



COUNTRY REPORT ON THE ENERGY EFFICIENCY SERVICES MARKET AND QUALITY

France



QualitEE Project

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

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Definitions and glossary

Term	Definition
Client	Means: any natural or legal person to whom an energy service provider delivers an energy service
Energy Efficiency Directive (EED)	Means: Directive 2012/27/EU of the European Parliament and of the Council of 25 October 2012 on energy efficiency
energy efficiency improvement*	Means: increase in energy efficiency as a result of technological, behavioural and/or economic changes
energy efficiency*	Means: the ratio of output of performance, service, goods or energy, to input of energy
energy efficiency service (EES)**	Means: an agreed task or tasks designed to lead to an energy efficiency improvement and other agreed performance criteria
energy efficiency improvement*	Means: an increase in energy efficiency as a result of technological, behavioural and/or economic changes
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
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
energy supply contracting*** (ESC)	Means: a contractual arrangement for the efficient supply of energy. ESC is contracted and measured in Megawatt hours (MWh) delivered
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
energy service*	Means: 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
energy service provider (ESP)*	Means: a natural or legal person who delivers energy services or other energy efficiency improvement measures in a final customer's facility or premises
energy*	Means: all forms of energy products, combustible fuels, heat, renewable energy, electricity, or any other form of energy, as defined in Article 2(d) of Regulation (EC) No 1099/2008 of the European Parliament and of the Council of 22 October 2008 on energy statistics
EPC provider	Means: an energy service provider who delivers energy services in the form of Energy Performance Contracting
ESC provider	Means: an energy service provider who delivers energy services in the form of Energy Supply Contracting

energy service project facilitator (facilitator)	Means: an advisory company working on behalf of the client to provide and/or implement an energy service project
Integrated Energy-Contracting (IEC)	Means: a combination of energy efficiency measures with energy supply contracting typically with short term 'operational verification' rather than ongoing Measurement & Verification
Savings	Means: energy savings and/or related financial savings; the financial savings include the costs of energy provision and can also include other operational costs, such as the costs of maintenance and workforce
The International Performance Measurement and Verification Protocol (IPMVP)	IPMVP is the widely referenced framework for "measuring" energy or water savings and is available at www.evo-world.org

Notes:

*Definitions according to the Energy Efficiency Directive

**Definition according the European standard EN 15900:2010

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

1 EXECUTIVE SUMMARY

The objective of this report is the compilation of evidence to inform the development of European & National quality criteria and implementation of quality assurance schemes for Energy Efficiency Services (EES). This report is a part of the project titled “QualitEE – Quality Certification Frameworks for the Energy Efficiency Services” funded by the EU’s Horizon 2020 programme. The QualitEE project aims to increase investment in Energy Efficiency Services and improve trust in service providers.

Information has been collected through a market survey and interviews as well as research from existing local and national literature. An analysis has been conducted and its conclusions are presented in this report as well as in online database on QualitEE project website.

Report aims to improve the market knowledge of stakeholders in order to take better informed decisions based on evidence. Barriers and success factors for energy efficiency services, their quality determinants and as well as related legal, political and institutional framework have been mapped. Lessons learned from existing certification frameworks will serve to establish strategies for the national certification frameworks implementation.

1.1 France’s EES framework and market

The French Ministry of Ecological and Solidary Transition is a central, crucial actor of national energy transition, given the role of its General Commission for Sustainable Development and General Directorate for Energy and Climate, respectively being the energy data “producer” and the body in charge of implementing measures based on this data. This work is complemented by the Agency of Environment and Energy Management (ADEME) in charge of implementation at local level and of advising companies and households and by the Centre of Studies on Risks, Environment, Mobility and Layout (CEREMA), which conducts intersectional research helping showing the big picture of energy transition.

Article 18 of the EED is thoroughly applied, either by ad hoc or transversal measures (see Section 3.2). Labels launched with the implementation of Art. 18 produced significant results and are well known by a wide majority of citizens. The Public service of building renovation is also well known, thanks to communication campaigns in the media. Finally, France is in line regarding its national Energy Efficiency Action Plan, as required by the EED.

French support schemes for energy transition comprise a Grand Investment Plan accounting for €50 Billion, a set of measures such as zero-rate loan and tax credit for buildings renovation as well as white certificates.

Energy services providers and Clients are the main actors on the French EPC market; facilitators still play a minor role. QualitEE’s market study revealed a slight growth of French EPC market over the last 12 months, interviewed market actors say it has been the case for the last 3-4 years. The common investment outlay per project is comprised between €200,000 and €5,000,000, no respondent mentioned any bigger or smaller project. The typical duration for a French EPC contract is comprised between 5 and 10 years, with an energy savings model composed of both guaranteed savings and shared savings for more than 70 % of respondents.

French EPC clients are mainly public clients (municipalities, schools, hospitals) and public housing entities, either public or private.

According to respondents, main barriers to EPC business development are low energy prices and complexity of EPC concept and the lack of information about it. EPC project financing is usually supported by the client, either by contracting debt but also on its own funds, or a combination of both. Either way, more than half of respondents answered that access to viable finance was difficult, this being partly due to projects' long payback time as a consequence of low energy prices.

The main quality determinants to be selected are the preliminary technical-economic analysis / energy audit and the achievement of expected level of savings. Accordingly, these areas were also selected as the areas that most need to be improved. In general, French respondents seem to be more satisfied by the performance of their EPC projects than all covered countries considered together.

French ESC market counts actors who do not take directly part in EPC market or are much less active, for example the energy ombudsman, the Energy Regulation Committee, energy brokers or associations such as ANODE representing alternative energy suppliers. Public sector and housing sectors are the main clients for ESC, however industry is also an important client, which is not the case for EPC. The main market barriers are low energy prices and pressure to reduce costs. This can be seen as an indicator of quality of services compared to the All Countries dataset, in which the first market barrier is the lack of trust in the ESCO industry.

Obtaining viable finance seems to be easier for ESC than for EPC; 40 % of French respondents reported an easy access to viable finance where it is only 29 % for EPC. However, difficult access to affordable finance has not been mentioned as an important barrier. French respondents see preliminary analysis / energy audit and achieving the expected savings level as the main quality determinants for ESC and consider preliminary analysis as the area needing the most improvement, which is also the trend in All Countries surveyed.

1.2 Recommendations for EES business development

The main recommendations would cover seven areas:

1. **Data** – Implementation of a central data management system covering the national building stock.
2. **Consulting** – Creation of a unified governance body as a single contact point for information and guidance on EES. This service could also be integrated to the existing platform for buildings' renovation, renovation-info-service.gouv.fr.
3. **Guidelines** – Creation of a charter of best practices that would be acknowledged by professionals, facilitators, public authorities and clients.
4. **Contracting** – Creation of standards and/or reference frameworks for EES, in particular for EPC. These would define standard contractual stipulations that would be integrated to contracts adapted to the clients' situation.

5. **Guarantees** – Promotion of existing guarantees and development of new guarantees adapted to new energy uses such as local production or collective self-consumption.
6. **Feedback** – Qualitative and statistical analysis of projects' ex-post data enabling a reliable follow-up of those, in order to ensure that contractual commitments are respected, thus ensuring quality levels.
7. **Certification** – Development of a certification framework awarding energy services providers (ESPs) respecting a given set of quality specifications, developed in the *Contracting* phase.

In addition, determining an official definition of EPC would ease the development of a standardised contractual framework for this type of service. Concerning financial measures, the existing reduced VAT rate for investments in EPC projects shall be extended to all clients, not only private persons, as it is the case today.

1.3 Certification of EES

In France, lack of trust is less of an issue than in All Countries investigated; 57 % of French respondents see it as a minor issue where 78 % of respondents on the whole study see it as relatively important or major issue. More than 2/3 of respondents think that well-defined procurement specifications would increase the level of service.

All French respondents think that quality assurance would only have a slight or moderate effect on clients' trust, nevertheless they widely recognise that the first biggest added value of such a scheme would be an increased trust in EES contracts. Also 64 % of respondents think that additional costs induced by quality assurance would be the main barrier to its development. Seventy-one percent of respondents think that its cost should be comprised between 0 and 1 % of the total project value and affirm that the client should be the one who pays for it.

Finally, most French respondents agree that a public institution would be the most respected body to issue a quality assurance label, before a private body of an association of providers.

2 INTRODUCTION

2.1 Objective of the report

The objective of the report is the compilation of evidence to inform the development of European & National quality criteria and implementation of quality assurance schemes for Energy Efficiency Services (EES). The report is a part of the project titled “QualitEE – Quality Certification Frameworks for the Energy Efficiency Services” funded by the EU’s Horizon 2020 programme. The QualitEE project aims to increase investment in Energy Efficiency Services and improve trust in service providers.

Information has been collected through a market survey and interviews as well as research from existing local and national literature. An analysis has been conducted and conclusions formed to be presented in this report as well as in online database on QualitEE project website.

Report aims to improve the market knowledge of stakeholders in order to take better informed decisions based on evidence. Barriers and success factors for energy efficiency services, their quality determinants and as well as related legal, political and institutional framework have been mapped. Lessons learned from existing certification frameworks will serve to establish strategies for the national certification frameworks implementation.

2.2 Scope of the report and definitions

2.2.1 Energy Efficiency Services (EES)

The European standard EN 15900:2010 defines EES as an agreed task or tasks designed to lead to an energy efficiency improvement¹ 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 improvement of energy efficiency shall be measured and verified over a contractually defined period of time through contractually agreed methods. (Amann and Leutgöb et al. 2015)

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. (Amann and Leutgöb et al. 2015)

This report focusses on the following key types of energy efficiency services:

-  Energy performance contracting (EPC);

¹ According to EED "energy efficiency improvement" means "an increase in energy efficiency as a result of technological, behavioural and/or economic changes".

 Energy supply contracting (ESC).

Since 2011, EPC can be defined under three different types of contracts:

-  Integrated Public Market for Performance (IPMP), with a focus on energy efficiency are the most utilised today. In these contracts, financing is exclusively public. More than half of these contracts have a duration comprised between 5 and 10 years.
-  Partnership markets for Energy Performance (PMEP), which are public markets with private financing.
-  Private markets.

These markets can include energy supply.

In France, the EPC is the main contractual tool enabling reaching energy savings targets set by the *Law n° 2015-992 of 17th August 2015 on energy transition for green growth (LETGG)* and by the *Multi-Annual Energy Programme*, currently under revision (see Chapter 3). French EPC follows qualification criteria set by Directive 2012/27/EU on Energy Efficiency, as defined in pre-section *Definitions and Glossary* Of this report.

Depending on its preliminary analysis of needs and expected performance, the client (either public or private) selects a set of refurbishment work services and energy efficiency services. These services will determine the type of EPC utilised – either *Service* or *Integrated* (see Sub-section 3.4.1), as well as the tendering procedure for contracting authorities following the hereafter features:

Administrative Contracts Ordinance n°2015-899 of 23rd July 2015.		
Public Procurement (Common law)	Formal Procedure: Open or restrained tender	Public procurements are contracts concluded for pecuniary interest established between one or several public buyers and one or several economic operators, public or private, to answer their needs regarding works, supply or services .
Integrated Performance Procurement (IPP) Article 34	Formal Procedure: Competitive Dialogue	“... Buyers can sign for Integrated Performance Public Procurements associating operation and maintenance to implementation or design & implementation in order to fulfil quantifiable performance targets, especially in terms of activity level, service quality, energy efficiency or ecological impact. These markets embed commitments on measurable performance.” These IPP are a form of EPC, as they embed performance targets and associated guarantees.
Partnership Procurements Article. 67	Formal procedure: Competitive Dialogue	“I. – A Partnership Procurement is a public procurement that gives to an economic operator or to a group of economic operators an overall mission having as an object:

		<ol style="list-style-type: none"> 1. Construction, transformation, renovation, dismantling or destruction of structures, equipment or non-material goods necessary for leading public service missions or common interest missions. 2. All or part of their financing <p>The partnership procurement's provider takes on the project ownership for the operation to realise.</p> <p>II. – This overall mission can also have as object:</p> <ol style="list-style-type: none"> 1. All or part of structures' design, non-material equipment or goods 2. Layout, maintenance, management or operation of structures, equipment or non-material goods or a combination of those elements 3. Management of a mission of public service or service deliveries leading to the accomplishment, by the public body, of its mission of public service. <p>III. – The buyer can give mandate to the provider to cash, in his name and on his behalf, the user's payment for services performed under the contract.”</p> <p>These partnership procurements, from the moment they aim at improving energy performance (then called Energy Performance Partnership Procurement) are also a sort of EPC, as they embed performance targets and associated guarantees.</p>
Private Contracts		
EPC in Shared Ownership	Procedure with ad hoc negotiation (threshold defined in General Assembly)	Contractual agreement between the beneficiary and the provider (normally, and ESCo) of a measure aiming at improving energy efficiency, in which investments for this measure are consented in order to reach an energy efficiency improvement level that is contractually defined.
EPC in Tertiary or Industry	Mutual agreement of ad hoc negotiation	Contractual agreement between the beneficiary and the provider (normally, and ESCo) of a measure aiming at improving energy efficiency, in which investments for this measure are consented in order to reach an energy efficiency improvement level that is contractually defined.

These contracts' content is not standardised.

2.2.2 Energy Performance Contracting (EPC):

According to the Energy Efficiency Directive, "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."

The energy efficiency measures as above may be also based on low or no up-front investment. EPC may also include additional services related to efficient energy supply.

Within the report, the focus will be given to the EPC projects, where the above mentioned "contractually agreed level of energy efficiency improvement" is **guaranteed** by the EPC provider. **Guarantee of energy efficiency improvement** is commitment of the service provider to achieve a quantified energy efficiency improvement. (EN 15900:2010)

This is in line with the EED, as in its Annex XIII, guaranteed savings are listed among the minimum items to be included in energy performance contracts with the public sector or in the associated tender specifications. Moreover, in the article 18 of EED, Member States are required to promote the energy services market and access for SMEs to this market by disseminating clear and easily accessible information on available energy service contracts and clauses that should be included in such contracts to **guarantee energy savings** and final customers' rights.

European Code of Conduct for EPC (2014) also defines that the EPC provider assumes the **contractually agreed performance risks of the project** during the whole duration of the EPC contract. These include the risks of not achieving contractually agreed savings as well as design risks, implementation risks and risks related to the operation of installed measures. If an EPC project fails to achieve performance specified in the contract, the EPC provider is obligated by the contract to compensate savings shortfalls that occurred over the life of the contract. The excess savings should be shared in a fair manner according to the methodology defined in the contract.

2.2.3 Energy Supply Contracting (ESC):

"ESC means a contractual arrangement for the efficient supply of energy. ESC is contracted and measured in Megawatt hours (MWh) delivered". This definition is a simplified version of IEA DSM Task force 16 definition.

2.2.4 Other types of energy efficiency services

In France, it can be found contracts involving operation & maintenance (O&M) for a given number of hours per month/year. This can be interesting for example for small installations that do not represent a critical risk if they fail for a few hours/days. The main advantage of such a contract is that is light and simple, with steady payments.

Another type of contract is the CREM (in English DIOM: Design-Implementation-Operation-Maintenance), which is comprised in the broader category that is called "global contracts" covering works AND services. It will cover a building's whole design, construction and first years, as the contract can be subject to a public tender after some years. The CREM is a

compound of contracts defined here as EPC and ESC, its core goal is to keep building's consumption as low as possible over its lifetime, with guaranteed savings, which can be periodically reviewed.

2.2.5 Market actors

The main actors operating on the EES markets are the EES providers, clients and facilitator working on behalf of the clients.

Within the QualitEE, we use the definition of energy service provider according to the EED:

- ✔ **“Energy service provider** means a natural or legal person who delivers energy services² or other energy efficiency improvement measures in a final customer's facility or premises”.

We use the commonly used term "ESCO" as equivalent of the energy service provider. Further, we use the above listed definitions to define the following terms:

- ✔ **“EPC provider** means an energy service provider who delivers energy services in the form of EPC.”
- ✔ **“ESC provider** means an energy service provider who delivers energy services in the form of ESC.”
- ✔ **“Client** means any natural or legal person to whom an energy service provider delivers energy service. “
- ✔ **“Energy service project facilitator** means an advisory company working on behalf of the client to procure and/or implement an energy service. In QualitEE, we use the shorter term “facilitator” to denote energy service project facilitator.”

2.3 Source of data and methodology

2.3.1 Source of data

The contents of this report are based on two main sources:

- ✔ The results of a nation-wide EES survey which was sent to the country's main actors within the EES market;
- ✔ Research from local / national literature (publications and studies, legislation documents, official statistics and databases) and the market knowledge of the authors based on 25 years of implementing EES projects and supporting EES market.

² According to the EED: " 'energy service' means 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".

2.3.2 Survey and interviews

To collect data used in this document the market actors have been approached in the following manner:

- ✔ online survey was distributed to the country's most relevant energy services companies and EES facilitators;
- ✔ personal semi-structured interviews have been conducted with the financial institutions and clients implementing EES projects.

Energy Efficiency Services market and quality survey gave the stakeholders an opportunity to provide their input and steer the development of quality assurance. The surveys and interviews contained questions around the EES market, barriers and success factors, EES quality determinants, minimum financial information requirements for financial institutions and certification frameworks, as well as EES related legal, political and institutional frameworks. The answers were then analysed and the results are presented in this report in aggregated form.

There are 14 respondents to the online survey in France:

- ✔ 13 representatives of ESCOs. All of them operate on both EPC and ESC market; these ESCOs are most active members of the French ESCO association SNEC, with 70 % share of French collective heating management market;
- ✔ 2 representatives of EES facilitators; private consultancies helping EPC clients to prepare their tenders and to select the right offer from EES providers.

Throughout this study the results from the online survey in France are compared with the results from the online survey across **All Countries** that responded. In total, there were 188 respondents to the online survey across **All Countries**:

- ✔ Respondents operate in 15 European Countries; Austria, Belgium, Bulgaria, Czech Republic, France, Germany, Greece, Italy, Latvia, the Netherlands, Portugal, Slovakia, Slovenia, Spain and the UK;
- ✔ Respondents include 109 representatives of ESCOs, where 53 of them operate on the EPC market only, and 11 operate on the ESC market only and 45 on both the EPC and ESC markets;
- ✔ Respondents include 79 representatives of EES facilitators, where 37 of them operate on the EPC market only, and 17 operate on the ESC market only and 25 on both the EPC and ESC markets.

