. The system should fulfil the following requirements:

- Clarity, traceability and transparency;
- Preparedness for certification by an independent body;
- Applicability to all kinds of energy services, including energy efficiency services.

Defining quality criteria

In a first step the DECA-working group developed a set of quality criteria referring to the different dimensions of quality:

- quality of the service provider;

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- quality of the service;
- quality of the order.

Table 4 provides an overview on the set of quality criteria identified. Guiding principle in selecting the quality criteria was to identify the most critical issues from practical experience in energy service projects implemented. The DECA-working group is thus fully aware that the defined set does not cover all potential aspects of quality and is necessarily incomplete.

Table 4: Set of quality criteria identified by the DECA-working group.

1) Quality criteria for the energy service provider	
1-1	Educated and experienced staff
1-2	References
1-3	Duration of market presence
1-4	Portfolio of services
1-5	Coverage of the portfolio of services
1-6	Market appearance
1-7	Other quality assurance instruments
2) Quality criteria for the energy service	
2-1	Adequacy of energy audit
2-2	Service level regarding the implementation of technical measures
2-3	Energy savings guarantee
2-4	Verification of savings
2-5	Conservation of value and maintenance
2-6	Communication between provider and client
2-7	Adherence to user comfort
2-8	User information and motivation
2-9	Transparency and completeness of contractual stipulations
3) Criteria regarding order quality	
3-1	Adequacy of performance description
3-2	Selection process
3-3	Support during performance delivery
3-4	Credit-worthiness

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Operationalising quality criteria

In order to be able to apply quality criteria in a transparent and traceable way – which is seen as precondition for applying them in a certification scheme – it is necessary to operationalise them. The DECA-working group decided that energy service markets most urgently need a quality assurance system related to the energy service as such. Therefore – in a first attempt – operationalization was limited to the quality criteria for the energy service (see quality criteria 2-1 to 2-9). In this context operationalization needs to cover the following directions:

- Due to the heterogeneity of energy services it is obvious that not all quality criteria are relevant for all kind of energy services. Therefore quality criteria need to be assigned to the relevant energy services.
- Quality criteria need to be specified by assessment criteria, of which the (degree of) fulfilment can be checked by traceable verification methodologies.
- Finally, the different quality criteria need to get consolidated into a transparent “overview” on the overall quality delivered. Therefore a suitable valuation method needs to be developed.

Assigning quality criteria to energy services

Figure 7 shows a matrix that assigns certain quality criteria to different kinds of energy services. In this way the set of quality criteria becomes applicable to all kinds of energy services which are offered on the Austrian market. This is a core success factor the system from the point of view of DECA, since DECA represents the full heterogeneity of the Austrian energy service market with members from different industrial and service branches.

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	quality criteria for services								
	Adequacy analysis	Service level regarding the implementation of technical measures	Savings guarantee	Verification of savings	Conservation of value and maintenance	Communication between provider and client	Adherence of user comfort	User information and motivation	Transparency and completeness of contractual stipulations
	2.1.	2.2.	2.3.	2.4.	2.5.	2.6.	2.7.	2.8.	2.9.
1 Energy consulting									
2 Energy performance contracting									
3 Energy delivery contracting									
4 Operational contracting									
5 Implementation technical energy efficiency actions									
6 Re-Commissioning									
7 Energy management									

Figure 7: Quality criteria for energy services linked to different energy services, Source: DECA and e7 (2013-2015), developed within the framework of the IEE project Transparense.

Developing traceable assessment criteria and verification procedures

For each single quality criterion the DECA-working group developed a set of assessment criteria and verification routines with the aim to fulfil the following challenge:

- The decision whether a certain criteria is fulfilled or not can be taken based on the presence resp. absence of clearly defined conditions. This can be either a Yes-No-decision or a decision on a certain degree of performance (e.g. point system from 1-10);
- The decision needs to be possible based on available information in different points in time: a) before project start: ex-ante verification; or b) after the end of the project: ex-post verification.

Table 5 and Table 6 present two examples for the translation of quality criteria into a traceably and clear system of assessment criteria and verification routines.

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Table 5: Assessment criteria and verification process for quality criteria No 3 “Energy Savings guarantee”

No.	Assessment criteria	Evidence	Verification	Comment
2-3-1	Adequate level of savings guarantee	This requires an earlier analysis. If an analysis was conducted prior the EES, the level of the savings guarantee has to match with the identified economic energy savings potential from the analysis (max. deviation: 15%)	Draw a comparison between the contractual guaranteed savings and the economic savings potential according to the analysis.	Consider that the period under consideration for the definition of the economic saving potentials from the analysis equals to run-time of the EES-contract.
2-3-2	Remuneration depends on the attainment of the savings guarantee	Grade 1: The reduction of remuneration has to be at least the same level as the level of the non-attainment of the guarantee assurance. Grade 2: Achieved savings are shared between the ESP and the client according to a defined ratio.	On the basis of the contractual arrangements with respect to the guarantee assurance.	Grading leads to a differentiation with respect to the quality of the guarantee assurance: Grade 1 is used in conventional EPC contracts; Grade 2 is used in e.g. Re-Co contracts.
2-3-3	Adequate intervals for the inspection of compliance with the guarantee assurance	In principle once a year. Divergence is allowed only if variations for technical reasons of the savings effect can be ruled out over a longer period.	Ex-ante: On the basis of contractual arrangements. Ex-post: Have the set intervals really been adhered?	The exception refers to light and pump contracting for instance. In these cases longer intervals are acceptable.

Table 6: Assessment criteria and verification process for quality criteria No 6 “Communication between provider and client”

No.	Assessment criteria	Evidence	Verification	Comment
2-6-1	Announcement of contact persons	Definition of a contact person with respective task description in a suitable document (contract, project handbook); Amendment in case of change of contact person or task description.	Ex-ante: Are contact persons and their tasks described in a contractual relevant document? Ex-post: Have changes of contact persons or their tasks been written down mandatory?	In longer-lasting EES (e.g. contracting models) the traceability of changes of the project team is of particular importance.
2-6-2	Access to data and data exchange (in both directions)	Availability of an approach or tool which ensures a simple data exchange.	Ex-ante: Examination of the approach or tool for data exchange based on reference projects. Ex-post: Examination of satisfaction with data exchange; utilisation of tools in practice.	Usually the technical facilities are at hand but sometimes they are not applied productive.
2-6-3	Capturing and continuous actualisation of all measures carried out by the provider	Availability of a tool which provides the possibility to capture all measures clearly arranged.	Ex-ante: Examination of the offered tool for capturing measures based on reference projects.	

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			Ex-post: How up-to-date are the recorded data for implementing measures during the project and after the end of the project (random sample)?	
6-4	Organisational measures for integration of internal staff	Definition of concrete organisational measures which allow the continuous exchange of information between the provider and the internal staff (e.g. regular facility Jour-Fix) in suitable documents (e.g. project handbook).	Ex-ante: Is there a project handbook (or any similar document) in which appropriate organisational measures are designated? Ex-post: Have the appropriate organisational measures been implemented?	After capturing of data and information in suitable tools also direct communication between representatives of the provider and the client is absolutely necessary. Only in this way ambiguities can be wiped out quickly.

Elaborating a conflating valuation method

In this part of operationalisation of the DECA-working group has prepared a schedule that enables a consolidated “overview” on the overall quality of the service. This is done in the following way:

- Firstly, it was agreed that as general rule the fulfilment of each assessment criteria is evaluated by a simple Yes-No-decision. This means, that partial fulfilment is not possible: If certain elements that are required in the verification process are missing, this specific assessment criteria is not fulfilled. There will be only very few exceptions from this general rule. To give one example: The assessment criteria 3-2 “Remuneration depends on the attainment of the savings guarantee” under quality criteria No. 3 “Energy savings guarantee” (compare Table 2) includes a differentiation of two grades, where Grade 1 (“The reduction of remuneration has to be at least the same level as the level of the non-attainment of the guarantee assurance.”) is more valuable than Grade 2 (“Achieved savings are shared between the EES provider and the client according to a defined ratio.”).
- Secondly, the overall quality will be presented in a radar diagram. Since – as described above – not all quality criteria apply for all kinds of energy services, the radar diagrams are composed differently for each single energy service. Following figures provide examples: The radar diagram of Energy Performance Contracting (Figure 8) contains all nine quality criteria, whereas the radar diagram of Energy Consultancy (Figure 9) is composed only of 3 quality criteria, because the other criteria are not applicable to this energy service.
- Finally, there is the possibility to include a numerical evaluation simply by summing up all assessment criteria (fulfilment = 1; non-fulfilment = 0) and dividing it by the

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number of assessment criteria evaluated for the specific energy service. From valuation methods we have learned that on the one hand numerical “summaries” can be easily communicated – even more easy if the numerical result is once again condensed to simple categories such as “silver”, “gold”, “platinum” – on the other hand it is obvious that in this way a lot of information on the “character” of the quality of the service gets lost. Looking only on overall figures the client will not be able to distinguish where are the specific strong or weak points of the service offered or implemented. So far, the DECA-working group has not taken a definite decision whether resp. in which way a numerical evaluation will be implemented. Also the question, whether various assessment criteria should be weighted differently (more important / less important), is still under discussion.