2.3.3 Literature and other source of data

Apart from the surveys, the reports build on research from local and national literature (legislation documents, publications and studies, official statistics and databases) and the market knowledge of the authors based on their own professional experience, backed by a validation from their respective associations' members.

Key sources of information were up to date national sources, such as:

- ✔ The Guide of Energy Performance Contracting (Commissariat général au développement durable, 2010);
- ✔ Publications by the Ministry for an Ecological and Inclusive Transition;
- ✔ Data from SNEC;
- ✔ Information gathered by the French Observatory of EPC;
- ✔ GarantEE: Market reports available at national pages of <http://guarantee-project.eu>.

3 LEGAL AND REGULATORY FRAMEWORK

France's legal framework for energy efficiency policies is defined by:

- ✔ The **Law Grenelle 2** of 12th July 2010;
- ✔ The Law n° 2015-992 of 17th August 2015 on energy transition for green growth (LETGG);
- ✔ The **Climate Plan** (July 2017);
- ✔ The **Low-Carbon National Strategy** (LCNS) and the **Multiannual Energy Programme** (*decree n° 2016-1442 of 27 October 2017*, under revision);
- ✔ Structural regulations (implementation of the LETGG at regional level by Law n° 2015-991 of 7th August 2015 on the Republic's new territorial organisation);
- ✔ Sector regulations (thermal regulation, buildings regulation, regulation on buildings refurbishment in housing and tertiary sectors – a new law is being written).

3.1 Key governmental institutions

In France, the first governmental institution to be taken into account when considering energy efficiency is the **Ministry for an Ecological and Solidary Transition (MEST)**, which embeds:

- ✔ The **General Commission for Sustainable Development (CGDD)** which produces data and knowledge to clarify and feed the Ministry's action in all its fields of competence. It produces statistical data, is in relation with the academic world and mobilises research and prospective works to serve public policies;
- ✔ The **General Directorate for Energy and Climate (DGEC)** is in charge of developing and implementing policies related to energy, raw energy materials, climate change and air pollution;
- ✔ The **Directorate of Housing, Urbanism and Landscape (DHUP)** works at making of buildings an efficient leverage of sustainable development by improving their quality, their accessibility and their energy performance, framed by the Code of Construction and Housing.

The **Agency of Environment and Energy Management (ADEME)** participates in implementing public policies related to environment, energy and sustainable development. It advises

companies, local authorities, national authorities and the citizens in general in order to help them improving their environmental processes. The Agency provides assistance for project financing, from research to implementation phase in the field of energy efficiency, among other fields.

The **Centre of Studies on Risks, Environment, Mobility and Layout (CEREMA)** meets the need for an inter-sectoral, robust, scientific and technical support in order to design, implement and assess public policies related to layout and sustainable development. Its governance is shared between six ministries (Ecology, Urbanism, Transport, Interior, Budget and Research) and local authorities.

The **Observatory of Energy Performance Contracting** is a joint initiative from the ADEME, the CEREMA and the Scientific & Technical Centre for Building (CSTB) started in 2016 in order to gather stakeholders and experiences of EPC, foster a culture of energy performance and facilitate its large-scale development. Although it does not play a major role on the EPC market at the moment, it is worth mentioning as it might gain in influence in the coming years.

There are other bodies that can be involved, such as the National Observatory of Energy Poverty, the Permanent Observatory of Energy Improvement of Dwellings and the High Council of Construction and Energy Efficiency.

3.2 Implementation EU Energy Efficiency Directive

Directive 2012/27/EU on energy efficiency (EED) establishes a common framework of measures for the promotion of energy efficiency within the Union in order to ensure the achievement of the Union's 2020 20 % headline target on energy efficiency.

In its Article 18 EED also imposes obligations on Member States to support energy services market. The following section takes the Article 18's paragraphs and assesses the implementation of each one of them in France:

1. *Member States shall promote the energy services market and access for SMEs to this market by:*

(a) *disseminating clear and easily accessible information on:*

(i) *available energy service contracts and clauses that should be included in such contracts to guarantee energy savings and final customers' rights;*

This is one of the core missions ensured by the ADEME.

(ii) *financial instruments, incentives, grants and loans to support energy efficiency service projects;*

This is covered by the *Grand Investment Plan* and other support schemes given in Section 3.6

(b) *encouraging the development of quality labels, inter alia, by trade associations;*

Some labels were created:

- **Low Consumption Building** (*Bâtiment Basse Consommation, BBC*) is given to buildings consuming less than 50 kWh/m²/a
 - **Recognised as Protector of the Environment** (*Reconnu Garant de l'Environnement, RGE*) is a label given to energy professionals who respect norms NF X50-091 and NF EN ISO 17065 that ensure services and products' quality.
- (c) *making publicly available and regularly updating a list of available energy service providers who are qualified and/or certified and their qualifications and/or certifications in accordance with Article 16, or providing an interface where energy service providers can provide information;*

The *Energy Renovation Platforms* are a public service dedicated to energy performance of residential buildings. They ensure the follow-up of private owners who are willing to reduce their dwelling's energy consumption.

- (d) *supporting the public sector in taking up energy service offers, in particular for building refurbishment, by:*

- (i) *providing model contracts for energy performance contracting which include at least the items listed in Annex XIII;*

A contract model ("clausier") was designed by the Support Mission for Partnership Contracts Implementation (maPPP); it aims at giving the clauses that should be included in an EPC. Model documents given in Sub-section 3.4.1 are included in this paragraph's scope.

- (ii) *providing information on best practices for energy performance contracting, including, if available, cost-benefit analysis using a life-cycle approach;*

The *Energy Performance Contracting Guide*, see following source (Commissariat général au développement durable, 2010).

- (e) *providing a qualitative review in the framework of the National Energy Efficiency Action Plan regarding the current and future development of the energy services market.*

This is done by the ADEME, see following source (ADEME, 2014).

2. *Member States shall support the proper functioning of the energy services market, where appropriate, by:*

- (a) *identifying and publicising point(s) of contact where final customers can obtain the information referred to in paragraph 1;*

All necessary information can be found at renovation-info-service.gouv.fr, which is the official contact point managed by the ADEME, where are listed the physical contact point distributed on the French territory.

(b) taking, if necessary, measures to remove the regulatory and non-regulatory barriers that impede the uptake of energy performance contracting and other energy efficiency service models for the identification and/or implementation of energy saving measures;

On a general basis, yes.

(c) considering putting in place or assigning the role of an independent mechanism, such as an ombudsman, to ensure the efficient handling of complaints and out-of-court settlement of disputes arising from energy service contracts;

The French ombudsman for energy has been created following the law n°2006-1537 of 7th December 2006 relative to the energy sector. It can be easily reached by phone or through its website, www.energie-mediateur.fr.

(d) enabling independent market intermediaries to play a role in stimulating market development on the demand and supply sides.

The [Sustainable Building Plan](#) has been set in 2009. It gathers actors from the building sector (including several corporate associations), State agencies like the ADEME, law firms and insurances. The SPB encourages collaboration between these actors from building and real estate sectors in order to think together about the environmental and energy transition in construction and renovation sector. The public service for building renovation, renovation-info-service.gouv.fr, can also be comprised as an independent market intermediary.

In April 2018, Minister Hulot (MEST) announced the creation of a Bill of General Administrative Specifications for EPC, which will give a common general structure to all energy performance contracts.

3. Member States shall ensure that energy distributors, distribution system operators and retail energy sales companies refrain from any activities that may impede the demand for and delivery of energy services or other energy efficiency improvement measures or hinder the development of markets for such services or measures, including foreclosing the market for competitors or abusing dominant positions.

The Energy Regulation Commission (Commission de Régulation de l'Énergie, CRE) ensures this mission.

3.3 National strategy documents

Combining European directives and national legislative rules, France has a solid set of guidelines, programmes and a wide range of tool for achieving its energy efficiency targets.

3.3.1 National Energy Efficiency Action Plan

The French Energy Efficiency Action Plan is entitled *Rapport de la France en application des articles 24.1 et 24.2 de la directive 2012/27/UE du Parlement européen et du Conseil du 25 octobre 2012 relative à l'efficacité énergétique* (Ministry for an Ecological and Solidary Transition, 2017).

This report presents France's policy regarding energy efficiency. It presents the country's long-term vision, the commitments regarding energy efficiency such as the targets related to energy efficiency, development of renewables, decarbonation or sustainable mobility. It is mostly based on the Law on Energy Transition and Green Growth, which embeds the Multiannual Energy Planning, both described in Sub-section 3.3.2.

3.3.2 Guidelines of French energy transition

The French energy transition's framework is defined by the [Law n° 2015-992 of 17th August 2015 relative to the Energy Transition for Green Growth](#).

3.4 Standardisation of energy efficiency services

3.4.1 Model documents

In 2012, the former Ministry of Ecology released 7 EPC model documents for public procurement. They are divided into three categories:

1. **Services:** this category gathers EPC that include equipment supply as well as operation & maintenance over the contract's duration. This covers two types of situations depending on the type of equipment considered:
 - Building-level energy management systems, i.e. building automation controls, or
 - Energy production, distribution and consumption systems, such as boilers, heat pumps, electric chillers, ventilation, grid balancing devices, pumps, lights, office appliances, elevators, etc.
2. **Works and Services:** this category gathers EPC that include design and implementation of works on existing buildings, such as airtightness, impermeability, thermal insulation or change of windows. The contracted company also ensures operation and maintenance over the contract's duration.

These two categories can embed actions towards end-users' information and awareness regarding good behaviour to adopt in order to lower building's energy consumption.

3. Integrated contract

An integrated contract is the combination of the two previous types of services, which can also comprise energy supply.

It must be noted that in France, energy supply is not a selective criterion for EPC tenders; likewise, it does not condition performance that is contractually guaranteed by the ESCo.

Service deliveries that are included in an EPC (with or without works) are named:

-  "Maintenance" when supply is not included
-  "Operation" when supply is included

However, integrating energy supply can reinforce the operator's contractual commitments: he will take on the financial charge of energy supply directly and without delay where in the case

of a purchase executed by the ordering body, a contractual mechanism of penalties (that can be conditioned or contested) shall be utilised in case of non-respect of the energy performance guarantee.

3.5 European Code of Conduct for EPC

To date, Transparence's Code of Conduct for EPC has no French signatory, as France wasn't covered by the project and had no national promoter. To date, the Code of Conduct has 235 signatories in 20 European countries.

3.6 Support schemes

The main support schemes for energy efficiency in France are:

- ✔ The Grand Investment Plan;
- ✔ Financial mechanisms for building renovation, such as the zero-rate Eco-Loans, Tax Credit for Energy Transition, Energy Efficiency Certificates (white certificates);
- ✔ The National Strategy for Energy Renovation of Buildings (under preparation).

Key national figures:

- ✔ 7 million poorly insulated dwellings;
- ✔ 3.8 million houses considered as "energy colander" (house that loses too much heat) in which people live in a situation of energy poverty;
- ✔ 14 % of French citizens claim to be cold in their dwelling;
- ✔ Building sector represents 45 % of final energy consumption and 27 % of greenhouse gases emissions;
- ✔ French State plans to renovate the 25 % of national building stock that is the most energy-consuming within 5 years.

The French State planned a portfolio of 14 billion €, distributed as following:

- ✔ 9.2 billion € for dwellings, with a renovation target of 500,000 dwellings/year;
- ✔ 4.8 billion € for public tertiary buildings.

4 ENERGY PERFORMANCE CONTRACTING MARKET

This chapter details French EPC market and compares it to the data obtained for all countries covered by QualitEE's market research. It gives an overview of market actors, shows the growth of EPC market in the past few years, gives insights on how ESP build services they offer, the main market barriers and the potential improvement to bring in order to further develop the EPC business.

4.1 EPC market actors

The French EPC market consists of several categories of stakeholders:

- ✔ **Providers** - From local SME to (trans)national company, EPC providers often are operators who have been running their activity for decades, mainly in the field of heating systems' operation & maintenance (O&M) but also in the field of electrical solutions for building and industry;
- ✔ **Facilitators** - They mostly are private consulting companies, who help public and private clients to constitute their EPC tender and analyse the offers submitted by providers. ADEME is also playing a role of facilitator at regional level, however, to date, only two regional ADEME offices (Île-de-France and Auvergne-Rhône-Alpes) actually propose this service;

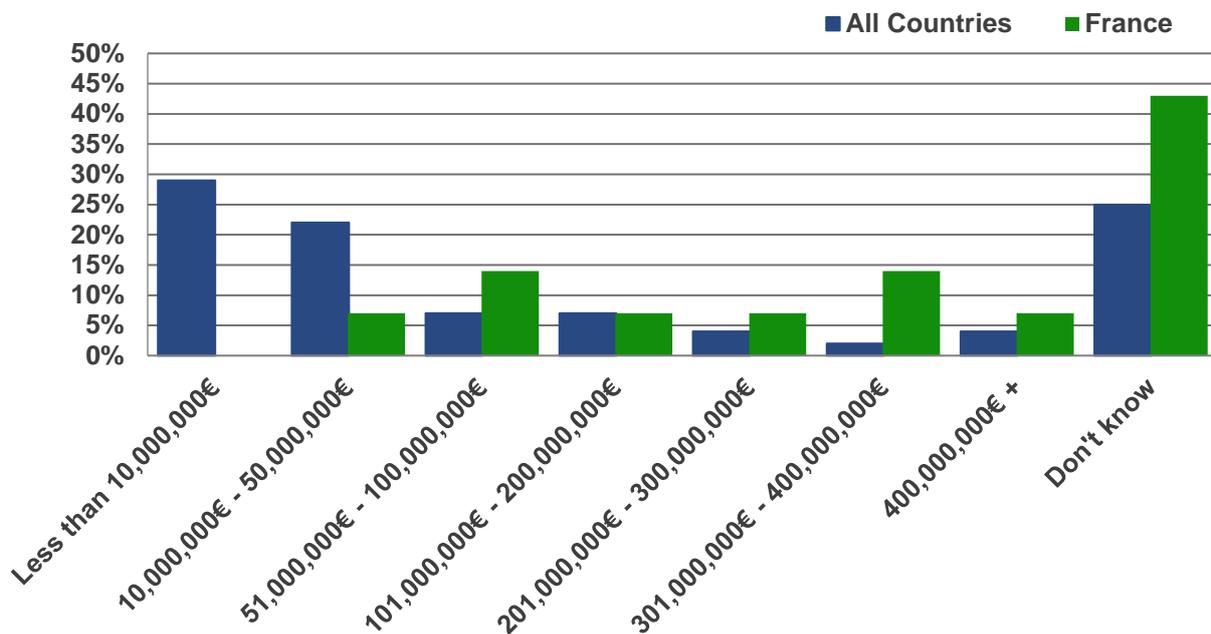
It appeared during the survey period that facilitators play a minor role on the French EPC market, for instance most respondents were not aware of the existence of these facilitators, or if they knew about their existence, they would hardly be able to name them. This is symptomatic of a certain lack of awareness of the possibilities the market can already offer but also an indicator that facilitators have an important margin for developing their activity, with regard to other countries.

- ✔ **Clients** - French EPC clients are mostly public entities such as municipalities, hospitals or schools (see Section 4.4); collective housing is also an important EPC customer. Typically, these clients signed an O&M contract with an EES provider to run their installation. With the impulsion initiated by the Energy Efficiency Directive 's Article 18 giving a European framework to develop EPC, client started hearing about this type of contracts and EPC demand started growing. However, many clients were proposed an EPC by their historical EES provider, with which they had already built a relation of trust over time;
- ✔ **Trade associations** - they directly or indirectly promote EES, either from the providers' side like **FEDENE (Federation of energy and environment services)**, composed of 7 syndicates among which **SNEC** representing companies designing, installing and operating HVAC installations, or **Apogée**, which promotes energy efficiency from the client's side;
- ✔ **Decision makers.**

4.2 EPC market developments

In France, energy services market exists since the beginning of the 20th century. At that time, it was mostly focused on heating services and in 1937 was signed the first known EPC between the hospital of Villiers-Saint-Denis and Chauffage Service (Dalkia, 2018), which consisted in a maintenance contract with guarantee on the temperature levels. Since then, energy services contracts including guaranteed performance were regularly proposed by EES providers and/or asked by clients, with a particular boom since 2012.

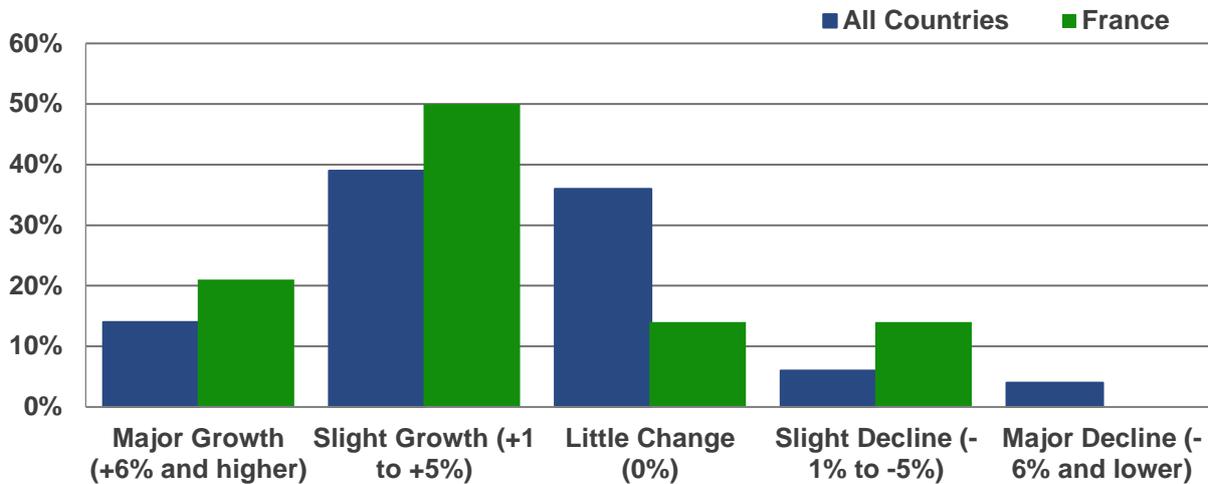
Figure 1: How much revenue do you think the EPC market in your country generated in 2016? (Percentage share of responses by providers and facilitators Sept 2017)



In 2015, EPC market was worth €146 million (ADEME, 2016), which is difficultly visible in Figure 1, as 45 % of French respondents admitted not to know this information, where the remaining 55 % of respondents' answers were rather evenly distributed in each range of amount proposed in the survey.