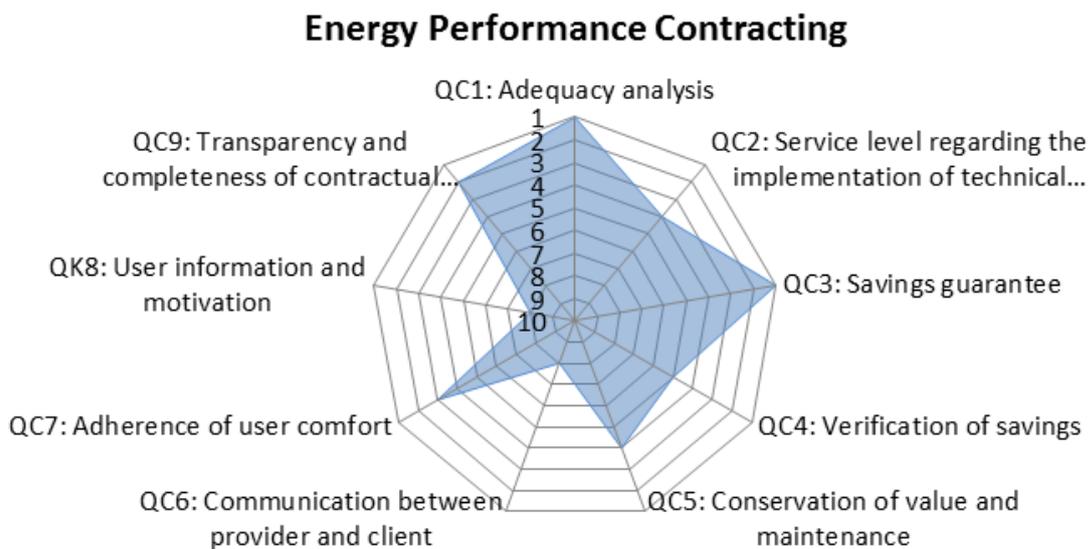


Figure 8: Example of the overall evaluation by a radar diagram for the energy service EPC.

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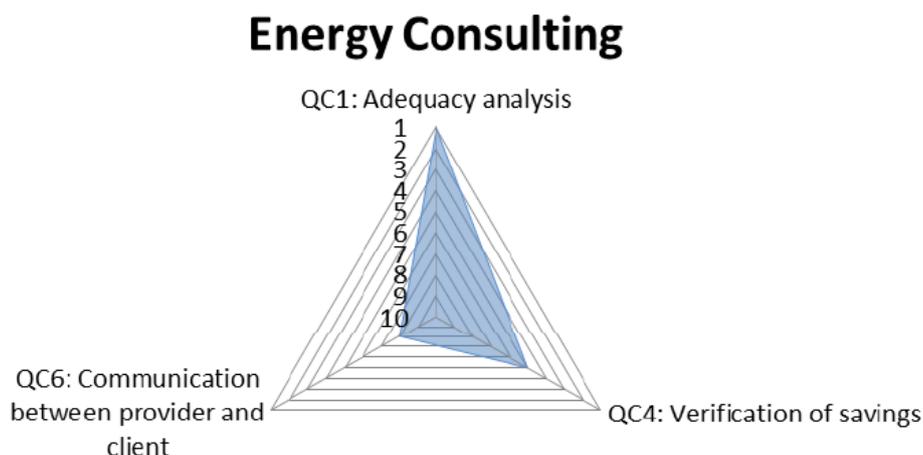


Figure 9: Example of the overall evaluation by a radar diagram for the energy service Energy Consulting.

Setting-up an institutional framework for quality assurance

For greater completeness the definition, selection or development of a proper institutional framework has to be executed in order to further develop the quality criteria towards a certification scheme.

The DECA-working group recommended carrying out a test phase first and checking if the developed quality criteria are well reflected on the market. This task is pending and should be completed in the year 2016.

Upon the results of the test phase a proper institutional framework will be selected. Currently, no decision has been taken on this topic. However following points have been risen during various discussions:

- It is possible that the quality criteria will be provided in form of quality assurance guidelines. Than each client is able to control the quality of the service himself or the quality control is carried out by a third party.
- Also the quality assurance scheme could tie up with existing other labels, e.g. *Umweltzeichen* from the Austrian Federal Ministry of Agriculture, Forestry, Environment and Water Management, or an independent verification body will be developed from scratch. The task of quality control verification could also be taken over by DECA.
- It can be of advantage if the issuing body is well known on the market and providers and clients trust in the issuing body of the label or the certificate.
- As the members of DECA represent different sectors it will be a challenging to identify a representative institutional body.

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4.2 Czech Republic: Practical implementation of the certification process

4.2.1. Introduction

The following text presents the proposed certification system for energy services companies in the Czech Republic. At present, the introduction of such a system is being prepared and discussed, and is expected in 2015 – 2016. The first step towards the creation of a certification system for energy services providers was the new legislation governing energy services in the new Energy Management Act. Other legislation may follow, which, among other things, will institutionalise the system. While the priority is to introduce a certification system for energy services companies, a certification system is also being considered for consulting companies (known as EPC facilitators), which prepare and organise public procurements for EPC projects and supervise the implementation of EPC projects on the side of the client.

The introduction of a certification system in energy services companies has several aims:

- to support and develop qualified energy services companies;
- to standardise the level of provided energy services; and
- to combine the certification system with statutory regulations governing public procurement in order to support the increase of energy efficiency in the public sector.

4.2.2. Statutory regulations

Under the provisions of **Directive of the European Parliament and the Council 2012/27/EU on energy efficiency**, it is at the discretion of the Member States whether to introduce an accreditation and certification system or an equivalent qualification system in the area of the provision of energy services, energy audits, energy management and in the area of the installation of building elements related to energy. The deadline for introducing such a system was laid down by the Directive on 31 December 2014.

An important part of the implementation of the Directive on Energy Efficiency in the Czech Republic was the new Act No. 406/2000 Coll., on energy management, which came into effect on 1 July 2015. Part of the new wording of the Act is the legislation on energy services, the first in the history of Czech law, which includes:

- a definition of energy services;
- requirements for energy services contracts; and

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- a list of energy services providers.

According to Section 10f of the Energy Management Act, the Ministry of Industry and Trade will maintain a list of energy services providers and will lay down basic conditions for registration and deletion from this list. The introduction of the certification system for energy services providers requires other legislative changes, in which this system will also be institutionalised. It is expected that the system will be introduced at the end of 2015 or in 2016. The Ministry of Industry and Trade already has a basic design of the certification system for the energy services companies, which can be used for its introduction. In addition, it will be necessary to determine the certification body that will grant and revoke certification under certain conditions and the administrator of the certification system that will ensure the formal and organisational aspects of the certification itself as well as the organisation of training for energy services companies.

4.2.3. Specifications of the certification system

The proposed system is based on specifications regarding the form of provision of energy services and their basic parameters according to which the provision of energy services can be assessed.

At the same time, it is necessary to specify how the quality of work provided by energy services companies in the implementation of EPC projects is to be assessed and what are the main points that energy services companies must fulfil to ensure a high-quality project.

On the basis of these specifications, **criteria for fulfilling qualification prerequisites** were established, which energy services companies that have an interest in being included in the list of certified companies for the provision of announced public procurements in the relevant areas must meet.

It is assumed that certified energy services companies should be listed in the publicly accessible **Register of Certified Energy Services Companies**, which would lead to an increase in transparency in the sector and improved and increased transparency in the process of selecting suppliers of energy services with guaranteed savings.

Conditions for obtaining certification

Certification of energy services companies is intended for existing **energy services companies** as well as for companies that are just beginning to seriously focus on the

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provision of energy services with guaranteed savings and have firmly decided to expand their portfolio by this service, i.e. "newly established" energy services companies. A modified form of the certification can also be applied to consulting companies that help customers prepare and organise public tenders for EPC projects to select energy services providers.

The various levels of certification are described below.

Certification of energy services companies

Certification of energy services companies is intended for companies which currently provide energy services with guaranteed savings and already have a certain degree of experience with their provision. Experience with the provision of energy services using the EPC method can be defined in the form of at least a three-year history when the company implemented projects in which at least two annual assessments of savings actually achieved already took place.

However, even "newly established" energy services companies or existing companies that intend to expand their portfolio to include energy services using the EPC method can also be certified. In their case, the basic prerequisite for obtaining certification is the long-term and ongoing intention to enter the energy services market and the continuous effort to expand experiences and competence in the field.

Energy services companies with an interest in certification should have a **quality management system** in place as well as internal control systems based on the quality management system defined according to the quality management system (e.g. in the form of the ISO 9001:2008 standard). The characteristics of this system, however, cannot be directly adopted for the general specification of rules for the certification of energy services companies, because each company may have to a certain extent various ways of demonstrating the quality management system according to which the company supervises its fulfilment.

Energy services companies are expected to be aware of the **IPMVP** (International Performance Measurement and Verification Protocol) and its application in the provision of energy services. The significance of the IPMVP consists mainly in the defined methodology of creating an **M&V** (measurement and verification) plan, which is already an inseparable part of agreements on provision of energy services among energy savings projects of this kind.

Application of the IPMVP is considered standard for applicants for certification and knowledge of the protocol is vital for granting certification.

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As a rule, energy services companies also offer energy management together with energy services. The procedures and processes of energy management are to a certain extent regulated by international standard ISO 50001, the Czech version of which is ČSN EN ISO 50001. ČSN EN ISO 50001 specifies the requirement to create, implement, maintain and improve the energy management system with the aim of achieving a reduction of energy consumption. For energy services companies that are interested in obtaining certification, **the implementation of ČSN ISO EN 50001 in parallel with provided energy services and awareness of the given standard is considered standard**, although naturally it is not a prerequisite for obtaining certification.

Companies aiming to provide energy services with guaranteed savings, in particular those companies that want to seriously focus on it, i.e. "newly established" energy services companies, can obtain certification if they meet the following conditions:

- Participation of those people making up the future team entrusted with the management and implementation of the project in **specialty organised courses** focused exclusively on the provision of energy services with guaranteed savings (a prerequisite is completion of the entire course and obtainment of confirmation of course completion);
- Proof of at least **three years of experience in the field of provision of energy services with guaranteed savings** or at least three years of experience in the field of renovation of energy management for current customers (experience of the company requesting certification or key members of the future team);
- **Assembly of a team**, which is usually required for the provision of energy services;
- Demonstrably put in place an energy services **quality management system and internal control systems** in the company based on the quality management system defined according to the quality management system (e.g. in the form of the ISO 9001:2008 standard).

After completing the course and fulfilling the above-mentioned basic prerequisites, the company will be able to submit an application for certification.

The assessment of whether the energy services company will be granted certification is made by a commission specially named for the certification process by the guarantor of the certification system (the Ministry of Industry and Trade of the Czech Republic). The method of assessment and decision-making of the commission are described below.

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Specification of line of business

The basic characteristics of the activities of energy services companies can be inferred from the specification of the line of business. Existing energy services companies do business on the basis of a trade licence, which usually contains the following trades:

- construction and its modification and removal;
- design activities in construction;
- production, trade and services not specified in Annexes 1 to 3 of the Trade Act;
- property management and maintenance;
- engineering activity in capital construction;
- technical consultancy in the field of energy.

Other trades on the basis of which existing energy services companies do business can be:

- installation, repair, inspection and testing of gas equipment and filling of gas tanks;
- installation, repair, inspection and testing of electrical equipment;
- installation, repair and reconstruction of cooling equipment and heat pumps;
- production, trade and services not specified in Annexes 1 to 3 of the Trade Act;
- consulting and advisory services, expert studies and reports;
- preparation and drafting of technical designs, graphics and drawings;
- provision of technical services.

Components of provided energy services

Energy services companies offer their customers a wide range of services related to energy management in the customer's building/premises. In terms of certification, the basic range of services which the energy services company offers to customers is taken into account. Energy services companies requesting certification are expected to submit the following set of basic services:

- processing of project documentation necessary for the implementation of savings measures;
- arranging requirements connected with obtaining the relevant permits (building permit, etc.);
- processing of project documentation for the implementation of savings measures;
- securing funding for the proposed measures;

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- supply and installation of the proposed savings measures, commissioning and handover to the customer;
- provision of other activities in accordance with the contract (quality guarantee, securing repairs, etc.);
- processing the documentation of actually carried out savings measures;
- development of operating rules, initial staff training and continuous staff training for the duration of the contract;
- guarantee for the achievement of contractually agreed guaranteed savings;
- monitoring and evaluation of the results achieved for the duration of the contract (implementation of energy management) in accordance with IPMVP.

Energy services companies provide comprehensive **services in the field of** energy savings. As a rule, the projects include comprehensive solutions for achieving energy savings. This involves a range of energy savings measures in the following fields:

- heat management;
- cooling equipment;
- management of energy systems and measurement and regulation systems;
- lighting;
- measures in the field of electricity consumption (installation of cogeneration units, replacement of transformers, power factor correction, etc.)
- ventilation and air-conditioning systems;
- water consumption savings;
- construction measures (exceptionally and additionally in the form of partial insulation or replacement of windows).

Each part of a customer's energy management is included in the project with regard to potential savings which the measures can create in the given area. The project does not have to include measures from all parts of energy management, which also depend on the customer's concept (for example, whether to limit measures only to several areas).

Conditions of certification in terms of obtained experiences

Energy services companies applying for certification should also meet conditions for certification demonstrating their experiences and references. These conditions are:

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- at least three-year history of the relevant company;
- implementation of at least three projects in the field of energy services provision in the last three years;
- for existing energy services companies, projects using the EPC method (each with a total investment of more than CZK 5 million without VAT) or projects using the EPC method where the achievement of guaranteed energy savings has already been assessed on an annual basis (calendar or regular year);
- in the case of "new" energy services companies, projects with at least three years of experience in the area of provision of similar energy services or three years of experience in the area of renovation of energy management for existing customers;
- composition of the team required for the provision of energy services.

The team implementing EPC projects in the energy services company should be composed of people who fulfil the qualification prerequisites for certification, i.e. "authorised engineers" (ČKAIT) who are in an employment relationship with the company (or in a contractual relationship with this company). These authorisations are usually required for the "building environment technology" field – specialisation in technical equipment (engineer) or specialisation in heating and ventilation technology (technician), or for the "technological equipment of buildings" field.

For the actual implementation of energy services, the energy services company should of course have a team made up of experts from various fields. In addition to an authorised engineer, which is a usual condition for qualification of companies in public tenders for the provision of energy services, the team should be composed of people with the following specialisations:

- **project manager – sales representative**, who is primarily in continuous business contact with the customer, arranges contractual aspects of the project and calculates the financial requirements of the whole project incorporating the deferred initial investments, financial costs in relation to the interest rate used and the costs associated with service in the implementation of energy management;
- **energy specialist**, who proposes various energy saving measures for the entire comprehensive solution, including financial assessment, and achievable energy savings potential;
- **implementation manager**, who prepares and implements the proposed energy saving measures, including ensuring the processing of the project documentation, installation, organisation of individual measures and their commissioning;

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- **energy manager**, who continuously monitors and evaluates the operation of installed measures that focus on the required information about consumptions obtained in monitored parameters (usually energy and water consumption), identifies and resolves any deviations from expected standard values and creates reports about the results achieved.

The titles of these work positions in the specific company do not have to be exactly the same as listed above, but the scope of activities and responsibilities of the position should correspond to this list.

Certification of consulting companies

Consulting companies enter the energy services project in the selection of supplier phase – as a rule announced in the form of a procedure with publication within public procurement for energy services provision with guaranteed savings. Often an assessment of the evaluation of achievement of guaranteed savings is also drawn up, which is submitted by the energy services company. Consulting services in this area should achieve a certain standard consisting mainly in expertise making possible the whole issue of the selection of a supplier of energy services. In this regard, it is suitable to also include certification of consulting companies among types of certification. Certification of consulting companies is intended for companies providing consulting services in the area of energy services, in particular in the selection of energy services companies by customers.

The proposed system is intended for companies that meet the following basic requirements:

- at least three-year company history;
- organisation of at least three reference public procurements for administration selection energy services companies / provision of energy services for the implementation of EPC projects with investment cost of at least CZK 5 million; reference procurements must be documented for the last three years;
- a team made up of workers having corresponding education and professional qualifications.

The team of the consulting company focusing on services in the area of energy services must be composed of workers with high technical expertise as well as workers with knowledge of economics and the financial sector and experience with public procurement. Workers with corresponding technical expertise in consulting companies are mainly energy auditors registered by the Ministry of Industry and Trade.

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The team focusing on energy services in the consulting company should thus be composed of:

- **a project manager/project leader**, who is the main coordinator of administrative and technical support of the project. The project manager may also be the person specialising in public procurement, the energy auditor or administrative support of the project;
- **a specialist in public procurement** with experience in the preparation and organisation of tenders for public procurements for projects using the EPC method (usually announced in the form of a public tender), who ensures the legal and organisational process of the award of a public contract and checks the contractual documentation and the continuity of all outputs/documents created within the provided services;
- **an energy specialist** in the field of energy audits with corresponding practice, who processes the technical part of the initial feasibility study for using energy services in the given buildings, lays down obligatory measures in the technical part of the tender documents, makes statements regarding the measures proposed by various energy services companies, assesses proposed technical measures in offers submitted by tenderers and examines the forms of verification of energy savings set down in the tenderers' offers;
- **a project support administrator**, who ensures administrative aspects of the project and the non-technical parts of reports and documents created within the provided services.