The market of overall energy services is estimated around €10.6 billion in 2015, distributed between real-estate analysis (€0.4 Bn) and O&M (€8.4 Bn) (ADEME, 2016). However, professionals interviewed for the survey estimate that half of the French market is operated with a contractual commitment on results like EPC, but as the EPC is not legally defined yet, these contracts are not accounted as such.

Figure 2: Over the last 12 months, the EPC market in your country has seen: (Percentage share of responses by providers and facilitators Sept 2017)



Seventy-one percent of providers and facilitators interviewed for this QualitEE survey in France estimate that EPC market has been knowing either slight (50 %) or major growth (21 %) between September 2016 and September 2017; 14 % saw little change in their EPC activity and 14 % experienced slight decline, see Figure 2. Trend is similar in All Countries dataset, with 53 % of respondents reporting slight (39 %) or major growth (14 %), 36 % reporting little change and 10 % reporting a declining EPC activity.

Figure 3: How many EPC projects (that have reached Contract Signature) has your organisation initiated / become involved with in the last 12 months? (Percentage share of responses by providers and facilitators Sept 2017)

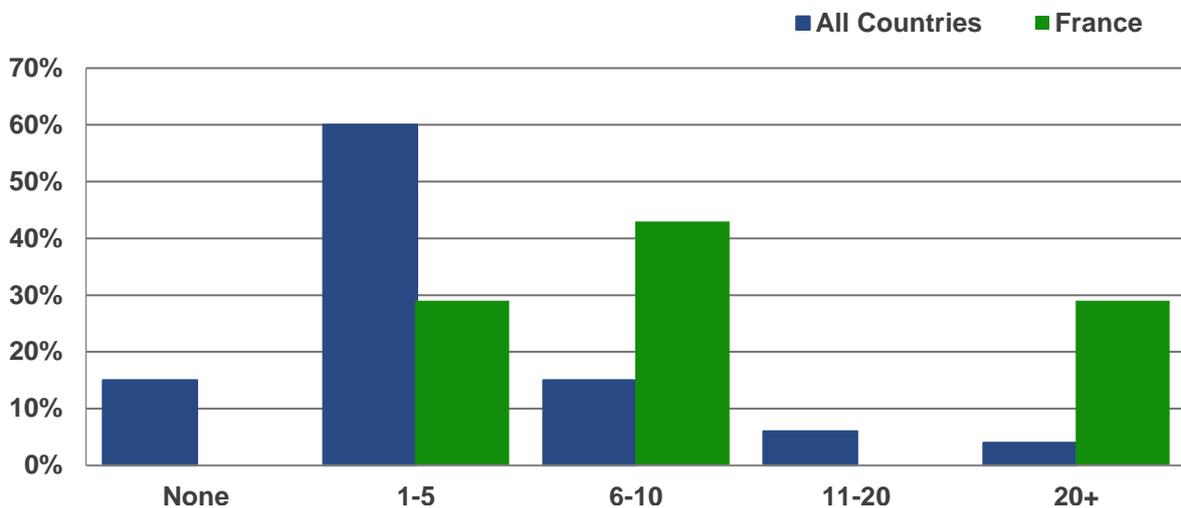
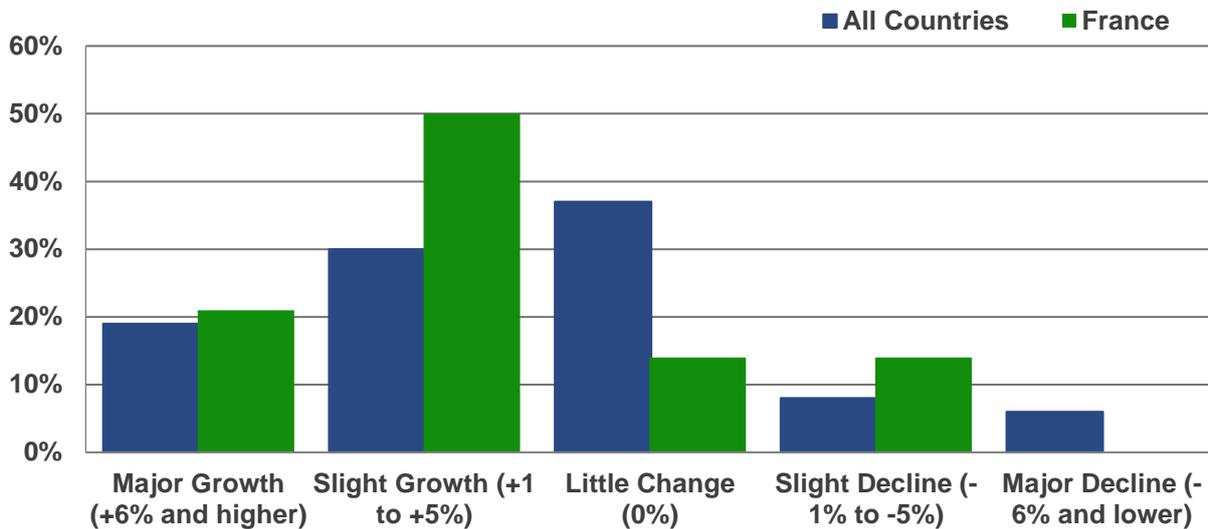


Figure 3 shows that all French respondents – EPC providers and facilitators – became involved in at least one EPC project during the last 12 months preceding the survey, while 15% of respondents across All Countries did not become involved with any new projects during the same period. The number of signed contracts per French respondent being higher than in the All Countries dataset is due to the larger size of entities who responded – they are operating either at regional level (regions that sometimes are bigger and more populated than some EU countries) or at national level.

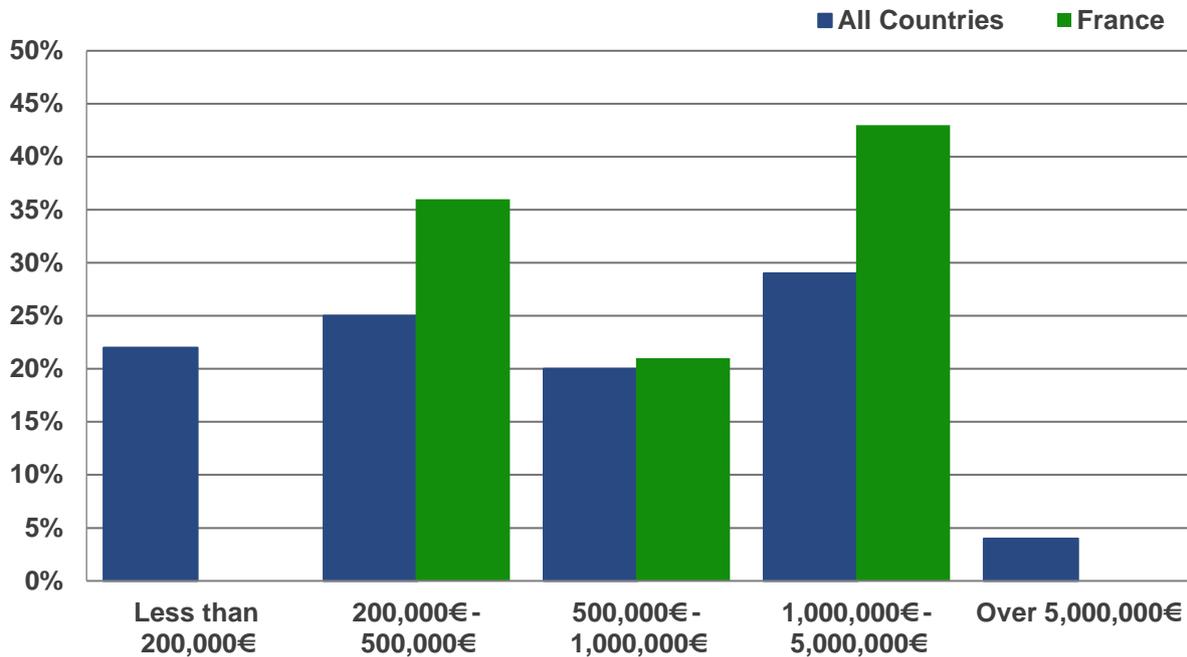
The majority (43%) of French respondents - EPC providers and facilitators – became involved in between 6 - 10 EPC projects in the preceding 12 months. The rest of respondents become involved either with 1-5 new projects (29%) or more than 20 new projects (29%) in the last 12 months.

Figure 4: In the last 12 months your EPC orders have seen (Percentage share of responses by providers and facilitators Sept 2017)



A vast majority of French respondents (71%) experienced a growth of their EPC activity over the last 12 months (Figure 4). The slight activity decline for some of them can be due to local context such as a saturated market with a lot of ongoing contracts, for example. Some French respondents interviewed to answer this survey also mentioned the low energy prices and the tight budgets of public clients putting them in a situation where they manage their installations on a day-to-day basis instead of planning it on a longer term. This is also partly due to the European rules for public accounts that, until recently, were considering investment in EPC project as public debt. Changes in statistical treatment of EPC investments by private ESCOs with regard to public debts will come into force in 2018.

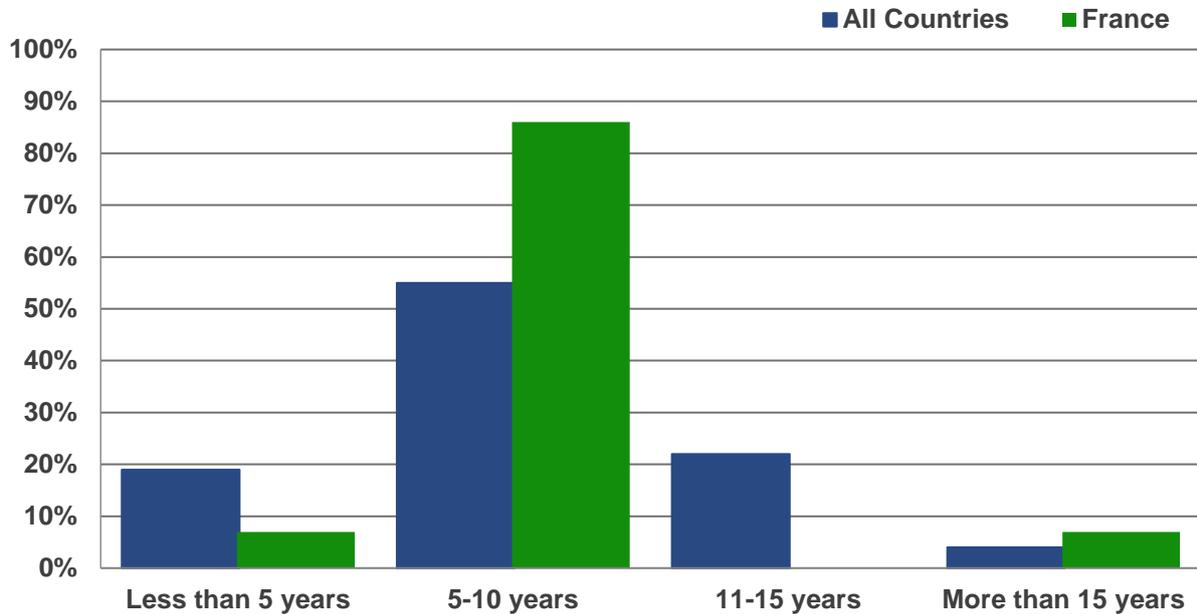
Figure 5: What is the most common overall value (investment outlay) of the EPC projects you are involved in? (Percentage share of responses by providers and facilitators Sept 2017)



EPC projects' total investment value in France is usually comprised between €200,000 and €500,000 or between €1 million and €5 million (Figure 5); once again, this is due to the diverse sizes of responding entities, either local/regional or national. It can be noted that French respondents did not report any smaller or bigger project, which does not necessarily imply that there aren't any; the survey didn't receive any answer from small-medium providers who are more likely to sign those contracts. In All Countries dataset, 22 % of projects were reported with a value lower than €200,000, 4 % with a value higher than €5 million. Nevertheless, like in France, 74 % of EPC projects have a value comprised between €200,000 and €5 million.

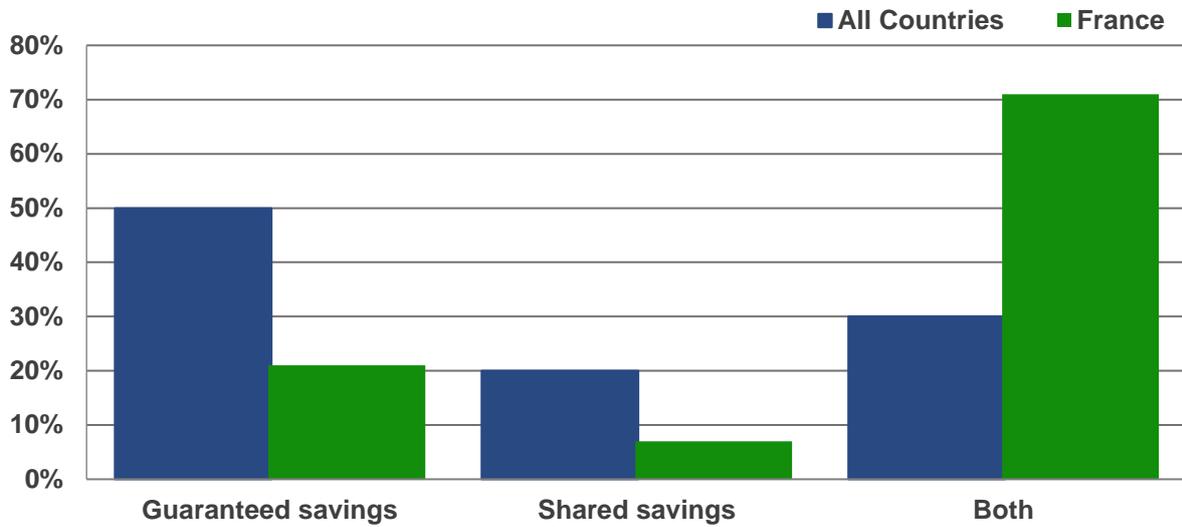
4.3 EPC business models

Figure 6: What is the most common duration of the Energy Performance Contracts you are involved in? (Percentage share of responses by providers and facilitators Sept 2017)



In France, 86 % of respondents reported an EPC project duration between 5 and 10 years (Figure 6), where the value in All Countries dataset only reaches 55 %. This duration enables a strong commitment from the EPC provider and a reliable middle-term financial visibility for clients, independently from the energy savings model utilised. All Countries dataset's respondents also reported a higher share of shorter period projects (19 %) compared to France (7 %) and 22 % reported projects with a duration between 11 and 15 years; French respondents didn't report any projects in the duration range. Finally, projects with a duration of more than 15 years were reported by only 4 % of all respondents and 7 % of French respondents.

Figure 7: What type of energy savings model is offered in the EPC projects you are involved in? (Percentage share of responses by providers and facilitators Sept 2017)

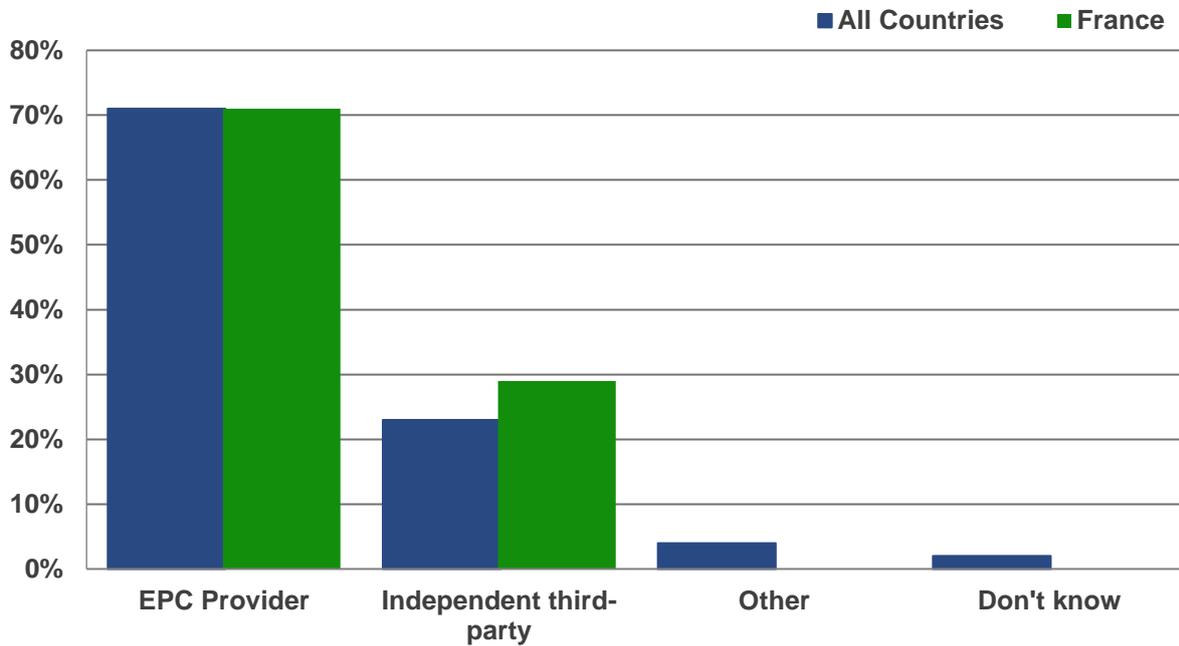


In Figure 7 are displayed the types of energy savings model offered by respondents in their EPC projects. Two options are proposed:

-  **Guaranteed savings:** an energy savings target is set from the building's energy consumption baseline. If the provider does not reach the target, it has to pay a penalty; if it exceeds the target, it can possibly result in an additional payment for the client. The latter case must be clearly defined in the contract;
-  **Shared savings:** the client pays the provider a pre-determined percentage of its achieved cost savings from the project.

Seventy-one percent of French respondents reported EPC projects with a combination of these two energy savings models, which enables more operational and financial flexibility for both provider and client. With this combination, it becomes easier for providers to propose tailor-made contracts to their clients.