As in the case of certification of existing or new energy services companies, a commission specially named by the guarantor of the certification system (the Ministry of Industry and Trade of the Czech Republic) will again decide regarding the certification of consulting companies. The manner in which the commission evaluates applications and makes its decisions is described in below.

Description of the certification process

Companies that meet the primary prerequisites for each group of companies, whether providing energy services or consulting services, can proceed to the submission of the application itself and completion of the certification process, which results in a recommendation by the commission to approve or deny the granting of certification to the

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given company to the guarantor of the certification system, which is the Ministry of Industry and Trade of the Czech Republic.

As regards the various types of provided services and the number of references, instead of considering a single joint certification, it is more appropriate to set different types of certification according to the actual focus of the given activity (energy services companies, consulting companies). This approach will ensure the transparency of the certification acquired by the company in terms of the services provided, while eliminating possible discrimination of several companies and permitting the creation of healthy competition on the Czech energy services market.

a) Submitting the application

The application form for registration will be filled in on-line via a web interface and sent electronically to the administrator of applications for certification.

The complete application with all of the documents described above will be sent in list form to the address of the administrator in a sealed envelope marked with the application number and the name of the applicant.

After submitting the application for certification, a date for a meeting will be set by the commission, which will be specially named for the certification process by the guarantor of the certification system (the Ministry of Industry and Trade of the Czech Republic) and which will meet with the representatives of the company to discuss all details of their application and recommend that certification be granted or not granted. It is a good idea to set specific dates for the meeting of the commission, for example, twice per year.

The assessment will focus primarily on the administrative aspects of the application:

- formal requirements of the application;
- completeness of information.

Depending on the results of the meeting, the representatives of the commission may require additional materials and choose another date for the meeting.

Following the commission's evaluation, the administrator will create a summary report of the application focussing on the overall profile of the applicant. The summary report together with the complete report will be handed over to the commission for its assessment. On the basis of the assessment of the submitted materials and possible supplementing of required information, the commission will issue its recommendation either to approve or

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reject the granting of certification. The issuer of the certification itself will be the guarantor of the certification system, i.e. the Ministry of Industry and Trade of the Czech Republic.

Certification of energy services companies

Energy services companies which meet the prerequisites may proceed to **submit the application for certification**. The following materials must be included in the application for certification:

- **Filled in application form** for certification focussing on the provision of the following basic scope of information about the applicant:
- Basic structured information about the company, such as basic general information, ownership structure, basic economic data and characteristics of financial eligibility, characteristics of technical ability, number of employees, etc.;
- Information on the composition of the team that will carry out future projects;
- Overview of experiences to date in the form of at least three reference projects implemented in the area of provision of energy services with investment costs of at least CZK 5 million without VAT. The applicant shall submit references from the past four years. These references may be supplemented with information about orders which the applicant considers significant (including presentation of a reference list of individual customers);
- Affidavit concerning the truthfulness of the information provided. In case of false or misleading information, based on which the applicant has obtained certification, it can be removed without delay;
- Reference list of implemented reference projects signed by the relevant customers;
- **Certificate of completed education and expertise** of key employees – members of the team entrusted with implementing energy services projects (e.g. in the form of a certificate of "authorised engineer" (ČKAIT), authorisation to perform energy audits and other documents of completed education (university diplomas, etc.);
- At least two annual reports containing evaluation of achieved guaranteed savings in the reference projects;
- Description of the method of evaluating achieved savings and demonstration of compliance with the IPMVP.
- Brief characteristics of other implemented projects (at least three) in the form of reference lists confirmed by the customer containing:

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- a brief project description – name of customer, type of building, brief listing of assets, amount of the investment and length of maturity;
- minimum annual assessment of achieved guaranteed savings for projects shorter than two years, and other applicants submit the first and last implemented assessment of achieved savings.

"New" energy services companies, which are as yet unable to submit a reference list of already implemented projects using the EPC method, must submit:

- A description of current activities of the company related to the provision of energy services;
- Reference lists for at least three projects in the area of the provision of similar energy services and/or projects in the area of renovation of energy management facilities for existing customers;
- If the company participated in several energy services projects with guaranteed results as a sub-supplier, the company must submit a reference list confirmed by the supplier of energy services, including a brief description of the project and the sub-supplier's share in the total work;
- **A brief description of the quality management system** and internal control systems applied in the company;
- A description of the **energy management** process in implemented projects (may be based on the ČSN EN ISO 50001 standard);
- Extract from the Commercial Register;
- Extract from the Trade Register;
- Affidavit;
- Evidence that the company is not insolvent;
- Evidence that the company meets the basic qualification prerequisites pursuant to Section 53 of Act No. 137/2006 Coll., as amended.

First-level certification is granted for three years.

Certification of consulting companies

Third-level certification is intended for consulting companies, which provide their customers with consulting services in the area of energy services, in particular during the selection of energy services suppliers. The certification is intended for companies which already have at

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least three years of experience in this area. If the company meets these basic requirements, it can submit an application for **level three certification**. The materials that will be part of the application for certification are:

- **Filled in application form** for certification focussing on the provision of the following basic scope of information about the applicant:
- Basic structured information about the company, such as basic general information, ownership structure, basic economic data and characteristics of financial eligibility, characteristics of technical ability, number of employees, etc.;
- Information on the composition of the team that will carry out future projects – in particular information about completed education and work experience.
- Overview of experiences to date in the form of at least three reference projects implemented in the area of provision of energy services with investment costs of at least CZK 5 million without VAT. The applicant shall submit references from the past four years. These references may be supplemented with information about orders which the applicant considers significant (including presentation of a reference list of individual customers);
- Affidavit concerning the truthfulness of the information provided. In case of false or misleading information, based on which the applicant has obtained certification, it can be removed without delay;
- Reference list of implemented reference projects signed by the relevant customers;
- **Brief characteristics of three reference projects** provided with consulting services in the area of provision of energy services with guaranteed savings. Required investment costs for each reference project are CZK 5 million. Only projects which the applicant carried out on its own are accepted as reference projects, i.e. not those in which the applicant was represented by a sub-supplier.
- **Certificate of completed education and expertise** of key employees – members of the team focussing on consultation in the area of energy services – i.e. project leader, administrative project support and energy specialists in the area of energy audits (according to the register of energy specialists maintained by the Ministry of Industry and Trade);
- **At least two annual reports** containing a description of the company's activities and activities in the audited year (possibly adequate analogy describing the current activities of the company).

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- **Brief characteristics of other implemented projects** processing feasibility studies using the EPC method (at least three):
- brief project description – name of customer, number and type of building, brief listing of proposals, amount of investment and length of maturity;
- Extract from the Commercial Register;
- Extract from the Trade Register;
- Affidavit;
- Evidence that the company is not insolvent;
- Evidence that the company meets the basic qualification prerequisites pursuant to Section 53 of Act No. 137/2006 Coll., as amended.

Third-level certification is granted for three years.

b) Renewal of certification

The validity of certification of all types is time limited, as shown in the table below:

Table 7 Certification validity

Type of certification	Validity	Number of possible repeats
Certification of energy services companies	3 years	unlimited
Certification of consulting companies	3 years	unlimited

Renewal of certification for energy services companies

Certification has a limited validity of three years. Prior to the expiry of the validity of granted certification the energy services company may request renewal of certification.

If it does not request renewal of certification, the certification will end as at the expiry date and the company in question will be deleted from the **list of certified companies**.

Companies may apply for an extension of certification at the earliest six months before the expiry of the validity period of the certification, but no later than one month before the end of the validity of the granted certification. If the deadline is not met and the application for

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an extension is sent later, the extension of the certification does not need to be processed and the company will be at risk of suspension of its certification in the **list of certified companies**.

The application for extension of certification must contain the following requirements:

- Filled in certification extension application form containing:
- Basic company identification data, basic economic data;
- Fundamental changes in the ownership structure, financial eligibility of the company, changes in the number of employees, etc.;
- Information about changes in the composition of the team carrying out the implementation of future projects;
- Overview of implemented projects in the last three years, including their basic characteristics;
- Submission of **annual reports containing evaluation of achievement of guaranteed savings** for at least **two reference projects** implemented during the validity period of the certification. **Examples of implemented projects** will be submitted in a pre-defined structure of information and data. If the sample implemented project is approved as a good example of a project, it may be published in the database of projects (e.g. at www.sluzby-epc.cz);
- Affidavit concerning the truthfulness of the information provided. In case of false or misleading information, based on which the applicant has obtained certification, it can be removed without delay;
- Description of the method of evaluating achieved savings and demonstration of compliance with **IPMVP**;
- **Brief description of the quality management system** and internal control systems applied in the company;
- Description of the **energy management** system in implemented projects, for example according to **ČSN EN ISO 50001**;
- Reference list of implemented reference projects signed by the relevant customers;
- Extract from the Commercial Register;
- Extract from the Trade Register;
- Affidavit;
- Evidence that the company is not insolvent;

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- Evidence that the company meets the basic qualification prerequisites pursuant to Section 53 of Act No. 137/2006 Coll., as amended.

Documents 3 to 5 can also be submitted by means of a valid extract from the list of qualified suppliers.

Upon fulfilment of all requirements or presentation of additional information or documents at the request of the evaluating commission, the applicant will be issued a certificate again with a validity of three years.

Renewal of certification for consulting companies

Certification has a limited validity of three years. Prior to the expiry of the validity of issued certification, a consulting company may request renewal of certification.

If it does not request renewal of certification, the certification will end as at the expiry date and the company in question will be deleted from the **list of certified companies**.

Companies may apply for an extension of certification at the earliest six months before the expiry of the validity period of the certification, but no later than one month before the end of the validity of the granted certification. If the deadline is not met and the application for extension is sent later, the extension of the certification does not need to be processed and the company will be at risk of suspension of its certification in the **list of certified companies**.

The application for extension of certification must contain the following requirements:

- Basic structured information about the company, such as basic general information, ownership structure, basic economic data and characteristics of financial eligibility, characteristics of technical ability, main focus of advisory services, number of employees, etc.;
- Information about changes in the composition of the team carrying out the implementation of future projects – in particular information about completed education and work experience of new members of the team;
- Brief description of **one reference project** in which the applicant provided comprehensive consulting services in the last three years – i.e. preparation and organisation of large-scale orders or supervision of their implementation;
- Affidavit concerning the truthfulness of the information provided. In case of false or misleading information, based on which the applicant has obtained certification, it can be removed without delay;

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- Reference list of implemented reference projects (at least three orders) signed by the relevant customers;
- **Certificate of completed education and expertise** of new employees – new members of the team focusing on consulting in the area of energy services, if this information was not already provided as part of the notification obligation;
- **Annual report for the past period** (or adequate period describing the current activities of the company);
- Extract from the Commercial Register;
- Extract from the Trade Register;
- Affidavit;
- Evidence that the company is not insolvent;
- Evidence that the company meets the basic qualification prerequisites pursuant to Section 53 of Act No. 137/2006 Coll., as amended.

Documents 4 to 6 can also be submitted by means of a valid extract from the list of qualified suppliers.

Upon fulfilment of all requirements or presentation of additional information or documents at the request of the evaluating commission, the applicant will be issued a certificate again with a validity of three years.

c) Notification obligation

All certified subjects are bound by a notification obligation and are obliged to notify all basic changes which could have an influence on the level of provided services. If such a change occurs, the subject is obliged to notify the administrator of the certification (APES) without undue delay.

Any changes will be discussed by the commission, which is authorised to call upon the authorised representative of the subject to participate in the discussions and to explain any changes, if necessary. The result of the commission's deliberations will be a decision on whether the change has a negative influence on the provision of services by the subject in question leading to a breach of one of the basic prerequisites for obtaining certification. If the commission finds that the changes led to such a breach, it is authorised to decide to suspend the certification of the given subject and call upon it to remedy by the stipulated deadline or to decide to revoke certification.

A notification obligation arises in particular for changes in these areas:

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- **Personnel changes in the composition of the implementation team** – if any change occurs in the basic composition of the team, the energy services company is obliged to notify this;
- Significant changes in the financial situation – e.g. loss of creditworthiness;
- Changes in the application of the quality management system and the application of the ČSN EN ISO 9001 standard;
- Information on the initiation of insolvency proceedings;
- Information on the nonfulfillment of one of the basic qualification prerequisites under Section 53 of Act No. 137/2006 Coll., as amended;

Breach of the notification obligation may lead to revocation of the certification of the subject who breached the obligation and its deletion from the list of certified companies.

Loss of certification and its renewal

In some cases, the certification of a certified energy services company or consulting company may be revoked. Certification can be revoked for a **very serious breach of certification conditions**, which as a result lead to errors by the customer of the certified company or which involve provision of false information and thus fraudulent obtainment of certification.

The following are considered very serious breaches of certification conditions:

- Provision of false information in the application for certification;
- **Submission of invalid or fake documents** together with the application for certification;
- Breach of the notification obligation;
- **Failure** by the energy services provider **to comply with the "Ethics Code"**;
- **Submission of insufficient quality** reference project in any certification round;
- If the energy services company or consulting company is unable to give evidence of the basic composition of the team with sufficient experience.

The commission will discuss cases of very serious breach of certification conditions. The commission is authorised to request information explaining why the breach occurred with the aim of obtaining as much information as possible for its decision-making.

Renewal of certification will be at least two years after revocation of certificate for energy services companies, but with the same process as for new energy services companies.

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In the area of reference projects, however, it is possible to submit projects which fulfil the prerequisites and that were submitted during the past certification.

Suspension of certification

In some cases, the commission can decide only to **suspend certification** in cases when it is possible to arrange a rapid rectification and no major breach of the certification conditions occurred, leading to an error by one of the customers of the energy services companies. The commission decides on the degree of seriousness of the breach. If the commission decides to suspend certification, it shall at the same time set a deadline by which the certified company is obliged to arrange rectification. If no rectification occurs without there being a very serious reason following from the conduct of third parties, the commission shall proceed to **revoke certification**.

For the period of suspension of certification the company shall remain listed in the **list of certified companies**, however with a note indicating that certification has been suspended.

d) Process of approving application for certification

Guarantor of the certification system

The guarantor of certification, the Ministry of Industry and Trade, is the highest body in the certification process system, which issues a document on obtainment of certification (signed valid certificate affixed with the stamp of the guarantor) and names the commission which is in the position of the executive body.

Executive body of the certification system

The **commission** named by the guarantor should consist of technical specialists in the area of energy savings and provision of energy services, representatives of consulting companies from the area of energy services provision and representatives of law firms in the area of organisation of public procurements. The **administrator of the certification system (APES)** may propose candidates to the guarantor for members of the commission. The members of the commission are **named for five years**.

The optimal composition of the commission is as follows:

- 1 representative of the guarantor (MIT);
- 1 independent external representative chosen by the guarantor (MIT);

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- 1 representative of consulting companies, member of APES, with experience in the area of energy services (in the commission for certification of consulting companies also representatives of energy services companies, member of APES) – both representatives will be nominated on the basis of elections within APES);
- 1 representative from the area of organisation of public procurements with experience of energy savings projects managed in the form of provision of energy services;
- 1 energy specialist with experience of energy savings projects managed in the form of provision of energy services.

Approval of applications for certification and other powers of the commission

The commission convenes according to a predetermined schedule of meetings. It is a good idea to set specific dates for the meeting of the commission, for example twice per year. At these meetings **approval of applications for certification** is discussed. Applications are presented to the commission by the **administrator of the certification system (APES)** together with a summary of the contents of the application and a statement regarding the fulfilment of the formal requirements of the application.

The commission will call upon the statutory or authorised representative of the company to participate in the meeting on the certification of the given energy services company or consulting company. The commission will issue either a favourable opinion on the certification of the applicant or request additional information in order to make a decision on the granting or rejection of certification.

The results of the commission's deliberations are always presented to the guarantor of the certification system.

In addition, the commission will discuss applications to extend certification in a similar way as applications for certification. Furthermore, on the basis of a proposal by the administrator of the certification system, the commission will discuss possible breaches of conditions for certification and will issue a **decision on suspension or revocation of certification**.

Administrator of the certification system

The proposed administrator of the entire certification system is the **Association of Energy Services Providers (APES)**. The administrator of the certification system should perform the following activities:

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- receiving applications for certification/extension of certification;
- checking the formal requirements of applications – if necessary call upon the applicant to make corrections / additions;
- processing materials for the meeting of the commission about applications;
- keeping a list of certified companies on selected websites (e.g. <http://www.apes.cz/>) and its updating at least after each meeting of the commission;
- submission of proposals to examine the fulfilment of certification conditions to the commission;
- submission of proposals regarding the composition of the commission to the guarantor of the certification system;
- submission of proposals for changes and adjustments to the certification process.

Evaluation of applications

Upon fulfilment of the formal requirements for certification the application is passed on to the commission for evaluation. The commission decides on the basis of the fulfilment of various criteria, focussing in particular on the profile of the applicant, the character and level of provided services, in particular whether the provided services fulfil the concept of guaranteed energy services.

With regards to the subject matter of the evaluation, mainly the qualitative aspects of the evaluation are taken into consideration. Quantitative evaluation is only used in the case of reference projects based on the scope and investment demands of the project. Each evaluated area will be assigned points according to a scale. **The scale for the evaluated areas is set by the commission at its first initial meeting** (on the basis of the proposal of the administrator of the certification system).