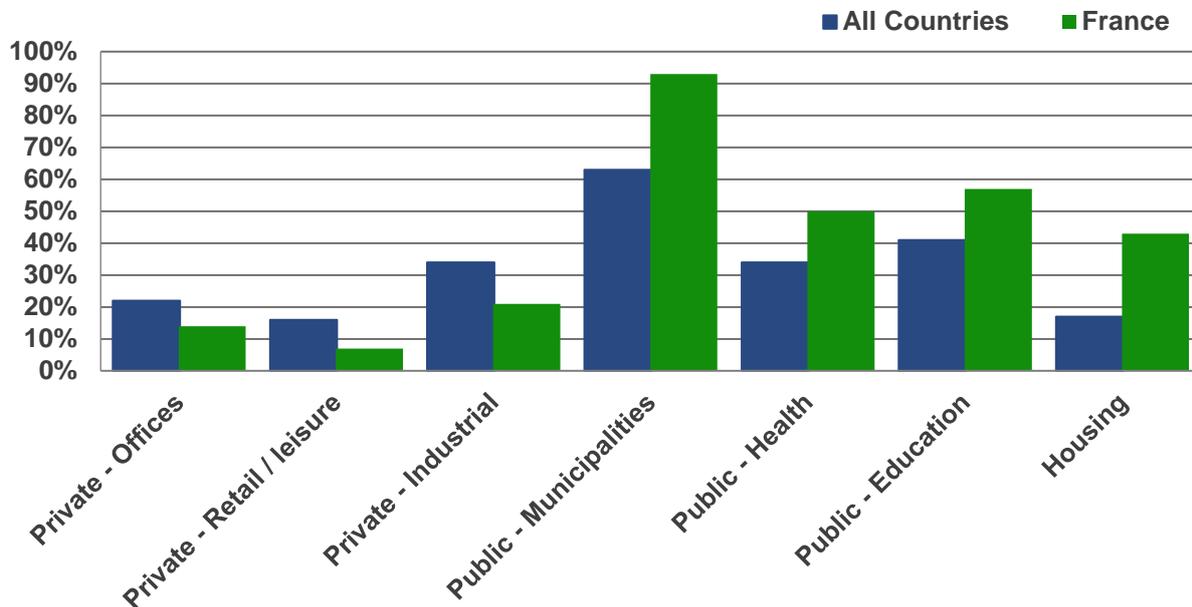
Figure 8: Who typically delivers the energy savings performance analysis in the EPC projects you are involved with? (Percentage share of responses by providers and facilitators Sept 2017)



In Figure 8, it can be seen that in 71 % of EPC projects, in France as in All Countries covered, the provider takes care of assessing energy savings’ performance. However, although providers’ verification processes are meant to be transparent, some clients contractually require a verification from an independent third-party, which is the case for 29 % of French respondents’ projects, 23 % in All Countries.

4.4 EPC market sectors

Figure 9: Which sectors do your EPC clients generally come from? (Sept 2017)



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

The majority of respondents reported that their EPC activity was mainly taking place in public sector (see Figure 9), with a major prevalence of municipalities and local authorities. Then are following in decreasing order educational buildings, health-related buildings and housing, last of which can be either public (social housing, for example) or private (co-ownership).

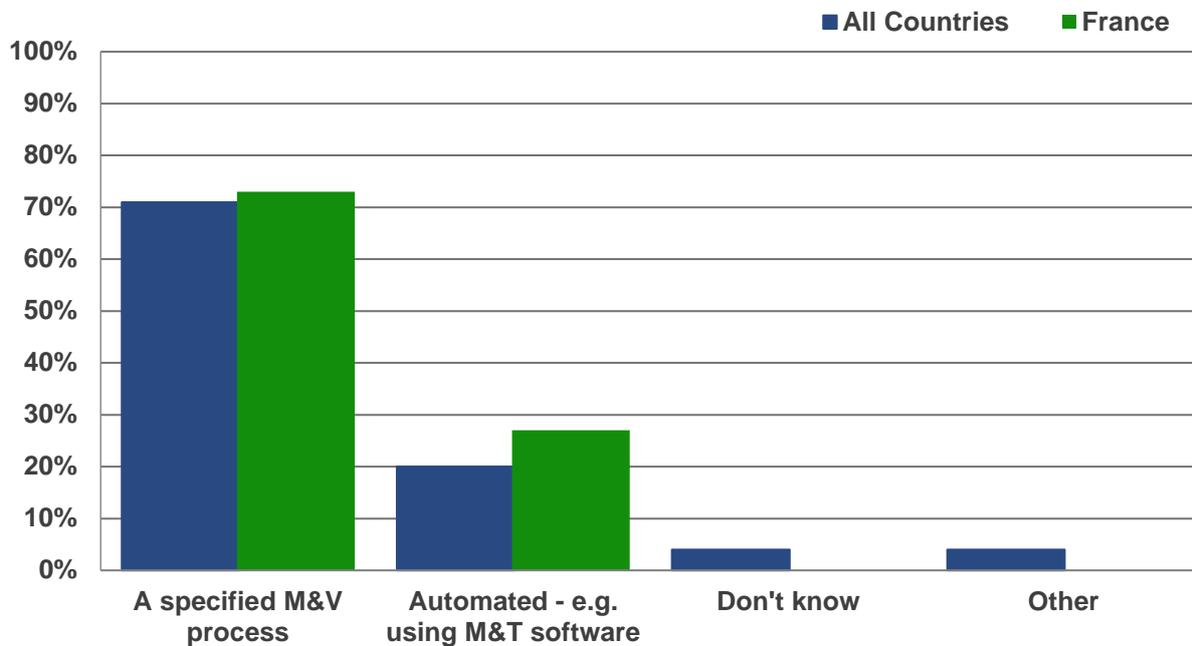
Social housing is a particular case when it comes to energy savings. Social housing bodies usually suffer from a bad image inherited from the years 1950-1970 when were built large low-cost housing complexes, which then were maintained with minimum resources. Today, social housing bodies are among leading entities regarding energy efficient housing, as they know that the lower the energy consumption, the lower the energy bill, therefore the higher the probability of getting the rent paid totally and on time. This explains the good position of housing in the list of EPC clients.

Compared to the All Countries dataset, French EPC projects are mostly executed in the public sector, when it is more evenly distributed for All Countries, with 30 % of EU respondents reporting EPC projects in industry.

Although 20 % of respondents report contracts with the industrial sector, industries are usually very big and will therefore take energy savings actions internally; some industries even dedicate a whole department to that end.

4.5 EPC measurement & verification

Figure 10: How is the energy saving performance of the EPC projects you are involved with typically measured and quantified? (Percentage share of responses by providers and facilitators Sept 2017)



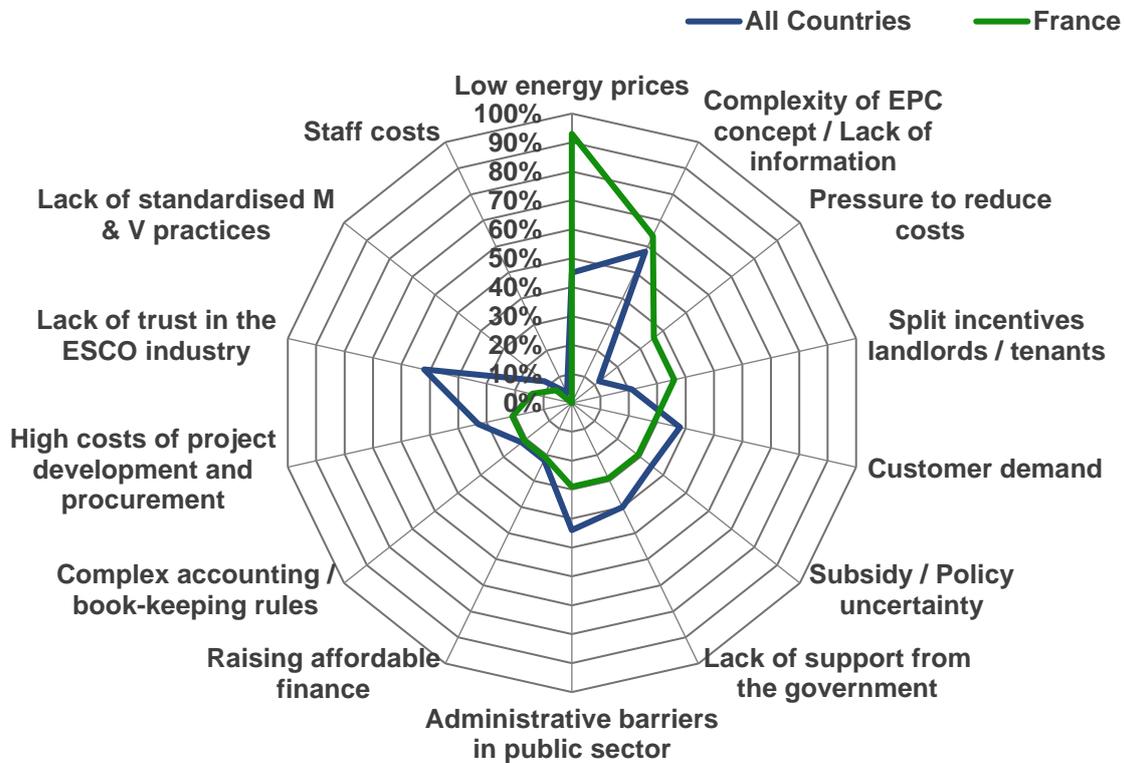
When it comes to measurement and verification (M&V) in EPC project, there is one reference that is authoritative: the IPMVP (International Performance Measurement and Verification Protocol), which is utilised as a reference in many M&V processes, when it is not applied strictly to the letter.

The IPMVP is included in the category *A specified M&V process* mentioned in Figure 10. As it can be observed, most of respondents' EPC projects are following a specific M&V process (73 % or France, 71 % for the All Countries dataset). However, not all of them are strictly applying the IPMVP. The main reason invoked by respondents is that for many small-sized or for even bigger projects, IPMVP represents a heavy process to implement, which can be seen as too time-consuming and expensive considering the total project's size; these technical constraints and higher costs are sometimes considered as unnecessary to ensure an acceptable energy savings performance assessment. Therefore, providers developed their own M&V processes, IPMVP-based but lighter, which they will use in their EPC projects when IPMVP is not specifically required in contractual stipulations.

27 % of French respondents reported the use of an automated monitoring & targeting software, a bit more than the 20 % in All Countries dataset.

4.6 EPC market barriers

Figure 11: What are the main barriers to EPC business based on the activities of the last 12 months? (Sept 2017)



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

QualitEE survey asked respondents what the main barriers to EPC business over the last 12 months were. Results displayed in Figure 11 show that the two main barriers identified by French respondents are low energy prices and the complexity of EPC concept / lack of information. Over 90 % of French respondents mentioned low energy prices where for the All Countries dataset only 35 % of respondents mentioned it, although French energy prices are not among the lowest in Europe (Eurostat, 2018). This can be interpreted as a lack of culture of energy performance from clients, which can be due to historical abundance energy, or a will to have short payback time on energy efficiency investments.

The second most mentioned barrier was complexity of EPC concept, which matches with results on the whole set of respondents.

Table 1 Describes the main five barriers to EPC business according to French respondents.

Table 1: Overview of key EPC market barriers in France

	Market barrier	Description
1	Low energy prices	With low energy prices, clients are less incentivised to invest in energy efficiency, as the financial gain is reduced and payback time increase when energy prices decrease.
2	Complexity of the concept / Lack of information	Out of the whole procurement procedure that can be long and expensive, the concept of guaranteed savings and/or EES project financed by achieved savings is still unclear for many potential clients.
3	Pressure to reduce costs	In every body, public or private, the trend is to optimise everything that can be optimised, as the economic situation in some industries or local authorities is not at its highest levels.
4	Lack of support from the government	It appears that in France, governmental incentives are rather efficient tools to bring people to invest, in renewable energy and house renovation (<i>zero-rate Eco-Loan</i>). Therefore, unclarity of financial and fiscal investment support mechanisms can really hinder EPC development.
5	Split incentives between landlords/tenants	Tenants want the most energy efficient dwelling for the rent they pay where landlords want to maintain their cashflows from rents with minimal investments on buildings.

From investors' point of view, large projects with third-party financing and sale of claims, with creation of ad hoc project company is a very heavy and complex process tending to rigidify market standards. When it comes to small projects, many investors have a limited interest in projects below a certain investment threshold (3 million € was given as a common investment threshold by SUSI Partners).

4.6.1 Structural barriers

Main structural barriers to EPC development in France are:

-  Split incentives;
-  Lack of information;
-  Complexity of the concept.

4.6.2 Regulatory and administrative barriers

Main regulatory and administrative barriers to EPC development in France are:

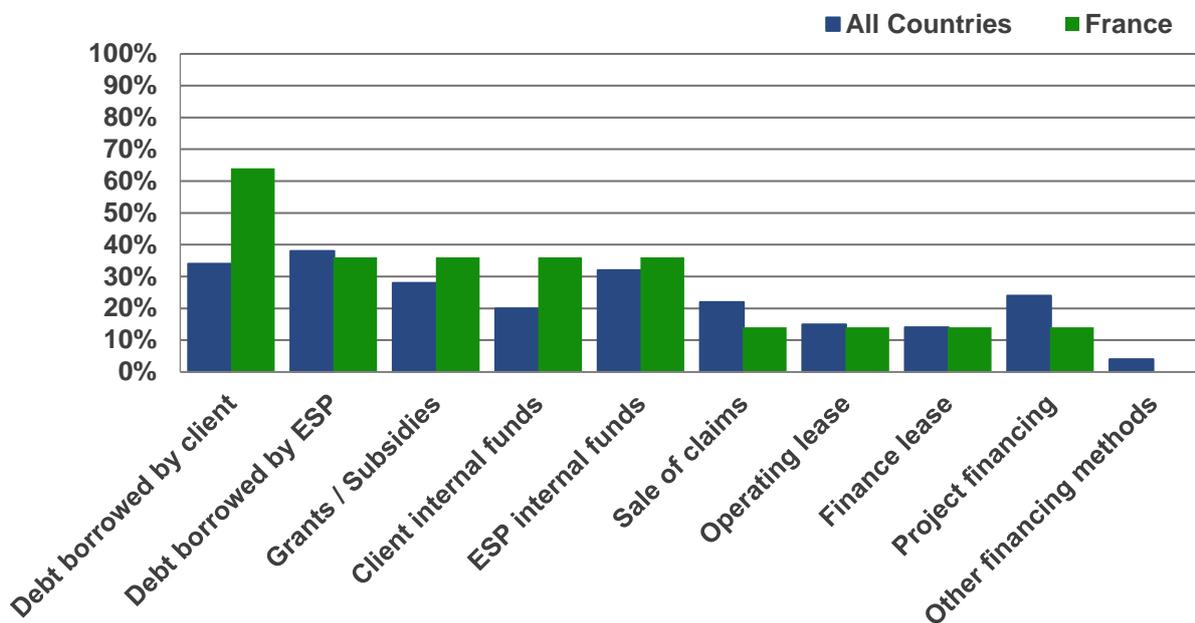
-  Lack of regulation for tertiary sector;
-  Complexity of voting in favour of works in collective housing (co-owned properties);
-  Constraints on public market financing because of prohibition of delayed payments;
-  Accounting of loans public debt – should be solved in 2018 with revised Eurostat guidance note on public accounting.

4.6.3 Financial barriers

As mentioned in Section 4.6, economic context and low energy prices is an important barrier to EPC business development, as clients are not eager to commit on long payback time, which can go from 10 years to several decades. In general, access to affordable finance doesn't seem to be a barrier to EPC business development (see Figure 11), although more than half of French respondents estimate that access to viable finance is difficult, which can be linked to the type of project financing (see Section 4.7).

4.7 EPC financing

Figure 12: How are the EPC projects you are involved with financed? (Sept 2017)



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

In France, EPC projects are usually financed by the client, mostly by contracting debt. It can also be financed on its internal funds but it will usually a mixed financing made of internal funds and borrowed debt, see Figure 12. This type of financing plan can be complemented by public grants and subsidies. In France, 64 % of respondents reported project financing with debt borrowed by the client, where it only reaches 34 % in the All Countries dataset.

When the project is financed by the ESP, the three preferred financing types are debt contracted by the ESP, leasing (either operating lease or finance lease) and sale of claims. However, sale of claims is rarely accepted as main collateral for EPC projects, as shows Figure 13.