In its assessment, the commission focuses on the following evaluation criteria (the commission checks the submitted proposal for evaluating selected points according to the certification level):

- Financial eligibility of the energy services company –in its evaluation the commission will assess the company's level of indebtedness, fulfilment of obligations (unpaid obligations, bank references), profitability ratios (ROA, ROE) – the aim of the assessment is to determine the financial health of the company and its overall value;
- Litigation, arbitration, etc.;

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- Quality of the implementation team – the evaluation is focused mainly on the relevant experience of the team;
- Quality and scope of reference projects:
- volume of investments;
- scope of projects – the number resolved buildings, energy savings which the project addresses;
- amount of guaranteed savings and comparison with baseline (%);
- technical level of projects – measures installed and technologies used;
- success in achieving guaranteed savings based on annual evaluation reports;
- Method of evaluating achieved savings in implemented projects – the commission focuses on the **application of IPMVP** in these evaluations;
- The level of provided services in energy management – the commission focuses on whether these services comply with the principles established in the **ČSN EN ISO 50001** standard;
- For newly established companies, the applied quality management system and concept for resolving projects, proposed method of evaluating achieved savings, procedures and principles applied in energy management services with an emphasis on the application of **IPMVP** and the **ČSN EN ISO 50001** standard are assessed.

4.2.4. System of certified energy services providers from the point of view of public procurement

Under the provisions of Directive 2012/27/EU, on energy efficiency, Member States are obliged to introduce a system of qualification, accreditation and certification in the area of the provision of energy services, energy management and in the area of the installation of building elements related to energy. In this connection, last year (2013) a publication was released proposing a method of certification of energy services companies and consulting companies in the Czech Republic entitled **Certification of Energy Services Companies** (the "**certification proposal**"). The publication aimed to process proposals for a system of quality verification in the provision of energy services by energy services companies in the Czech Republic.

The proposed system is based on specification of the form of provision of energy services and its basic parameters according to which provided energy services may be assessed. On the basis of presented specifications, criteria for the fulfilment of qualification prerequisites

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were set, which energy services companies with an interest in being ranked among companies certified to carry out announced public procurements in relevant areas ("**EED certification**") will have to fulfil. It is assumed that certified energy services companies will be listed in a publicly accessible Register of Certified Energy Services Companies, which will lead to increased transparency in the sector and simplification of the process of selecting a provider of energy services with guaranteed savings.

In addition to support and development of qualified energy services companies and standardisation of the level of provision of energy services, the goal of introducing a certification system for energy services companies is also to connect the certification system with the statutory regulation of public procurement for the purpose of supporting public sector initiatives in the area of increasing energy efficiency.

Already in the above-mentioned proposal of certification it was previously announced that the approval of "new" European procurement directives and their subsequent implementation into Czech law presents an ideal opportunity for combining the system of evidencing qualifications according to public procurement with the EED certification system.

The aim of this part of the publication is to draft concrete legislative measures for the purposes of ensuring that EED certification issued by the Ministry of Industry and Trade of the Czech Republic is on par with the certificate from the system of certified suppliers pursuant to Section 133 an. ZVZ.

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5 Recommendations and conclusions

Certification provides a wide range of benefits. It is an important differentiator against competitors and provides the client with additional trust in the service or the executing company. This way the client obtains security about the level of quality s/he will get. Without certification schemes comparison of different offers is difficult. Hence certification helps the client to differ between “good quality” and “bad quality” offers. Certification provides the client with clarity and sets a certain level of transparency. Furthermore, quality assurance instruments enable the client to discuss comprehensively with the provider various issues of quality. Transparent quality criteria help both, the client and the provider, to establish a common understanding of quality of the energy efficiency service. **It is advisable to check which dimension of quality should be certified: the energy service provider, the energy efficiency service or the order quality (preparedness for the client). The Austrian good practice case (chapter 4.1) explains that – in a first step – quality criteria for the service itself were developed. A comprehensive set of quality criteria stipulates the core of every certification scheme.**

A quality certification scheme should be offered to reasonable cost and efforts in order to beware of additional (entrance) barriers as the market of energy services is still a young one. The aims of quality certification are the acceleration of the energy efficiency services market, supporting transparency and comparability and boosting competition. **Therefore, the developer of a quality assurance scheme – very likely an association or governmental institution – has to consider if the scheme should be developed from scratch, or the scheme ties up with existing quality assurance instruments for EPC, which can be used as a starting point.** There are quite many good practice examples available (e.g. in Austria and in the Czech Republic). An overview on European certification for EPC, energy services and certification schemes from related commercial sectors are given in chapter 3.3.3. **Tying up with existing quality assurance schemes from other European countries can help to reduce cost and saves valuable time.** For instance, during the development of the Austrian case about quality criteria for energy services, about ten meetings were necessary. Each meeting lasted up to three hours, excluding preliminary work and wrap-up. Thus it is highly recommended to use the existing know-how or schemes and adapting them to national market conditions. It is possible that certified energy efficiency services like EPC have higher upfront cost for the client. However, due to relatively higher quality over the life cycle of the service the sensitivity of the service is certainly reduced and helps the client to save cost

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over the life cycle in comparison with a standardised implementation of energy efficiency services.

Along with certification different risks are associated. A serious risk is that the certification scheme does not find the expected market uptake by clients and/or providers. **Therefore it is advisable to foster an inclusive market development approach.** First, a market survey should be conducted, if a certification scheme is relevant, and what kind of certification scheme suits to the national market circumstances most. The inclusion of various market actors during the development phase is necessary in order to assure a broad commitment with respect to the selection of the potential certification body. As explained in chapter 3.2.3 a certificate is provided by an independent body, a so called certification body, assuring that the product, service or system in question meets specific requirements. **It is necessary that a broad consensus on these guiding principles is given among most important stakeholders.** For this reason it is recommended to commonly evaluate or discuss advantages and disadvantages of several certification bodies. Also it should be checked if the certification body is accredited or not. As said previously, non-accreditation does not mean it is not reputable, but it does provide independent confirmation of competence. If there is no commitment from most relevant market actors on the upcoming certification body, process and objectives the quality assurance scheme is likely to be neglected by market actors.

Check www.transparense.eu and get in touch with national contact points.

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References

Baumgartner, B., Bleyl, J.W., Varga M. and Kuhn, V. (2008): Quality Assurance Instruments (QAI) for energy services. Manual developed within the framework of the IEE project Eurocontract, Graz Energy Agency. URL: <http://ec.europa.eu/energy/intelligent/projects/en/projects/eurocontract>.

Di Franco, N. and Forni, D. (2010): Qualification-Accreditation-Certification Schemes: Administrative Aspects. Technical Summary Report TSR05. Concerted Action Energy Service Directive (CA ESD). www.esd-ca.org.

EACI (2011): Boosting the Energy Services Market in Europe. Experiences & recommendations from IEE projects. Conclusions – IEE workshop. Brussels, 23 February 2011. URL: http://ec.europa.eu/energy/intelligent/files/events/doc/contrmeetings/workshop_summary_energy_services_final_en.pdf.

Eurocontract (2007): Certification, qualification schemes and networks for ESCOs. WP 4 Final Manual Nr. 2, Version 070830. Developed within the framework of the IEE project Eurocontract. Berliner Energieagentur GmbH and FIRE. URL: <http://ec.europa.eu/energy/intelligent/projects/en/projects/eurocontract>.

European Parliament (2012): Energy Efficiency Directive 2012/27/EU (EED). URL: <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32012L0027>.

FAO (s.a.): The concepts of standards, certification and labelling. URL: <http://www.fao.org/docrep/006/Y5136E/y5136e07.htm#fn8>.

Garnier O. (2013): European EPC market overview, Transparensense project report D2.1, London, December 2013

ISO (2012): Environmental labels and declarations. How ISO standards help. ISBN 978-92-67-10586-4. <http://www.iso.org/iso/environmental-labelling.pdf>.

ISO (2015): Certification. URL: <http://www.iso.org/iso/home/standards/certification.htm>.

JRC (2014): European ESCO Market Report 2013. URL: <http://iet.jrc.ec.europa.eu/energyefficiency/publication/european-esco-market-report-2013>.

Kulterer, K. (2014): Zertifizierung, Akkreditierung und Ausbildung von Energieauditoren, Energiedienstleistern und Energiemanagern im Rahmen der RL 2012/27/EU. Austrian Energy Agency by order of BMWFW. URL:

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<http://www.bmwf.at/EnergieUndBergbau/Energieeffizienz/Documents/Conclusio%20zu%20ZAQ%20EED%2027.8.2014.pdf>.