Figure 13: From your experiences, is the sale of claims (sale of receivables) accepted as the main collateral for EPC projects? (Percentage share of responses by providers and facilitators Sept 2017)

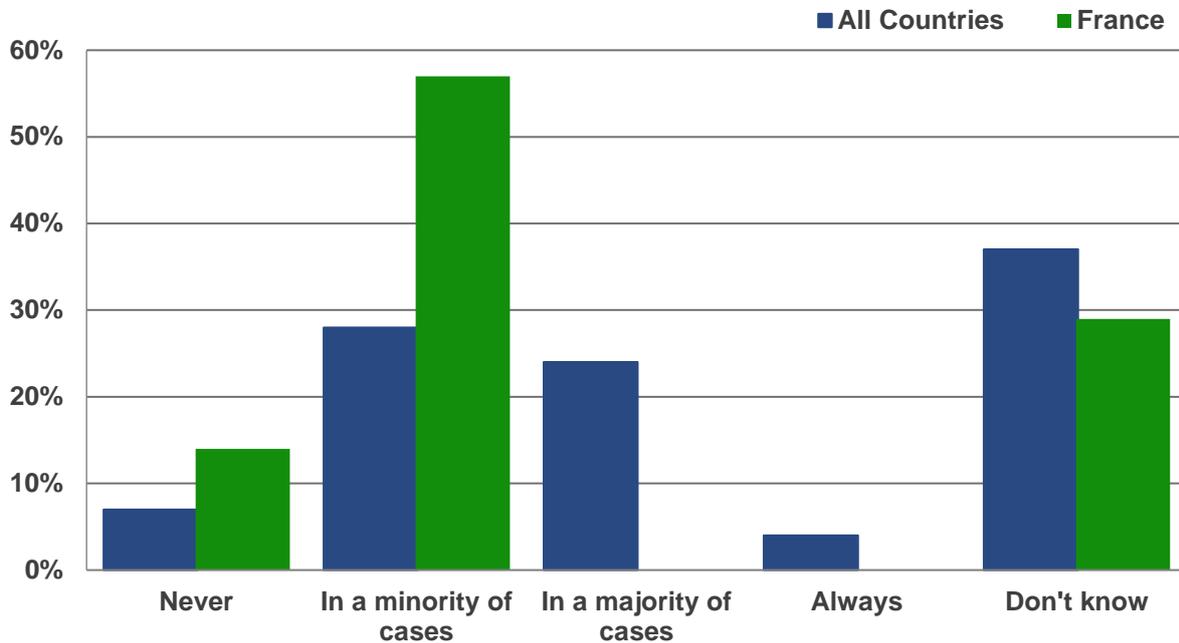
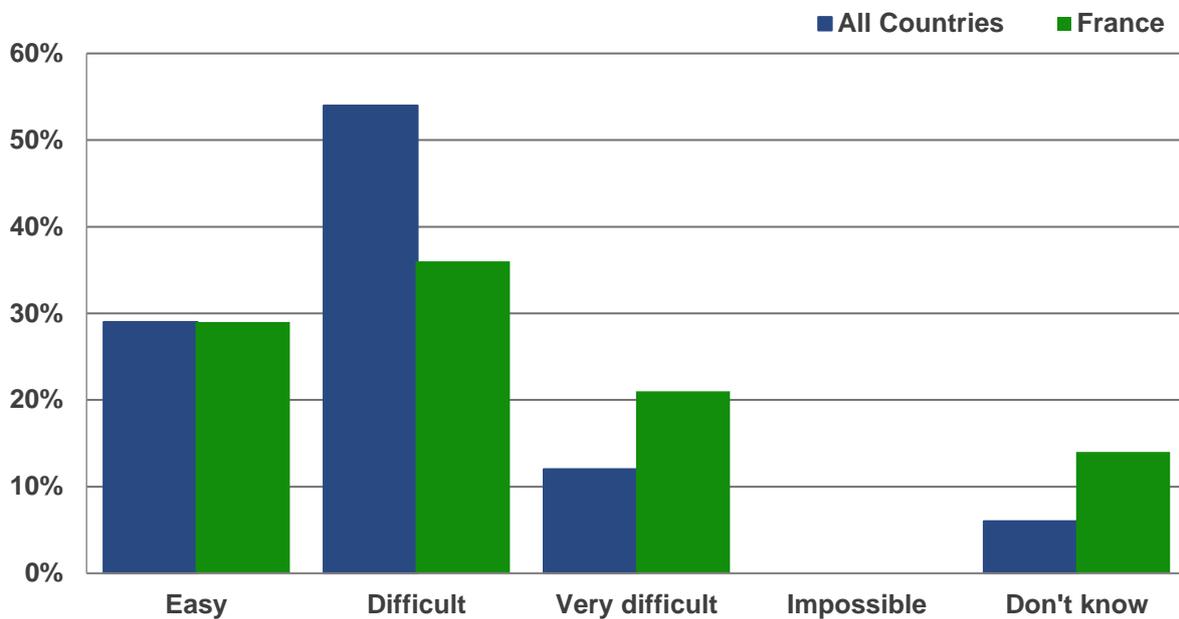


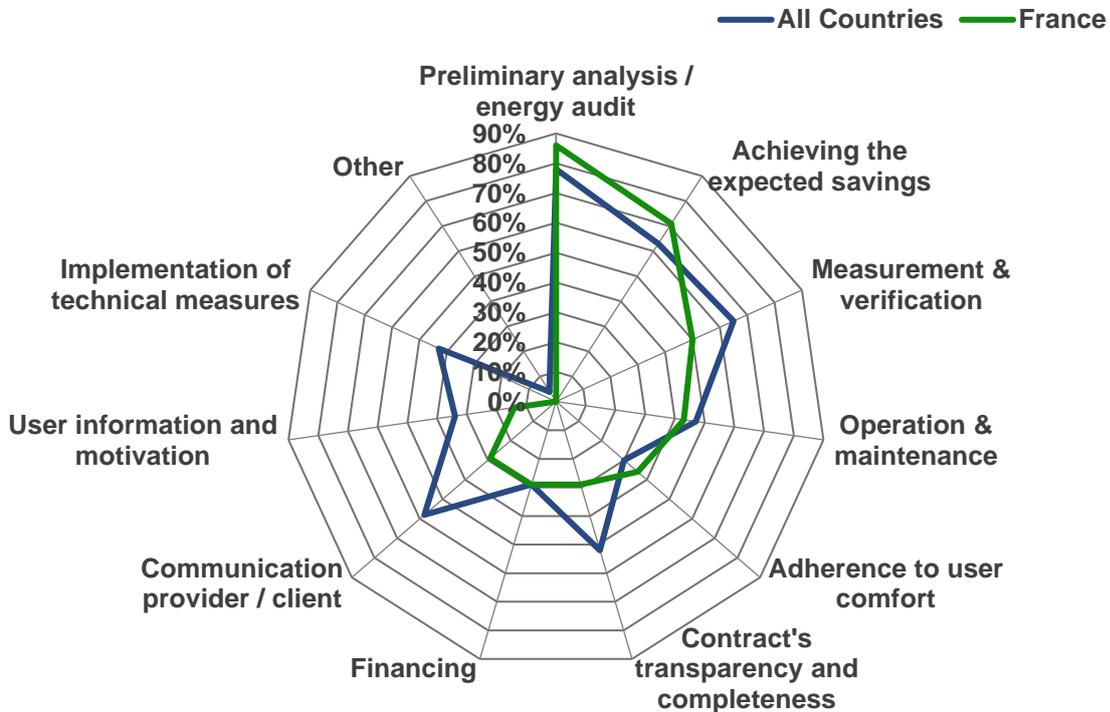
Figure 14: Do you consider that obtaining viable finance for an EPC project is easy? (Percentage share of responses by providers and facilitators Sept 2017)



According to 57 % of French respondents, access to viable finance is difficult or very difficult, which matches with the situation in All Countries covered by the survey (66 %). During interviews, some respondents mentioned long payback times as a reason to that.

4.8 EPC quality determinants

Figure 15: What are the most important determinants of quality in EPC projects? (Sept 2017)



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

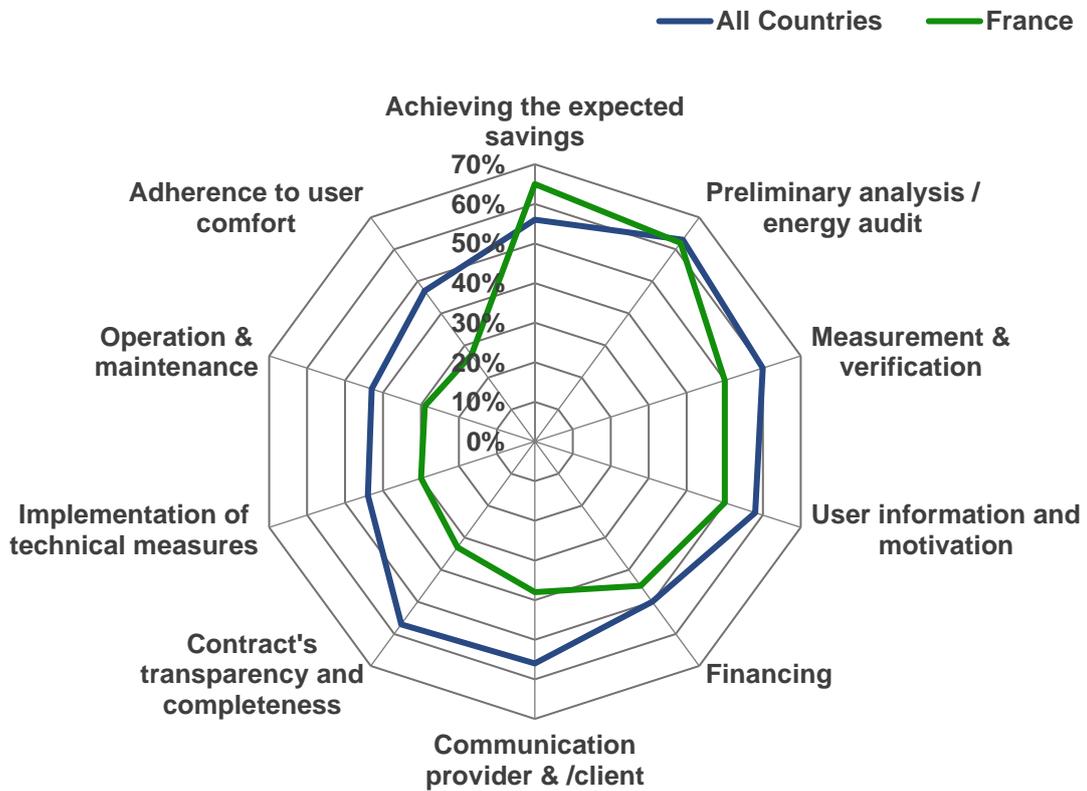
The first quality determinant to be mentioned as in All Countries dataset as in France alone is the *preliminary technical-economic analysis / energy audit*, which is considered as crucial, to establish consumption references and baselines, determine influence factors and adjustment parameters, before even launching tendering process to select an ESP, the procedure being either a formalised public market or a private ad hoc market. This will allow the ESP to determine the most appropriate technical solutions and best proportioned financial solutions to guarantee performance targets over time.

Achieving the expected savings level is considered as the second most important quality determinant. However, as it is (or at least should be) contractually determined, it would probably not be a strong discriminant factor in the choice between two ESP. The same reflexion can apply to the third quality determinant selected by French respondents that is *operation and maintenance* (O&M).

French results differ rather significantly from results in All Countries, which placed *measurement & verification* (M&V) as second most important quality determinant. All Countries covered also gave a higher importance to *communication between provider & client* and to *transparency & completeness of contractual stipulations*, all of which French

respondents considered as business-as-usual for an ESP with high standards regarding services it proposes.

Figure 16: In which areas are quality improvement most needed in EPC project preparation and implementation? (Indicator based on rating scale as described in the note below - Sept 2017)



Note: respondents were asked to rank each determinant using the following options 'not needed', 'needed', 'strongly needed' and 'don't know'. An indicator was created by assigning a weighting of 0%, 50% & 100% to 'not needed', 'needed' & 'strongly needed' respectively and dividing by the number of responses. Where 'don't know' was selected this was excluded from the calculation of the indicator.

Except for *achieving the expected savings level* and the role of the *preliminary analysis*, French respondents seem to be slightly more satisfied with their EES than in the All Countries dataset, as shows Figure 16. However, they acknowledged that M&V, user information & motivation and financing would require improvement.

5 ENERGY SUPPLY CONTRACTING MARKET

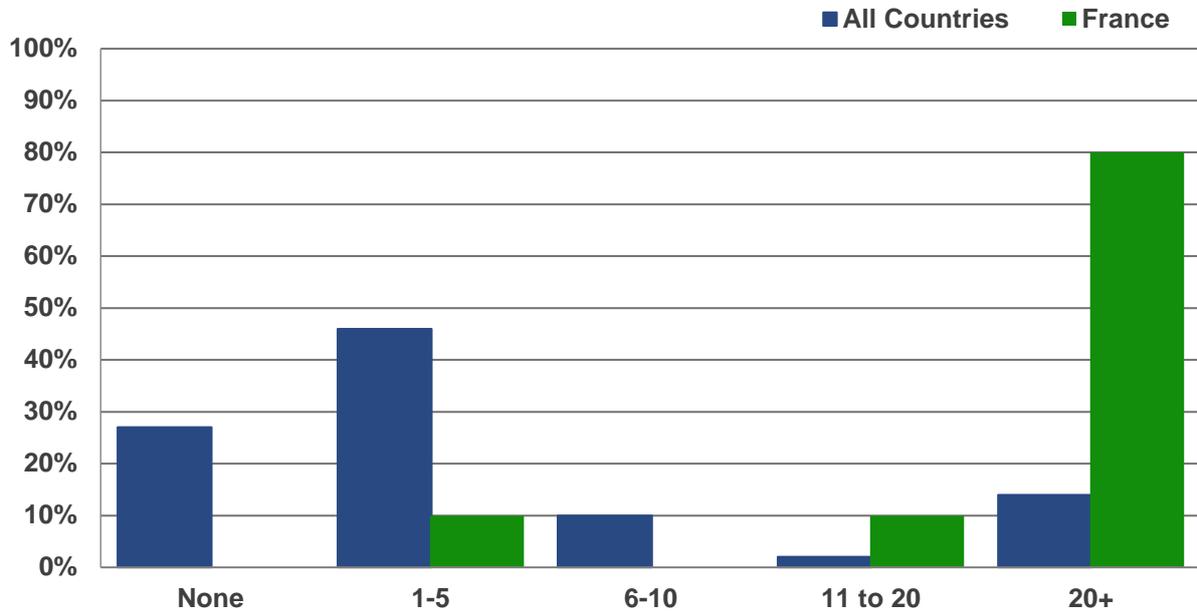
5.1 ESC market actors

Energy supply market structure is rather similar to EPC market structure; there are providers who sell energy to clients, last of which can require intervention of decision-makers in case of public entities. However, it can be found actors such as:

- ✔ **Associations** - There is no national association gathering all the energy providers, however there is ANODE (anode-asso.org), which “represent alternative energy providers”, meaning most of those who are not EDF or ENGIE (former GDF-Suez). This is a relic from the former State energy monopoly ensured by EDF-GDF (State company in charge of the whole energy value chain, for electricity and gas), which officially ended in 2007 with the final market opening to private providers, in application of European directives;
- ✔ **Consumers’ protection** - Market liberalisation led the energy ombudsman (mentioned in Section 3.2) to set an online information service for consumers in 2007 (energie-info.fr), in direct link to ombudsman’s services and giving contacts to many sectorial associations of consumers’ protection;
- ✔ **Committee of Energy Regulation** - This independent administrative entity was created in 2000 when energy market first opened to private providers for industries over 16 GWh. Its arbitrates in case of conflicts between market actors and ensures that market works properly;
- ✔ **Energy brokers** - Energy broking is now proposed by most ESP. Typically, their clients subscribe to energy supply contract and the broker ensures a lower price than if the client subscribed directly to an energy provider, by purchasing big volumes, thus leading to cheaper energy thanks to economy of scale.

5.2 ESC market developments

Figure 17: How many ESC projects (that have reached contract signature) has your organisation initiated / become involved with in the last 12 months? (Percentage share of responses by providers and facilitators Sept 2017)



Energy supply is an important part of ESP's activity, as they are still mostly known for their O&M activities and for ESC. In QualitEE market survey, 80 % of French respondents reported having signed more than 20 contracts for energy supply over the last 12 months (Figure 17), where in the All Countries dataset, over 70 % of respondents reported having signed between 0 and 5 contracts on the same period. According to French respondents interviewed to answer the survey, these high figures are partly due to the fact that last year was the time for many contracts' renewal, which is why most of them reported little change or a slight growth in their ESP activity (Figure 18).

Figure 18: In the last 12 months your ESC orders have seen: (Percentage share of responses by providers and facilitators Sept 2017)

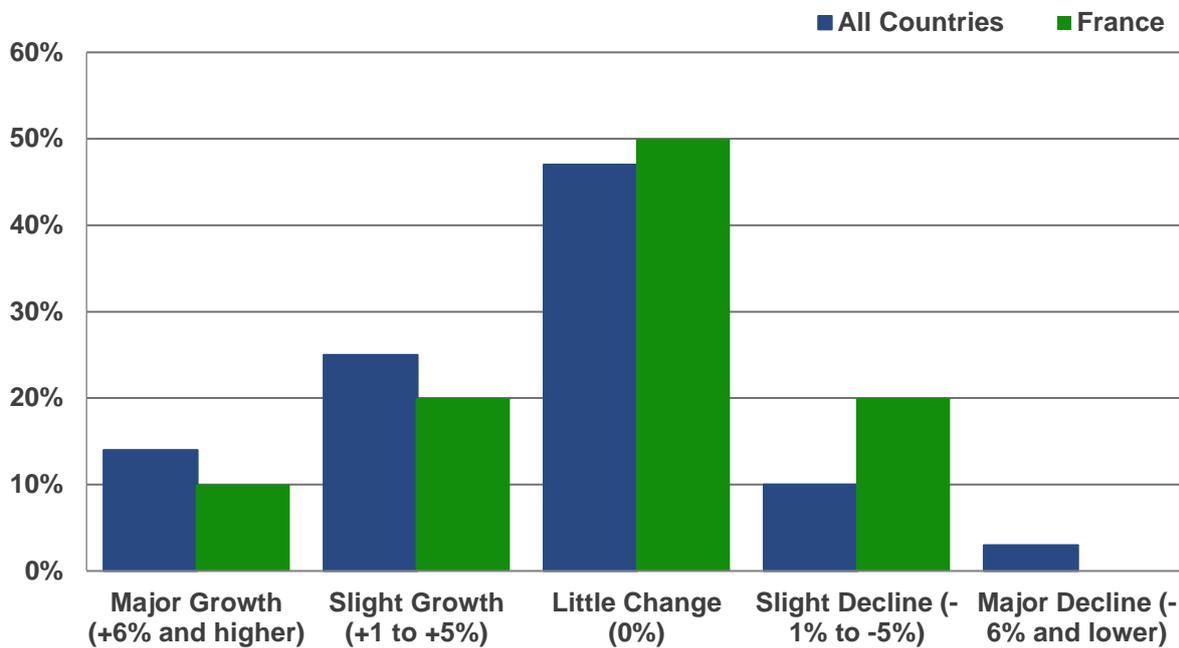
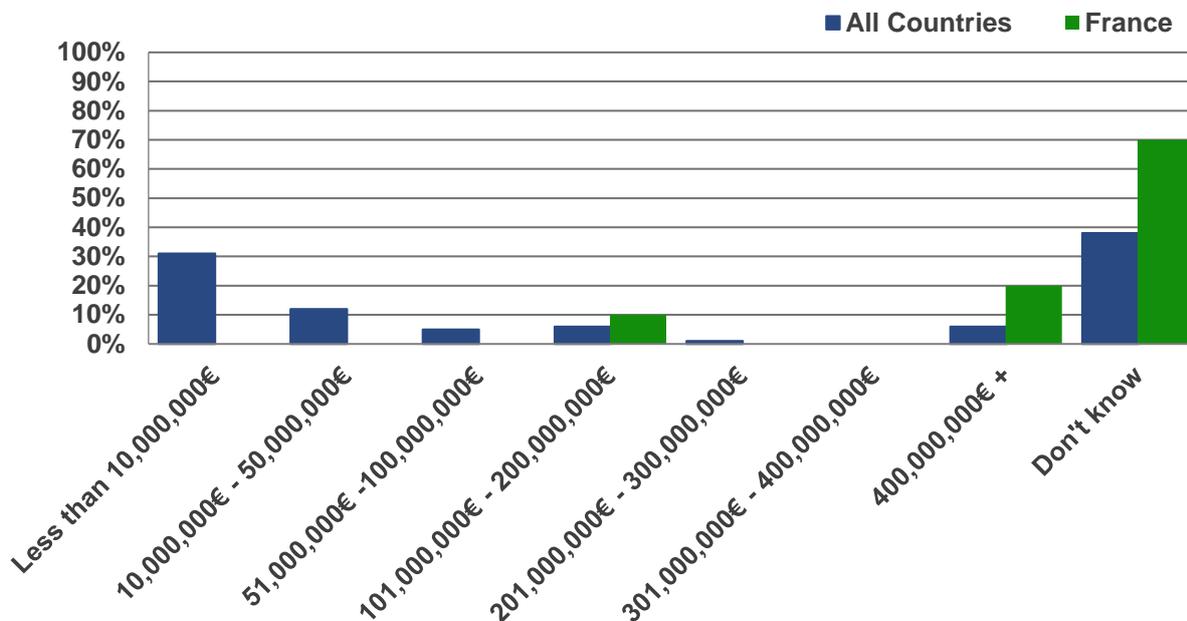


Figure 19: How much revenue do you think the ESC market in your country generated in 2016? (Percentage share of responses by providers and facilitators Sept 2017)



Regarding the size of French ESC market, 70 % of respondents admitted that they didn't know, while 20 % estimated it to be bigger than 400 million € (Figure 19). This is a difficult question as current available data on energy supply market isn't sectorised, which makes it complicated

to know which share is covered by ESC as defined in Definitions and Glossary page 6. Nevertheless, the market for energy supply in its broader definition as a service offered by ESPs was estimated around €2.9 billion in 2015 (ADEME, 2016). In the All Countries dataset, 38 % of respondents answered they didn't know about the ESC market size while 31 % estimated that it was less than € 10 million.

Figure 20: Over the last 12 months, the market for ESC in your country has seen: (Percentage share of responses by providers and facilitators Sept 2017)

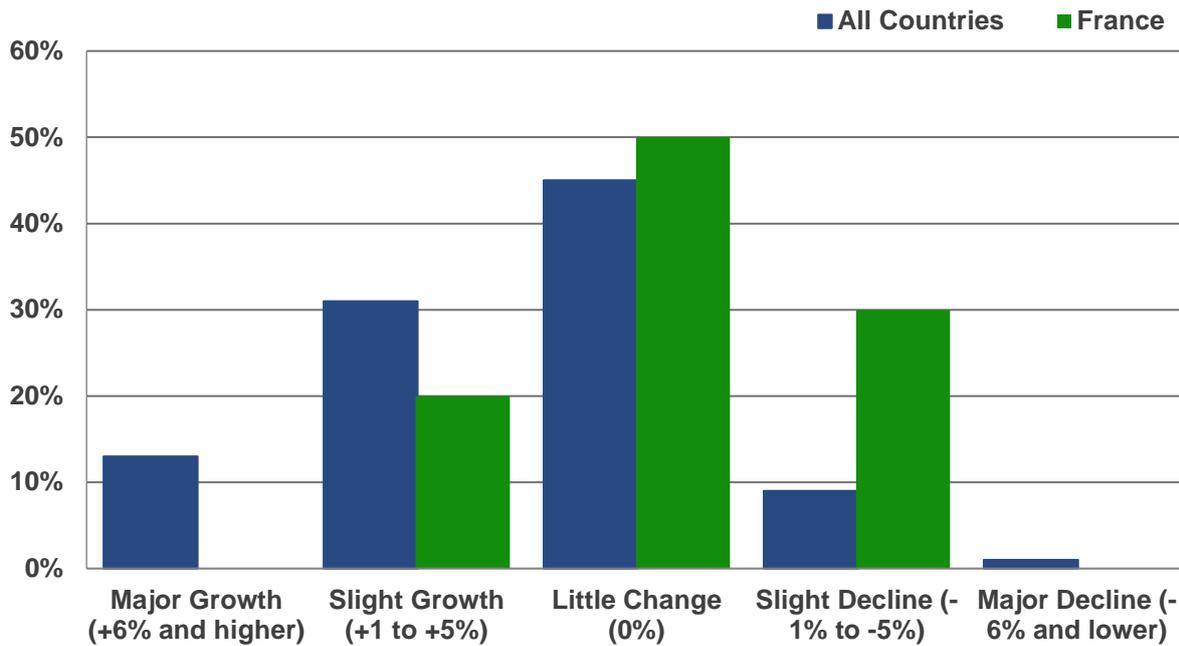
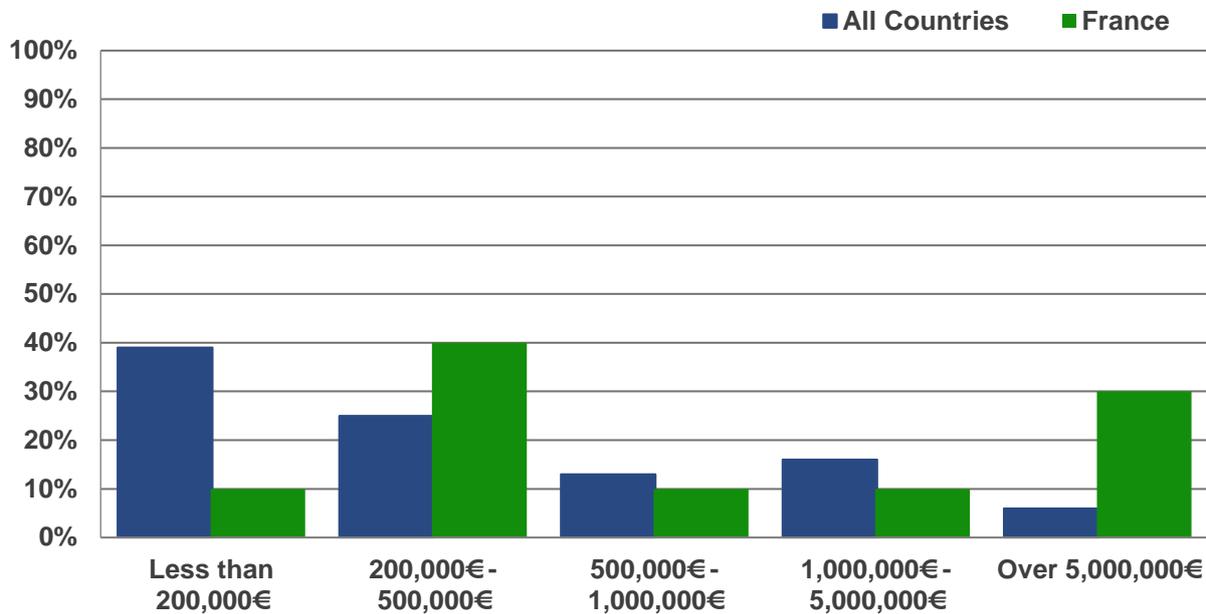


Figure 20 shows that French respondents estimate ESC market to be either steady or in slight decline in 2016 (which eventually contradicts their own situation as given in Figure 18), where respondents in All Countries seem to be more optimistic.

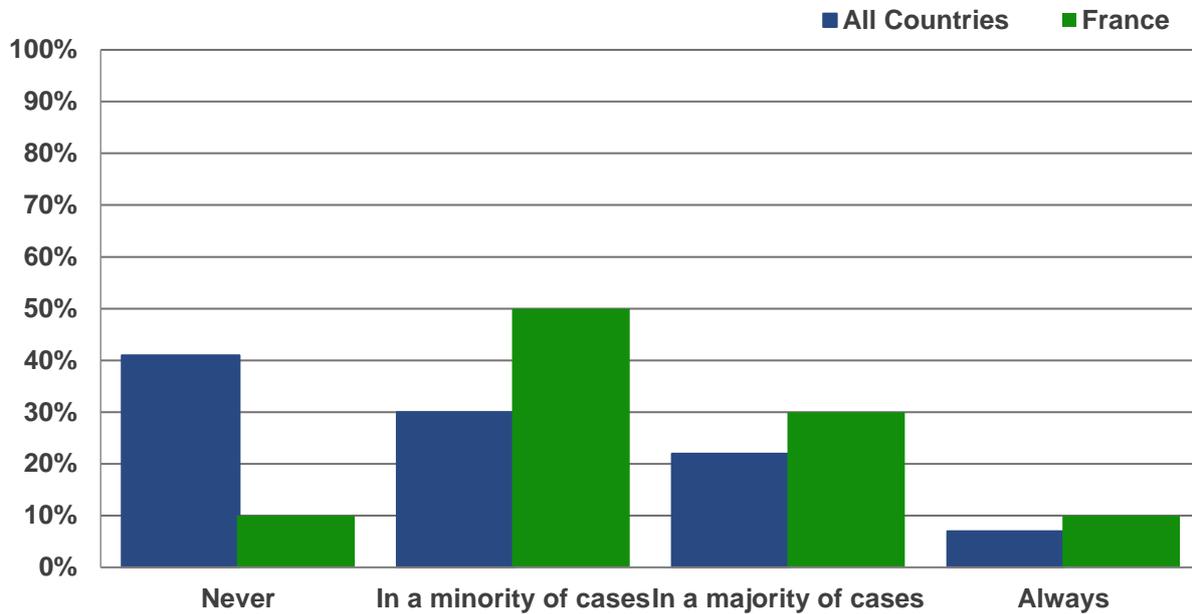
5.3 ESC business models

Figure 21: What is the most common overall value (investment outlay) of the ESC projects you are involved in? (Percentage share of responses by providers and facilitators Sept 2017)



The most common investment outlay for French ESC projects mainly concentrates in 2 price ranges; from €200,000 to €500,000 and over €5 million (Figure 21), the latter being much more common in France than in All Countries dataset, where 64 % of respondents reported a common investment outlay below €500,000. In France, investments in ESC projects are usually done to renovate electric or heating systems or to connect to an efficient supply of energy, for example a local district heating network.

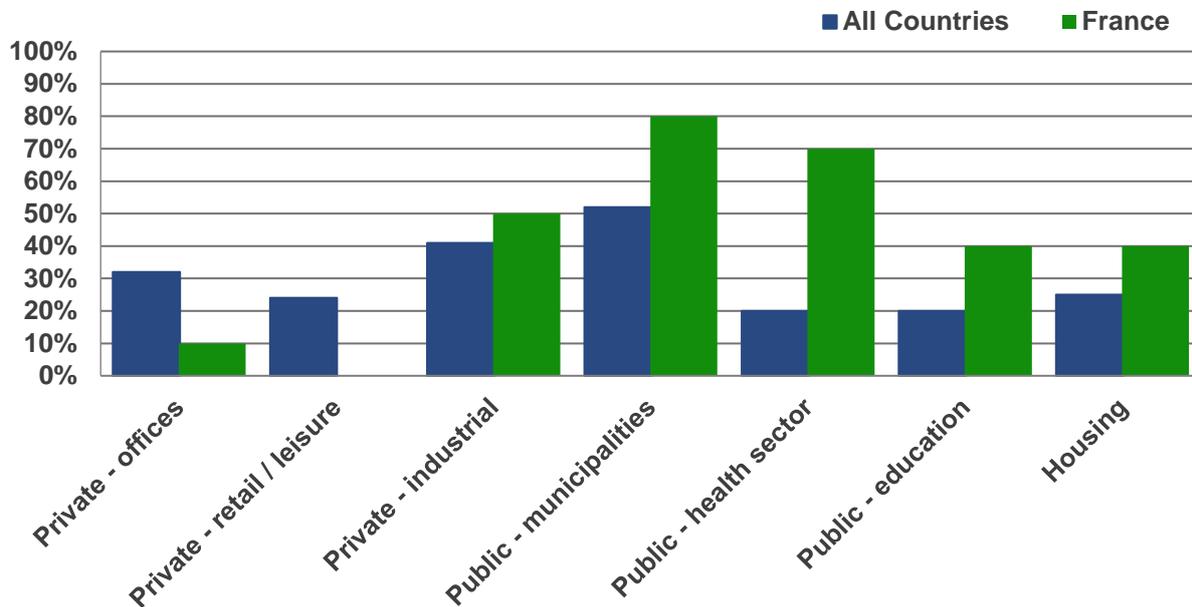
Figure 22: In the ESC projects you are involved in, were payments per unit of energy delivered in combination with payments per unit of energy saved (from installed energy efficiency measures)? (Percentage share of responses by providers and facilitators Sept 2017)



In Figure 22, 60 % of French respondents reported that payments per unit of energy delivered in combination with payments per unit of energy saved were utilised in a minority of cases (50 %) or never utilised (10 %). In the All Countries dataset, 41 % of respondents answered that they never utilise this type of combined payment, 30 % said it was utilised only in a minority of cases.

5.4 ESC market sectors

Figure 23: Which sectors do your ESC clients generally come from? (Sept 2017)

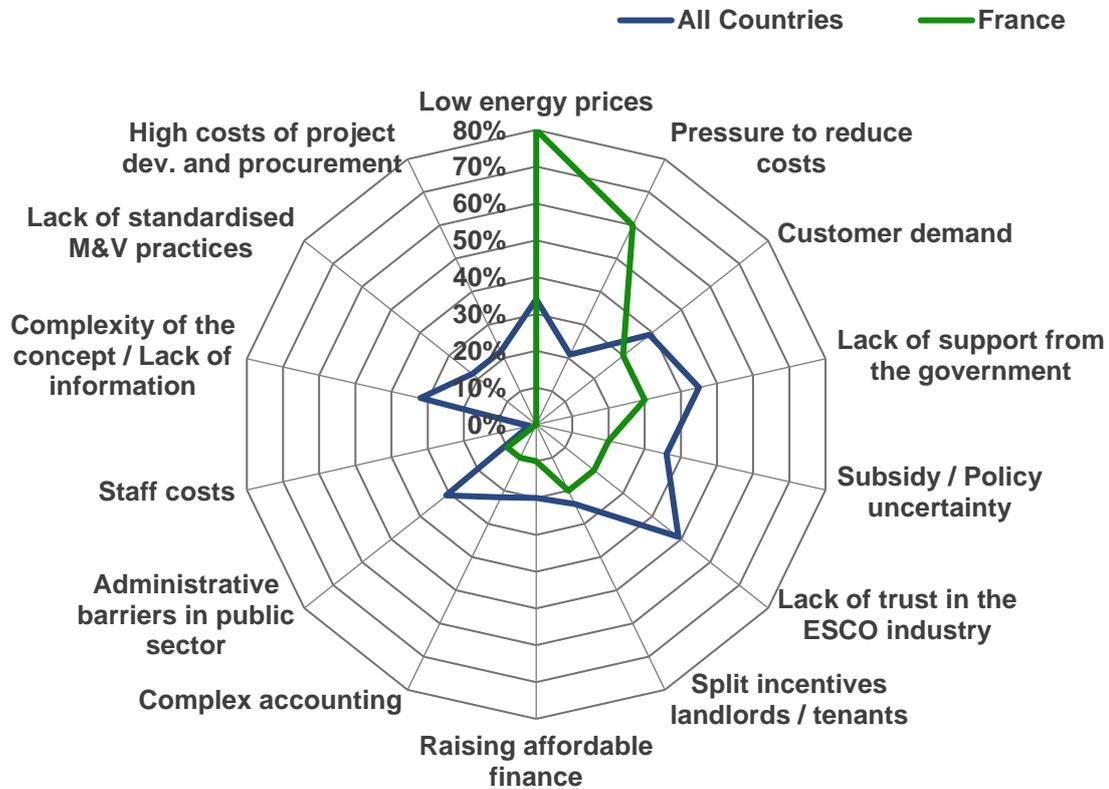


Note: Respondents may have selected multiple answers. The chart shows the proportion of respondents selecting each answer out of overall respondents to the question. Results therefore do not sum to 100%.

As for EPC, French ESC clients mainly come from public sector and housing (Figure 23). However, half of French respondents reported industries as regular client, which makes sense, as industries have a strong interest to benefit from the cheapest, most efficient energy supply that can be provided by ESC, without intervening on their core processes or heavy energy installations, as an EPC would possible require.

5.5 ESC market barriers

Figure 24: What are the main barriers to the ESC business based on the activities of the last 12 months? (Sept 2017)



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

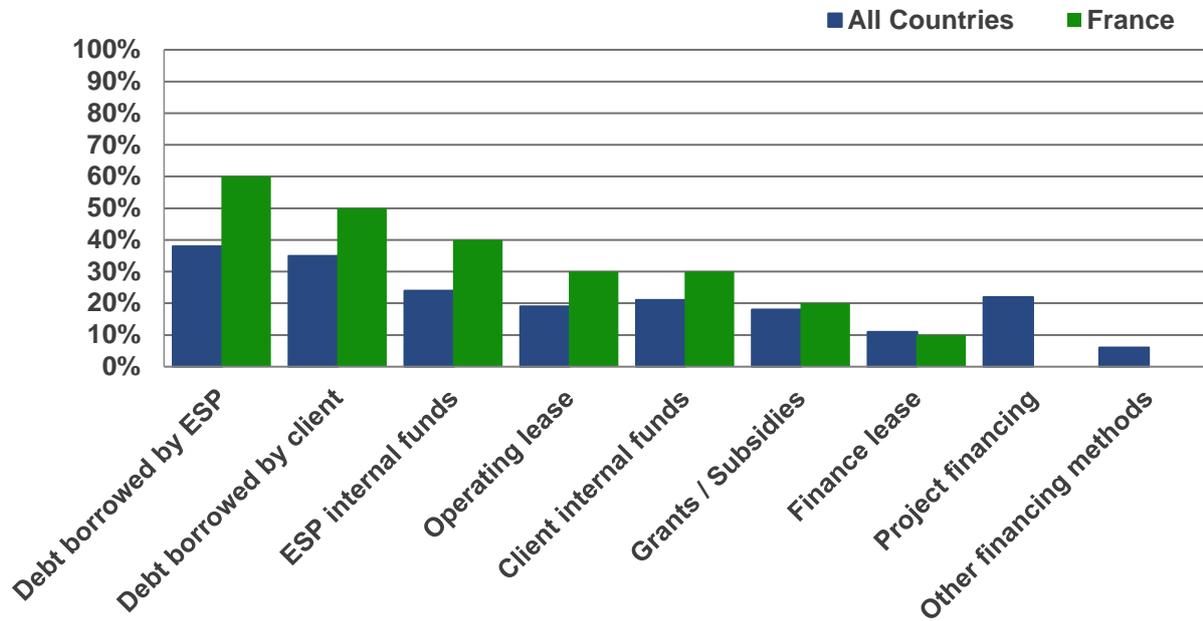
The two main barriers to French ESC business developments are low energy prices and pressure to reduce costs (Figure 24 and Table 2), respectively mentioned by 80 % and 60 % of respondents. This result differs from All Countries dataset in which the main barrier to ESC given by respondents are the lack of trust in the ESCO industry, the lack of support from the government and low demand from customers.