Leutgöb, K., Irrek, W., Tepp, J. and Coolen, J. (2011): Strategic product development for the Energy Efficiency Service market. The ChangeBest Energy Efficiency Service Development Guide. 2nd Edition. Guide developed within the framework of the IEE project ChangeBest. URL:

http://www.changebest.eu/images/stories/deliverables/changebest_guide_ees_development.pdf.

Persson, A. (2014): Consumer information programmes, training and certification of professionals. Concerted Action Energy Efficiency Directive (CA EED). URL: www.esd-ca.eu/reports/core-theme-series-reports/ca-eed-reports-covering-work-from-january-2013-to-may-2014/consumer-information-programmes-training-and-certification-of-professionals.

Staničić, D. and Bevk, P. (2014): D4.2 EU Summary Report on Energy Performance Contracting Quality. Report developed within the framework of the IEE project Transparense. URL: <http://tinyurl.com/pewzkg>.

Staničić, D., Szomolányiová, J., Valentová, M., Sochor, V. and Maroušek, J. (2014): European Code of Conduct for Energy Performance Contracting. Code developed within the framework of the IEE project Transparense. URL: <http://www.transparense.eu/eu/epc-code-of-conduct/epc-code-of-conduct>

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Definitions and glossary

Term	Definition
energy efficiency (EE)	means the ratio of output of performance, service, goods or energy, to input of energy (as defined by EED)
energy efficiency improvement	means increase in energy efficiency as a result of technological, behavioural and/or economic changes (as defined in EN 15900:2010)
energy efficiency service	The European standard EN 15900:2010 defines an EES as an agreed task or tasks designed to lead to an energy efficiency improvement and other agreed performance criteria.
energy management system	means a set of interrelated or interacting elements of a plan which sets an energy efficiency objective and a strategy to achieve that objective (as defined by EED)
energy savings	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 (as defined by EED)
final energy consumption	means all energy supplied to industry, transport, households, services and agriculture. It excludes deliveries to the energy transformation sector and the energy industries themselves (as defined by EED)
guarantee of energy efficiency improvement	means commitment of the service provider to achieve a quantified energy efficiency improvement (as defined in EN 15900:2010)
energy performance contracting (EPC)	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 (as defined by EED)

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EPC provider	means a natural or legal person who delivers energy services in the form of Energy Performance Contracting (EPC) in a final customer's facility or premises
energy service provider /energy service company (ESCO)	means a natural or legal person who delivers energy services or other energy efficiency improvement measures in a final customer's facility or premises (as defined by EED)
energy service (ES)	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 (as defined by EED)

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Annex: Market survey on quality certification schemes

Country	Name of system	Scope (EPC, ES or other)	Brief explanation (1-2 sentences)	Status of implementation (in development; test phase; approved; implemented; cancelled)	Year of (expected) implementation	Name of institution(s) involved	Website(s) and/or contact details	Brief comment on experiences / market feedback / Link to further reading.
Austria	DECA – quality criteria for energy efficiency services	EPC and other	A quality assurance system for energy services was developed. The criteria are operationalised in order to apply them in a transparent and traceable way. Also an evaluation method and tool was developed.	test phase	2016	Board of DECA - Austrian Association for energy efficiency service providers and contracting; e7 Energie Markt Analyse GmbH	www.deca.at www.e-sieben.at	Currently the criteria undergo an ex-post analysis in two pilot projects (1 client; 1 ESCO). Feedback will be incorporated; Updated quality criteria will be made public in summer 2015.
Austria	Thermoprofit	ES	Quality label for contracting services; It is a public-private partnership; The Thermoprofit Network consists of suppliers of total service packages. They co-operate with regional enterprises in the execution of projects. They commit themselves to the Thermoprofit quality standards and are certified by the Thermoprofit-Commission as qualified and professional contractors. The Graz Energy Agency co-ordinates the networks.	implemented	1996	Graz Energy Agency	www.grazer-ea.at	Thermoprofit quality criteria can be found here: http://www.grazer-ea.at/cms/arbeitsfelder/contracting-thermoprofit/idart_1248-content.html
CZ	Proposal of the certification system for EPC providers	EPC	Different variants of the certification system institutionalisation are discussed. List of requirements for certified ESCOs has been made.	under development	n.a.	Ministry of Industry of the Czech Republic (MPO), Czech association of the energy service providers - APES	www.mpo.cz www.apes.cz	
BE	Deontological code of the Flemish association of Energy service providers	ES	The code that has to be signed by the ES-provider includes: 1. Societal responsibility 2. Responsibility towards the client 3. Integrity	implemented	n.a.	OVED	http://www.oved.be/	The code can be found here: http://www.oved.be/deontologischescode-0
BG	National certification system for sustainable buildings	Other	Includes standardized methods for assessment of integrated sustainability characteristics of buildings. Under development by national technical committee БИС/ТК 101 "Sustainable Construction"	under development	2016	Ministry of Regional Development, Architect Chamber, Construction Research Institute, National Standardization Institute		
DE	Blauer Engel - Energiedienstleistungen mit Energiespar-Garantie-Verträgen	EPC	Certificate for energy services including energy saving contracts. Main criteria: CO2-eq savings of >=30% Primary Energy savings of >=25%	implemented	2012	RAL gGmbH	https://www.blauer-engel.de/en/products/energy-heating/energy-services-provided-under-guaranteed-energy-savings-contracts	No active auditing companies on the market.
DE	CoC for Energy Supply Contracting	ESC	Basic principles (document is not public!): - use of distinct formulations and definitions - compliance to the promises made in the offer - compliance to all relevant standards and laws - transparent depiction of valorization - compliance to the recognized rules of technology - Confirmation of the ESCO qualification by continuing education	implemented by 22 qualified organisations	before 2012	AGFW - association for district heating, cooling and CHP (for large scale power plant operators - such as municipal utilities)	https://www.agfw.de/wirtschaftsundmarkt/energiedienstleistungen/verhaltenskodex-fuer-contractoren/	

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DE	BUND Gütesiegel Energiesparendes Krankenhaus	other	The BUND Certificate for Energy Saving Hospitals is awarded to hospitals that manage to fulfill certain energy consumption criteria. These criteria are: C1 reduction of CO2 emissions, C2 continuous reduction of energy consumption, C3 stable consumption on an optimized level and C4 implementation of an energy management scheme.	implemented in 2001		BUND, technical experts such as the BEA	http://www.energiesparendes-krankenhaus.de/index.php?id=514	43 hospitals have been certified since 2001, some of them have been recertified (after a five year period) even twice.
DK	Danish Standards (S-432)	EPC and other	Danish Standard has established a Committee to develop standards with energy management, ESCO and energy efficiency. Several standards/guides are under way including for monitoring and verification of energy savings and for establishment of baselines.	under development	2016	Danish Standards, Danish Energy Authority, Danish Nature Protection Agency, Danish Ecological Council, Alectia, Danish Gas Technology Centre	http://www.ds.dk/da/udvalg/kategorier/ledelsessystemer/energieledelse-escos-og-energieffektivitet	
ES	ANESE Impress	ES	ANESE is one of the ESCO associations in Spain. They have established some requirements to become a "Quality ESCO". TÜV certifies the fulfilment of the requirements	implemented	2014	ANESE, TÜV	http://www.anese.es/?p=16731	
GR	No certification scheme for EPC or energy services, only for energy efficient products, companies (including ESCOs) and persons in building and construction sector	Other	Approval, Certification and Classification system for construction companies and engineers. The certificate serves as an indication for what the companies are qualified to do in a construction projects. The Ministry of Public Works and the Technical Chamber of Engineers is overlooking these certifications. The Ministry of the Environment, Energy and Climate Change keeps the ESCOs Registry.	implemented	n.a.	Ministry of Public Works, Ministry of the Environment, Energy and Climate Change, the Technical Chamber of Engineers	http://www.escoregistry.gr/ http://exoikonomisi.ypeka.gr/Default.aspx?tabid=630&Search=EEY&locale=en-US&language=el-GR http://portal.tee.gr/portal/page/portal/INTER_RELATIONS/english/role	National Energy Efficiency Program for Municipal buildings (EXOIKONOMO) http://www.ypeka.gr/Default.aspx?bid=842&NationalEnergyEfficiencyProgramforhouseholds , http://www.ypeka.gr/Default.aspx?tabid=526&locale=el-GR&language=en-US
HU	No certification scheme for EPC or energy services, only for products, services, companies and persons in building sector	Other	BREEAM sets the standard for best practice in sustainable building design, construction and operation, while LEED certification provides independent, third-party verification that a building, home or community was designed and built using strategies aimed at achieving high performance in key areas of human and environmental health. The Hungarian Green Building Council is overlooking these certifications.	implemented	n.a.	Hungarian Green Building Council	http://www.hugbc.hu/page.php?id=30&lang=en	
IT	UNI CEI 11352:2014	ES	Energy Management - Energy Services Companies (ESCOs). General requirements and checklist for requirements verification. It is the Italian rule that establishes the minimum requirements for companies that want to play the role of ESCO. The standard outlines the minimum requirements for energy efficiency services and capabilities that the ESCO must have to be able to offer these kind of services to its costumers.	in use	May 2014	UNI - CEI Milano	www.uni.com	This UNI CEI standard accomplish the European framework composed by the UNI CEI EN 16001 and UNI CEU 11339. All together these regulations accomplish the EU Directive 2006/32/CE.