Table 2: Overview of key ESC market barriers in France

	Market barrier	Description
1	Low energy prices	With low energy prices, clients are less incentivised to invest in energy efficiency, as the financial gain is reduced and payback time increases when energy prices decrease. In the case of ESC, this results in clients contracting a regular energy provider, not an ESP.
2	Pressure to reduce costs	In every structure, public or private, the trend is to optimise everything that can be optimised, as the economic situation in some industries or local authorities is not at its highest levels.

5.6 ESC financing

Figure 25: How are the ESC projects you are involved with financed? (Sept 2017)



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

As for EPC projects (Figure 12), French respondents reported that ESC projects were mainly funded by debt contracted either by the client or by the ESP, although financing on their internal funds was also an option (Figure 25). Project financing was not mentioned by French respondents, which is not the case for the All Countries dataset in which 20 % of respondents reported such financing.

Figure 26: Overall, do you consider that obtaining viable finance for an ESC project is: (Percentage share of responses by providers and facilitators Sept 2017)

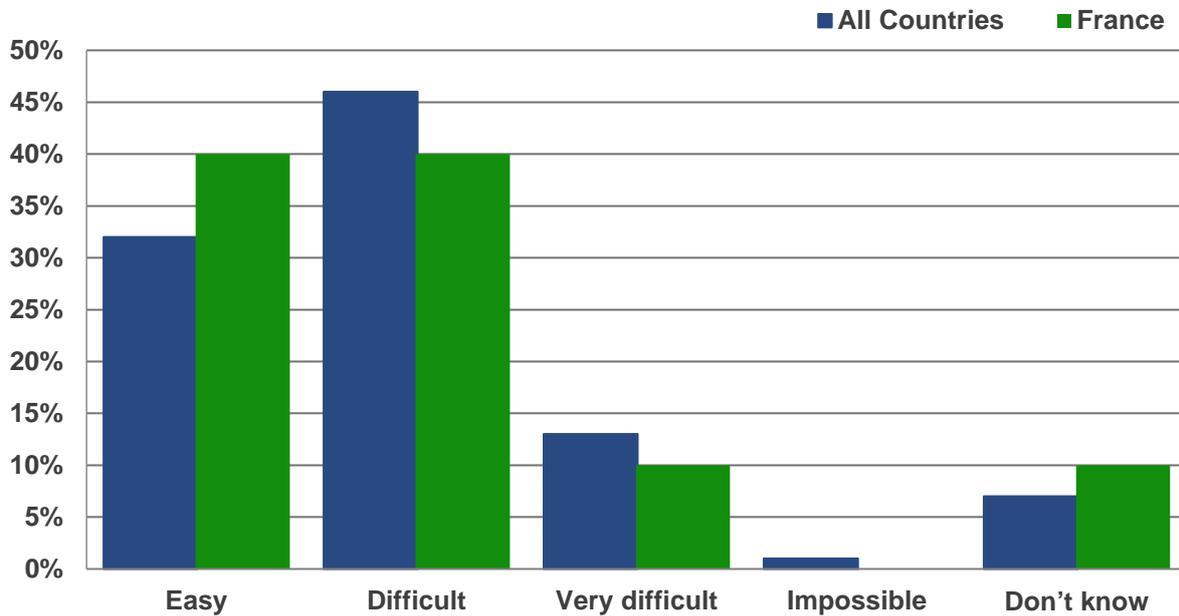
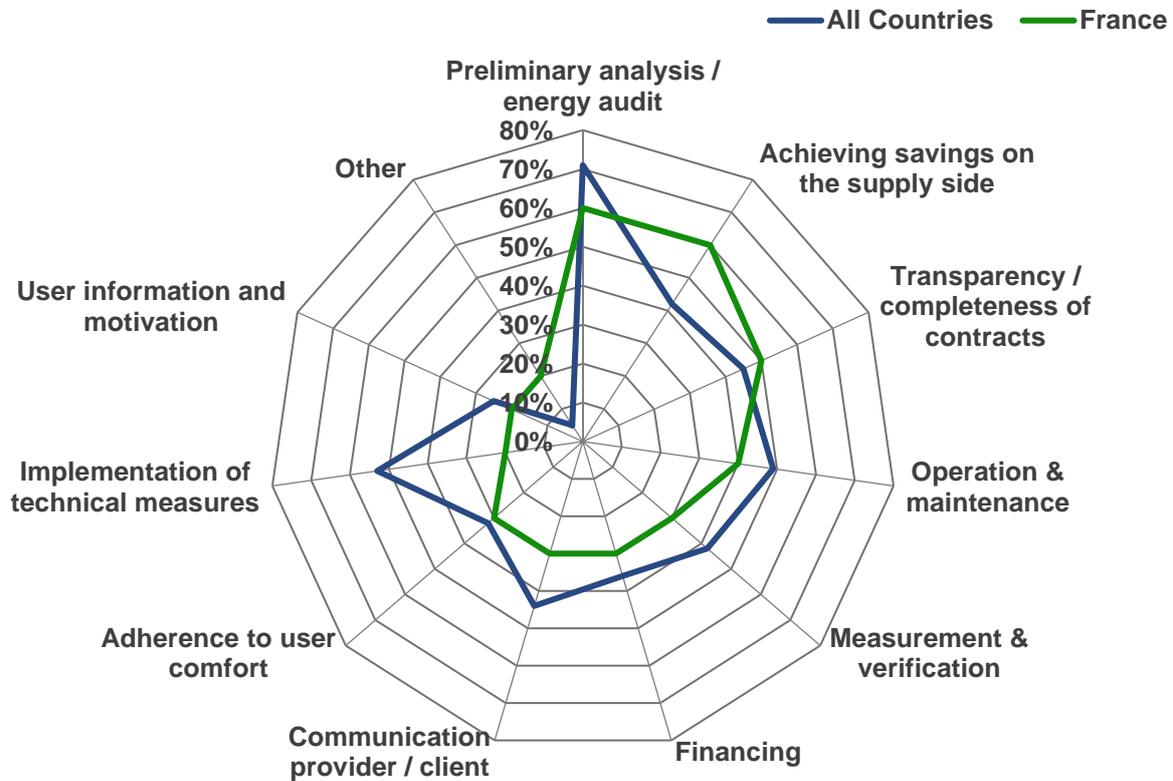


Figure 26 shows a more balanced perception of access to viable finance than for EPC (Figure 14); 40 % of French respondents said it was easy, 50 % difficult or very difficult. The trend is rather similar in the All Countries dataset where 32 % of respondents reported an easy access to affordable finance where 59 % saw it as difficult or very difficult.

5.7 ESC quality determinants

Figure 27: In your opinion what are the most important determinants of quality in ESC projects? (Sept 2017)

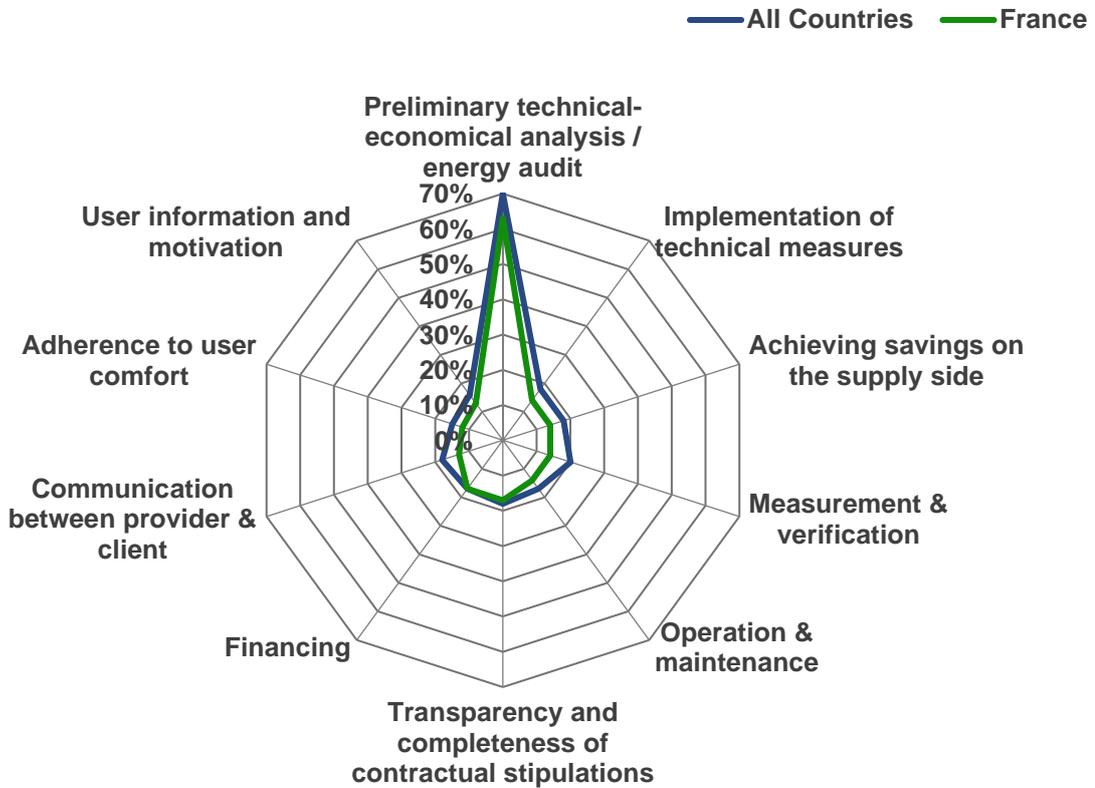


Note: Respondents may have selected multiple answers. The chart shows the proportion of respondents selecting each answer out of overall respondents to the question. Results therefore do not sum to 100%.

Where 70 % of All Countries respondents reported *preliminary analysis / technical audit* as the first ESC quality determinant (followed by O&M with 50 %, see Figure 27), 60 % of French respondents placed preliminary analysis and the achievement of savings on the supply side at the main quality determinants.

The reason why some quality determinants considered as important in All Countries dataset but minored in French dataset (O&M, implementation of technical measures, communication provider-client) is that French respondents (especially ESPs) considered that, as professionals of EES, this is their mission to ensure high quality standards in services they offer. Therefore, many French respondents considered to be already doing their best to deliver high-quality O&M, implementation and communication for instance.

Figure 28: In which areas are quality improvement most needed in ESC project preparation and implementation? (Percentage share of responses by providers and facilitators Sept 2017)



The area needing improvement in ESC projects (Figure 28) in both All Countries dataset and French responses is *preliminary analysis / energy audit*, mentioned by 70 % of all respondents (63 % for France). Here as well, French respondents interviewed for the survey affirmed that they were already ensuring the other quality determinants as they are the necessary criteria to respect in order to deliver a quality service without which they would not have clients.

6 OTHER ENERGY EFFICIENCY SERVICES

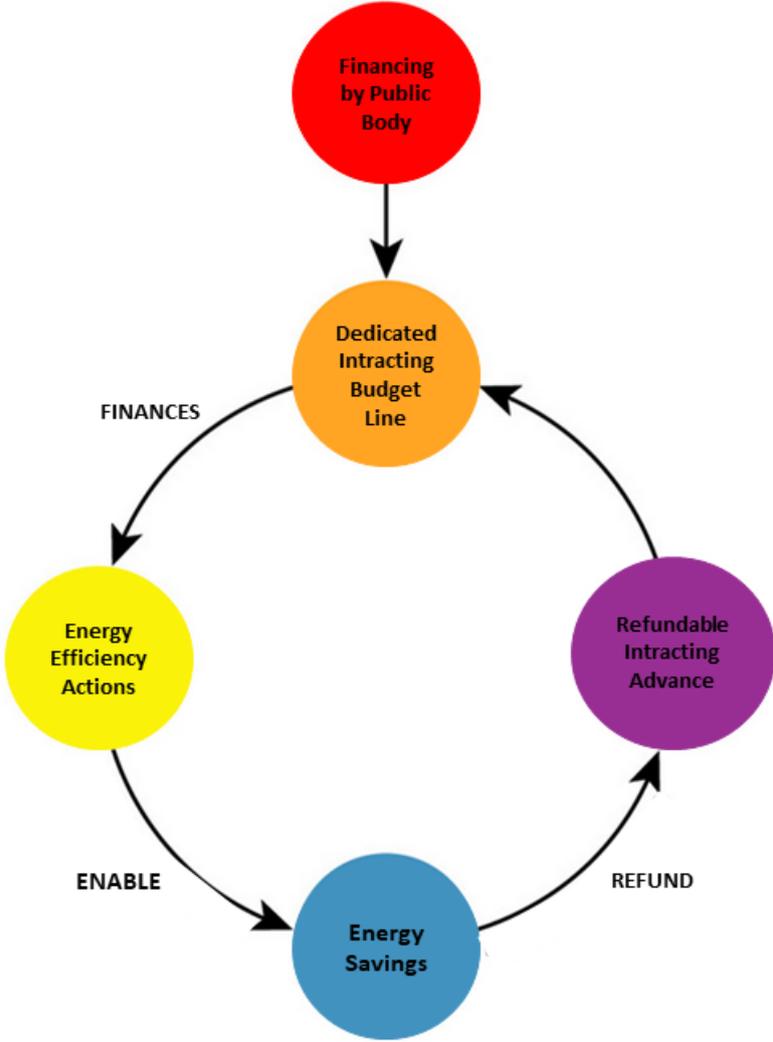
In complement of EPC, France is currently experimenting a new type of contract called Intracting (contraction of Internal Contracting). It is not an energy efficiency services contract as such but it is worth being mentioned.

Intracting relies on an in-house third-party financing scheme. It aims at financing small scale projects, with a payback time inferior to 10 years, to the benefit of public authorities or parent institutions. The financial and technical service is delivered not by an external agent but through a unit within the same organisation. It is defined as following:

“Intracting [...] consists of using repayable advances to co-finance light maintenance work and energy-optimisation work, allowing short-term energy savings to be made. These savings are then put towards repaying the advances granted, or perhaps to financing new projects.”

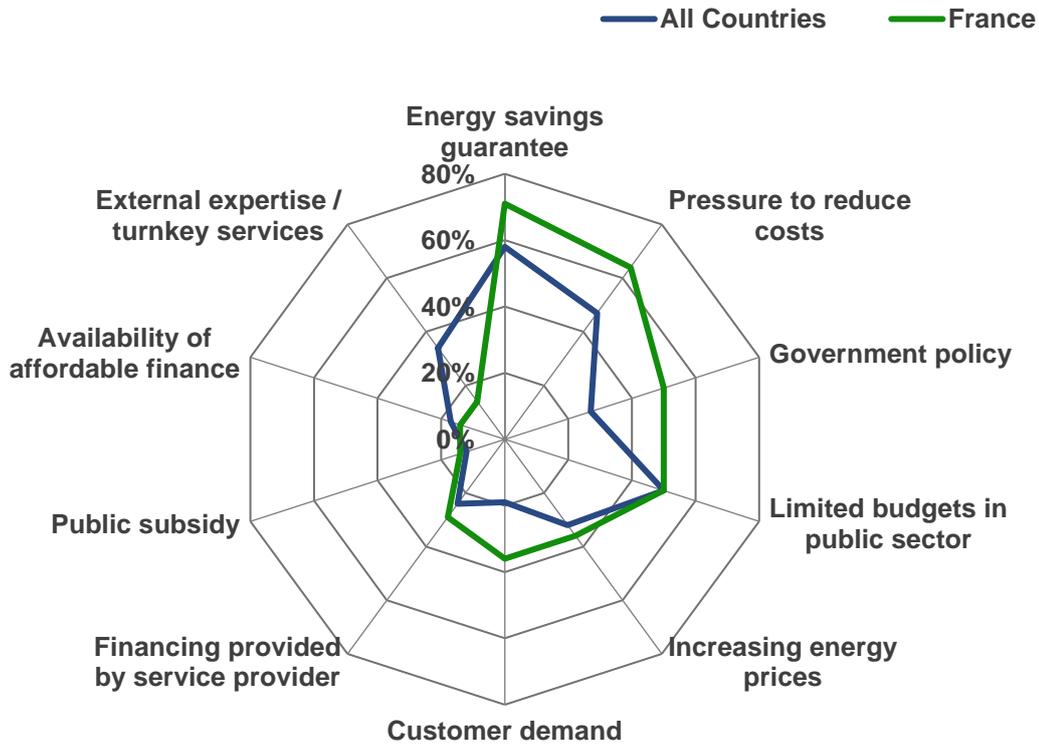
CDC – Caisse des Dépôts et Consignations (State-controlled investment fund specialized in long-term general interest investment) acts as a trustworthy third party, bringing half of the financing through repayable advances. Their repayment depends on the energy savings, see Figure 29 (CDC-Caisse des Dépôts, 2018).