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Country	Name of system	Scope (EPC, ES or other)	Brief explanation (1-2 sentences)	Status of implementation (in development; test phase; approved; implemented; cancelled)	Year of (expected) implementation	Name of institution(s) involved	Website(s) and/or contact details	Brief comment on experiences / market feedback / Link to further reading.
LT	No certification schemes for EPC , on energy service , only for Energy Auditors in buildings ans industry	Other	The Lithuanian Energy Agency is overlooking these certification.	in use	n.a.	Energy Agency	http://www.ena.lt	
LV	BREEAM	Other	BREEAM is an international environmental assessment method and rating system for buildings. The Latvian Sustainable Building Council is trying to develop this system in Latvia	under development	n.a.	Latvian Sustainable Building Council	http://www.ibp.lv/en	It is under development for public buildings; One pilot project was carried out
NL	QBIS and also BREEAM	Other	QBIS:this is a quality registration for companies and for persons in the building and installation sector. To be included in the register of QBISnl as a person you need to do an accredited exam. After passing the exam the examining body will guarantee that you will be entered in the register. QBISnl takes on the registry which companies meet certain labels like recognitions of the Foundation for Quality Installations Netherlands (KvNl), and Depk (certification for solar systems).				http://www.qbis.nl	
NO	NS 6430:2014	EPC	National standard for EPC contracts.	implemented	2015	Standard Norway	www.standard.no	First EPC projects published using the new standard in February 2015. Development of facilitator market happening.
NO	Central/local Approval for construction companies	Other	Approval system for construction companies. The certificate serves as an indication for what the companies are qualified to do in a construction projects.	implemented	n.a.	Directorate for building control	http://www.dibk.no/sentral_godkjenning	http://www.dibk.no/no/SENTRAL_GODKJENNING/Om-ordningen/Frequently-asked-questions/
PL	Energy Audit	ES		in use	2012			
PT	ECO.AP	EPC	The main objectives of the programme are: - Promote the efficient use of energy in Central Government; - Promote the development of the ESCO market in Portugal, both on the public and private sector; - Contribute to achieve the goals established in NEEAP to reduce energy consumption in Public Administration Sector in 30% until 2020. Main measures: -Existence of an Energy Manager in all Central Government Bodies; -Development of the Barometer ECO.AP in order to evaluate the energy efficiency Central Government Sector -Development of Energy Performance Contracts in the buildings/equipments with a higher energy consumption (or inefficiency); -Development of energy efficiency action plans for the remaining buildings or equipment.	test phase	2011	DGEG and ADENE	http://ecoap.adene.pt/	The legal framework conditions, the minimum requirements for operation, inspection and accreditation of the ESCO business and the establishment of EPCs are in place and the potential for improvements is high.However, to accelerate the diffusion of EPCs in Portugal, it is necessary that the decision makers are consciousness, have the knowledge and trust about the advantages of establishing EPC contracts, and especially there is a need to establish/create a financing mechanism that joint efforts from the Portuguese government, EU funds and commercial banks to develop long term financing solutions for Energy Efficiency projects. The Fund for Energy Efficiency already exists but it needs to be provided with more funds.

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Country	Name of system	Scope (EPC, ES or other)	Brief explanation (1-2 sentences)	Status of implementation (in development; test phase; approved; implemented; cancelled)	Year of (expected) implementation	Name of institution(s) involved	Website(s) and/or contact details	Brief comment on experiences / market feedback / Link to further reading.
PT	Qualification System of Energy Services Companies	ES	The qualification framework for ESCOs has been introduced with the Eco.AP. There is an approval system with strict financial and technical benchmarking. There are two different layers of projects, with different requisites to accommodate small and larger ESCOs, but all have the technical and financial structure to make long term energy performance contracts.	implemented	2011	DGEG and ADENE		In 2011, when the law to promote energy efficiency in the public sector and the diploma to legislate ESCO activity was ratified (DL n° 2/2011 and n° 29/2011) and the ECO-AP programme aiming at promoting energy efficiency in the public buildings was launched, the number of ESCOs has increased significantly, and more than 100 companies, including utilities, suppliers, consulting companies (including several SMEs), etc., have registered as ESCO companies, in the national registry database (DGEG), with the expectation of participating in the public procurement of energy services, in the scope of the ECO.AP.
SE	BREEAM, LEED and Miljöbyggnad	Other	No certification of EPC or energy services exist (yet). However, the Swedish Energy agency has made a survey concluding there may be a need for that. The new ESCO Association has also plans of introducing a certification scheme for energy services. In Sweden, we do have several other certification schemes, especially for buildings. We have Swedish adaptations of both BREEAM and LEED. There is also a Swedish building certification scheme called "Miljöbyggnad" (Environmental building).	Implemented		Swedish Green Building Council	www.sgbc.se	
SI	Quality Label in Construction	Other	Voluntary green label and a trade mark for outstanding quality. Quality Label in Construction is awarded to products, equipment, technologies and services that meet high, professionally prepared and internationally comparable specifications of quality. Additionally, suppliers of products and services shall implement a quality assurance system and work towards business excellence. Environmental, social and economic aspects are also reviewed in the assessment process.	implemented	1996	Building and Civil Engineering Institute ZRMK	http://www.gi-zrmk.si/centri_dejavnosti/gradbeni_center/znak_kakovosti_v_graditeljstvu/	Building and Civil Engineering Institute ZRMK developed a system for assessment of products, equipment, technologies and services with corresponding criteria sets already in 1996, which laid foundations for establishment of the Quality Label in Construction (ZKG). In the following year the first assessment was performed for windows manufactured in Slovenia. Until now 161 Quality Labels in Construction have been awarded in 28 areas of assessment.
SK	Certification of construction products	Other	Quality Label in Construction is awarded to products, equipment, technologies and services that meet high, professionally prepared and internationally comparable specifications of quality. Additionally, suppliers of products and services shall implement a quality assurance system and work towards business excellence. Environmental, social and economic aspects are also reviewed in the assessment process.	implemented	n.a.	Building Testing and Research Institute	http://www.tsus.sk/sluzby/certifikacia_sv_en.php	

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Country	Name of system	Scope (EPC, ES or other)	Brief explanation (1-2 sentences)	Status of implementation (in development; test phase; approved; implemented; cancelled)	Year of (expected) implementation	Name of institution(s) involved	Website(s) and/or contact details	Brief comment on experiences / market feedback / Link to further reading.
SK	Voluntary certification of the product and quality mark TSUS	Other		implemented	2006	Building Testing and Research Institute	http://www.tsus.sk/sluzby/certifikacia_sv_nepov_en.php	
SK	Approving installers of specific construction products	Other	Quality Label in Construction is awarded only to products, equipment, technologies and services that score a certain number of points in the process of assessment. The ZKG Awardee has the right to use the trade mark for the awarded products and services for a certain period of time.	implemented	n.a.	Building Testing and Research Institute	http://www.tsus.sk/sluzby/licencie_en.php	
UK	ENERGY PERFORMANCE CONTRACTING (EnPC) UK CODE OF PRACTICE & GUIDANCE	EPC	EPC Code of Practice for the UK expected to reference the EU CoC for EPC. Much longer at 32 pages. Seeks agreement from all parties involved in EPC in the UK.	Draft. Test Phase.	2016?	Energy Managers Association	http://www.theema.org.uk/latest-initiatives/	Last draft in March 2014 - the current aim is to test it with a pilot project and feedback with practicalities before publishing the Code. We haven't seen any activity for a while. Strategy board developing the code includes major ESCOs and facilitators... <ul style="list-style-type: none"> • AECOM (Davis Langdon) • British Gas plc. • Balfour Beatty Plc. • EDF Energy • E.ON SE • Honeywell UK • NIFES Consulting Group • Pinsent Masons LLP • Telefónica O2 UK • Willmott Dixon Group
UK	ASPCoP - Automated Meter Reading Service Providers Code of Practice for Gas Meters.	Other	Quality assurance programme for AMR Service Providers (the organisation that reads your meter automatically and provides meter data to the customer, energy supplier or others as contracted)	Implemented	2009	Energy Services and Technology Association	http://www.esta.org.uk/RESOURCES/ASPCoP/	95% of Service Providers are part of ASPCoP
UK	CHPQA - Combined Heat and Power Quality Assurance Programme	ES / Other	Voluntary Quality Certification for Combined Heat and Power installations aimed at understanding and improving quality of CHP in the UK.	Implemented	2001	Department of Energy & Climate Change	https://www.gov.uk/combined-heat-power-quality-assurance-programme	