Figure 29: Principle of Intracting financing (CDC-Caisse des Dépôts, 2018)



7 RECOMMENDATIONS TO SUPPORT MARKET DEVELOPMENTS

Figure 30: What are the main drivers of the EPC business based on the activities of the last 12 months? (Sept 2017)

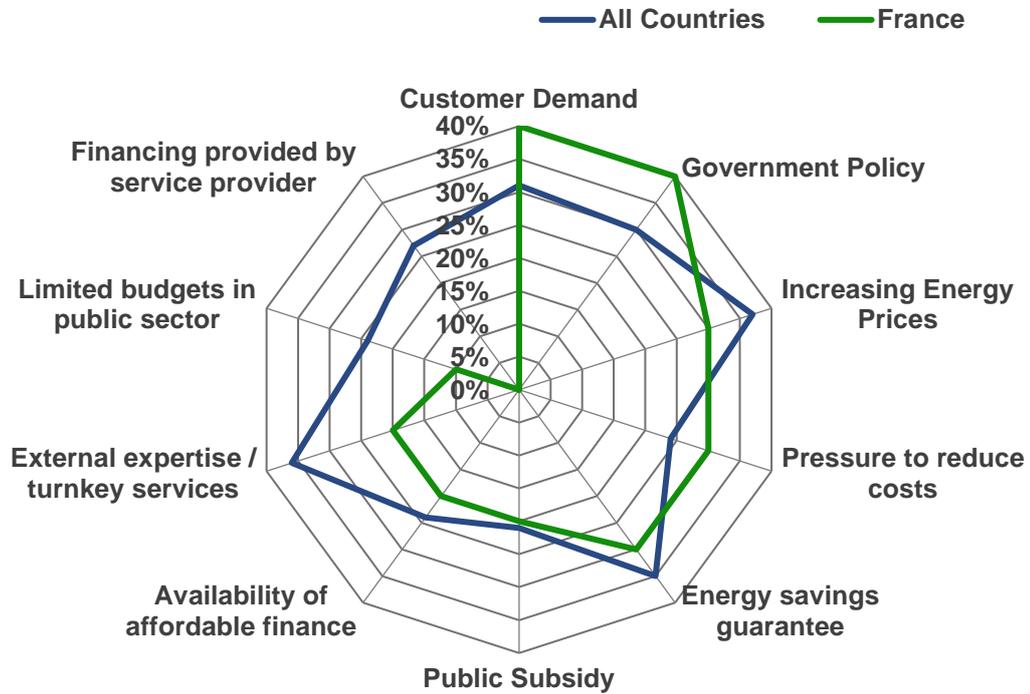


Note: Respondents may have selected multiple answers. The chart shows the proportion of respondents selecting each answer out of overall respondents to the question. Results therefore do not sum to 100%.

The main drivers that have been identified for French EPC market are *guaranteed energy savings* (mentioned by 71 % of French respondents), *pressure to reduce costs* (64 %), *government’s policy* and *limited budgets in public sector* (both 50 %, see Figure 30). For All Countries investigated by the survey, *energy savings guarantee* (58 %) and *limited budgets in public sector* (50 %) are considered as the main drivers of EPC market.

The same trend can be observed for the ESC market (Figure 31), however interviewed stakeholders from France emphasised the particular importance of *customer demand* and *government policy* (both 40 %) in this case, where in All Countries dataset, emphasis was put on *increasing energy prices* (37 %), *external expertise / turnkey services* (36 %) and *energy savings guarantee* (35 %).

Figure 31: What are the main drivers of the ESC business based on the activities of the last 12 months? (Sept 2017)



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

Activities listed in this chapter are meant to help overcome the barriers of EES market development in France, identified in Section 4.6 and Section 5.5. The activities relate to individual stakeholders and are summarized in

Table 4. It is clear these activities interrelate with each other and therefore it is necessary they are dealt with together, not separately.

The following recommendations were designed following reports from independent legal experts as well as advising of legal experts from the French association of ESPs, SNEC, which were then combined and analysed from an independent point of view.

Table 3: Identified market barriers

	Market barrier	EES affected
1	Low energy prices	EPC, ESC
2	Complexity of the concept / lack of information	EPC
3	Pressure to reduce costs	EPC, ESC
4	Lack of support from the Government	EPC
5	Split incentives between landlords and tenants	EPC

Table 4: Overview of actions to overcome market barriers

Response to barriers	Actions	Who should act	Target group	Description
1, 3, 4	Data: Implementation of a centralised data collection and management system on national building stock's conditions and needs	Public authorities, assisted by EES providers and EES facilitators	EES clients	Such a system would enable a bulk auditing of buildings, in order to determine whether they consume more energy than they should. Moreover, such data could help determine buildings that could mutualise their renovation, either because they are close, or because they suffer from the same weaknesses: costs could therefore be cut by mean of shared purchases (studies, materials, etc). In such cases, EES would be an accurate answer to reduce energy consumption, as over-consumption may result from technical issues or inefficient energy management, two problems that can easily be solved in a cost-effective way by EES providers.
2, 4	Consulting: Involvement in a unified governance body (unique reference body) able to support all actors involved in energy efficiency activities (consulting, explicative notes, methodological guides)	Governmental entities under Ministry for an Ecological and Solidary Transition (MEST)	All EES stakeholders	A service that can be integrated to the existing public structure for buildings' renovation (renovation-info-service.gouv.fr), a single contact point to get reliable information and assistance to implement EES projects.

2,4	<p>Guidelines: Edition of a charter of best practices for energy efficiency and a RGE label, both extended to environmental considerations</p>	<p>ADEME, CEREMA (as Observatory of EPC, for example) Associations</p>	<p>EES clients, EES facilitators</p>	<p>This would enable unifying methods and indexes utilised by public and private ordering bodies as well as their work and services providers overarching a consumption reduction process. This would also result in securing investors and/or loaners. Also, this would allow the integration of EES co-benefits such as air quality, comfort, real-estate value, health or productivity in tertiary sector.</p>
2, 5	<p>Contracting: Implementation of standards or reference frameworks for EPC (extended to air quality and comfort) for public markets or for private markets (reference frameworks for EPC in co-owned housing, tertiary, industry). These would define standard contractual stipulations that would be integrated to contracts adapted to the clients' situation</p>	<p>Associations of professionals</p>	<p>EES facilitators, EES clients</p>	<p>Being utilised by EES providers (members of associations), these standards/reference frameworks will help clarifying contracts, thus contributing to inform clients about specificities of such contracts. Co-owned housing is a particular challenge to be addressed regarding split incentives landlord/tenant. A reference framework can be a first step to overcome this barrier.</p> <p>The contract duration is an important point. Owners are usually not willing to invest in energy matters for a payback time longer than ten years. ESPs must therefore propose EPC with such a duration or even shorter and explain, with support of the government, that after this period, the realised energy savings can be used for more ambitious renovations, in relation with a broader renovation programme.</p>
2, 3, 4	<p>Guarantees: valorise concrete guarantees brought by EPC</p> <p>Search and develop new forms of guarantees linked to new utilisations of energy (local production, collective self-consumption)</p>	<p>Governmental entities, EES providers and EES facilitators</p>	<p>EES clients</p>	<p>Penalties are paid by providers in case targets are not reached (which means that financial targets are reached in any case). This gives confidence in the contract. It also sets boundaries to the project's cost, and therefore secures its potential financing.</p> <p>The complexity induced by these new utilisations must be accompanied by governments when public research is needed or when regulatory matters need to be solved.</p>

<p>1, 3</p>	<p>Feedback: Execution of qualitative and statistical analyses that would enable an efficient monitoring of projects' implementation, a follow-up to ensure that contractual commitments are respected over the contract's duration and a general monitoring of France's progress towards its energy (primary and final) consumption reduction targets</p>	<p>Observatory of EPC as such (or one of its 3 components - ADEME, CEREMA, CSTB), a public entity under the MEST's supervision</p>		<p>Such a database would enable visualising the overall state of past and ongoing EES projects and help improving processes at country's level, not only at ESP's level.</p> <p>This feedback could incite companies to have good practices, and therefore reduce the risk of additional costs for the user that are induced by bad works.</p>
<p>2</p>	<p>Certification: Certification of EES providers respecting specifications defined by public authorities in accordance with professionals and clients</p>	<p>Governmental entities, EES providers and EES facilitators</p>	<p>EES clients</p>	<p>On the same model than ISO standards or RGE label (see Chapter 8). Specifications required to obtain this certification could be based on technical quality criteria and financial guidelines developed by QualitEE project.</p> <p>In addition to Complexity of the concept / Lack of information, this certification of companies would be a step further against lack of clients' trust in EES providers, although it has not been mentioned by French respondents as a main barrier to EES' development.</p>

7.1.1 Regulation and standardisation

Several recommendations in this Sub-Section are from Mr. Olivier Ortega's report to the Minister of Ecology and Sustainable Development (Ortega, 2011). Some of this report's recommendations have already been integrated in the regulation. The following suggestions are still of current interest to boost EES and EPC in particular:

- ✔ Elaborate an official definition of the EPC;
- ✔ Create of a support mission for EPC's establishment and follow-up, aiming at:
 - Develop energy efficiency indicators and monitoring indicators as well as methodology protocol that can be adapted to the different types of contracts;
 - Propose standardised contractual frameworks (see Chapter 8);
- ✔ Develop a simplified methodology protocol adapted to low-complexity projects;
- ✔ Explore the possibility to mutualise works between nearby buildings in order to reduce costs and disturbances due to works, such as noise or reduced road circulation;
- ✔ Apply and potentially improve the new methodology for public accounting proposed by Eurostat in its *Guide to the Statistical Treatment of Energy Performance Contracts* (Eurostat, 2018).

7.1.2 Financial instruments

- ✔ Reduce VAT rate for investments in EPC projects;

This measure is already applied in the case of an EPC with private persons (co-owned property, for example). It would be relevant to extend it to all types of clients.

- ✔ Raise CO₂ price (via taxation), which would increase the price of non-renewable energy that still represents a major part of energy sales. This would incite clients either to subscribe to an EPC or an ESC that would offer them a higher share (or even 100 %) of renewable energies in their energy mix, thus reducing the kWh's price.

7.1.3 Information dissemination, education and networking

- ✔ Development and dissemination of standard documents, specifically designed for public and for private procurement;

This has been initiated with the dissemination of the *Clausier* for EPC. Efforts should be maintained in this direction.

- ✔ The support mission mentioned in 7.1.1 would also encourage initiatives aiming at developing the public's awareness and stakeholders' knowledge.

8 CERTIFICATION OF ENERGY EFFICIENCY SERVICES

8.1.1 General framework for certification of products and services

The following give examples of certification of products, services and management systems in the energy sector in France:

- ✔ **AFNOR is the French Standardisation Association**, representing France in the European Standardisation Committee (CEN) and the International Standardisation Organisation (ISO). The association develops NF standards under guidance of its members, which are among others the ADEME, the COFRAC (see below), the CSTB (member of the Observatory of Energy Performance Contracting, see Chapter 3.1), Bureau Veritas (see below) or the National Laboratory of Metrology and Testing;
- ✔ The **COFRAC (French Committee of Accreditation)** is an association recognised by the French State as unique national body for accreditation, thus recognising accreditation as public authority's activity. The association is responsible for inspecting the bodies that issue certifications, verifications or qualifications concerning products, processes, systems or personnel, using audits, tests, examinations and any other surveillance activity. (Examples: ISO 9001, Organic Farming, Real Estate Diagnosticians, Low-Consumption Buildings, etc.);
- ✔ **Certification Bodies** like Bureau Veritas or Dekra are the actors who perform on-site assessments in order to determine whether standards are respected, mandatory condition to obtain a certification.

8.1.2 Certification of products and services in the energy sector

- ✔ **ISO 50001 (Energy Management Systems)** - International standard for energy management systems that promotes energy efficiency within organisations. Certification Bodies are accredited by the COFRAC;
- ✔ **Energy Savings Certificates (white certificates)** - The system of white certificates has been applied to EPCs as for other energy efficiency measures, however with a particularity; where other efficiency measures will see their impact on energy consumption decrease over time (due to ageing equipment), white certificates for EPC keep a constant value, as it is assumed that the ESP maintains the equipment at its highest efficiency.

8.1.3 Certification of energy efficiency services providers

- ✔ **RGE label (Recognised as Protector of the Environment)** – This label is given to a professional if he respects standards NF X50-091 and NF EN ISO 17065, which assure that:
 - The professional is administratively and fiscally in order;
 - He followed a certified training in his specialty;

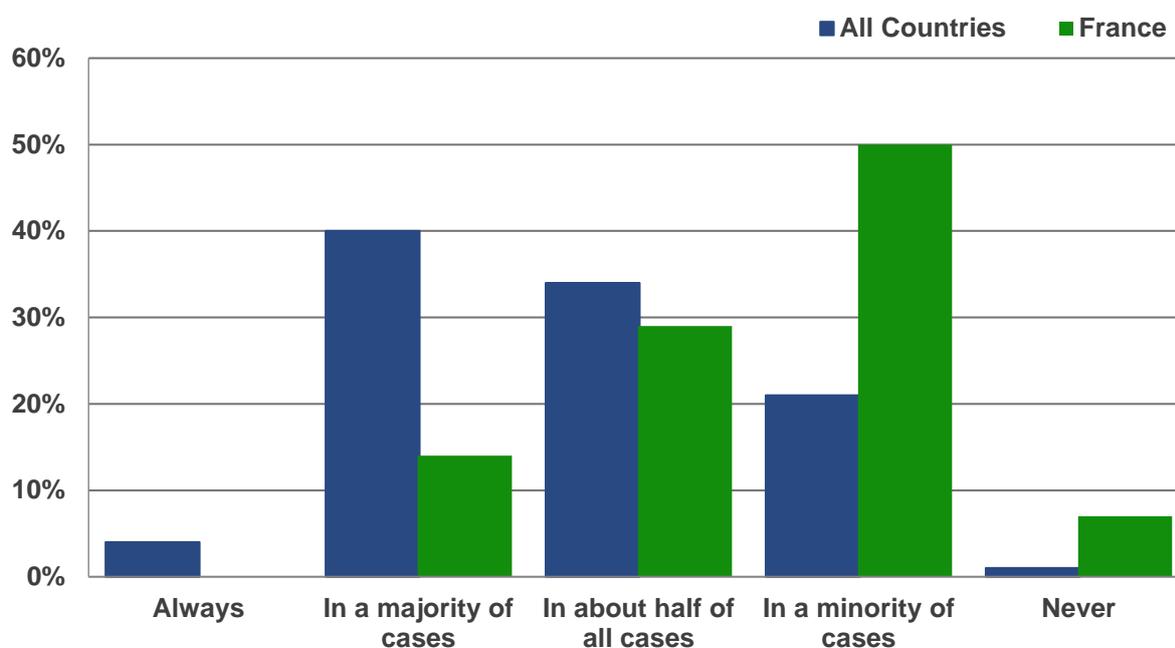
- o If he works with sub-contractors, they must be certified RGE;
 - o He achieved at least 2 projects in the last 4 years, in the concerned activity;
 - o He must submit to an audit (implementation control) 2 years after the end of works.
- ✔ **Qualibat, Qualit'EnR labels** – These are complements of RGE label, they label a particular activity; Qualibat labels quality in construction, Qualit'EnR labels quality in renewable energy production installations;
 - ✔ **HQE Label (High Environmental Quality)** – This label certifies a project that reaches targets regarding eco-construction, eco-management, comfort and health. Its core idea is to cover the building on its whole lifetime, including its sourcing and its recycling.

What has been done, or been planned until now in the area of certification of EES:

- ✔ **Standard NF 15900** - Defines and sets expectations for EES since 2010, however it is not mandatory, it would better be described as a label, which was not mainstreamed as it probably aimed to be.

The following pages highlight responses to the QualitEE survey relating to the development of a quality assurance scheme for energy efficiency services.

Figure 32: In your experience, is there a lack of trust in EPC/ESC service providers? (Percentage share of responses by providers and facilitators Sept 2017)



In Figure 32, 57 % of French respondents reported that lack of trust in EES providers was either a minor issue or not an issue at all, against 22 % in the All Countries dataset, in which the trend is the opposite, with 78 % of all respondents reporting lack of trust in either a majority of cases, in half of cases or always.

Figure 33: From your experiences, do well defined procurement specifications increase the quality level of EPC/ESC services? (Percentage share of responses by providers and facilitators Sept 2017)

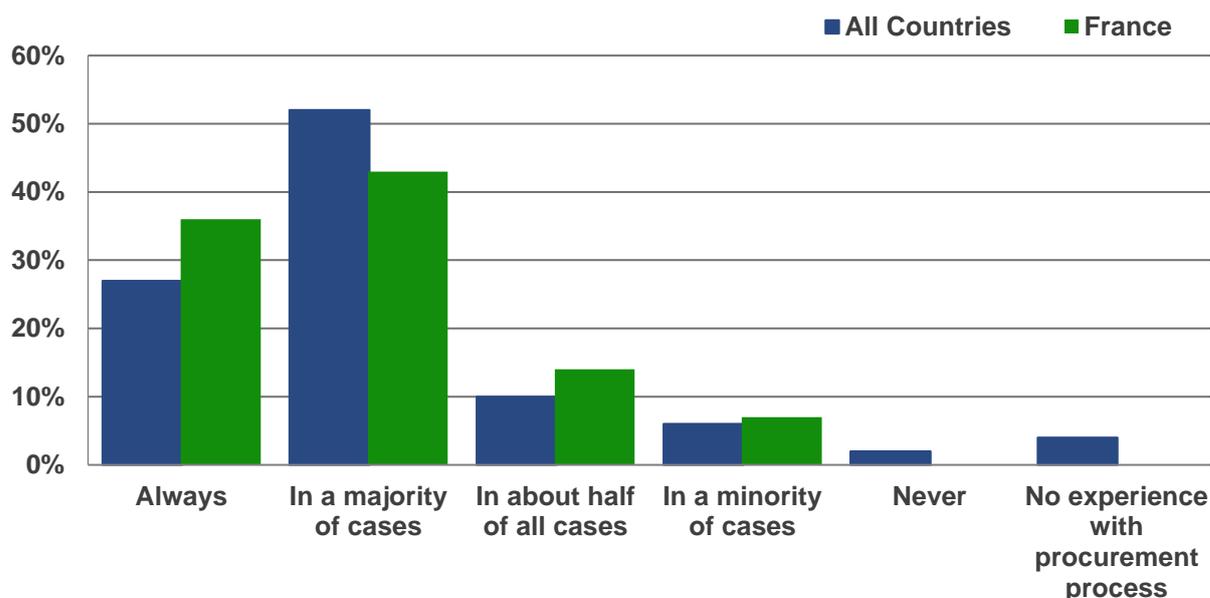
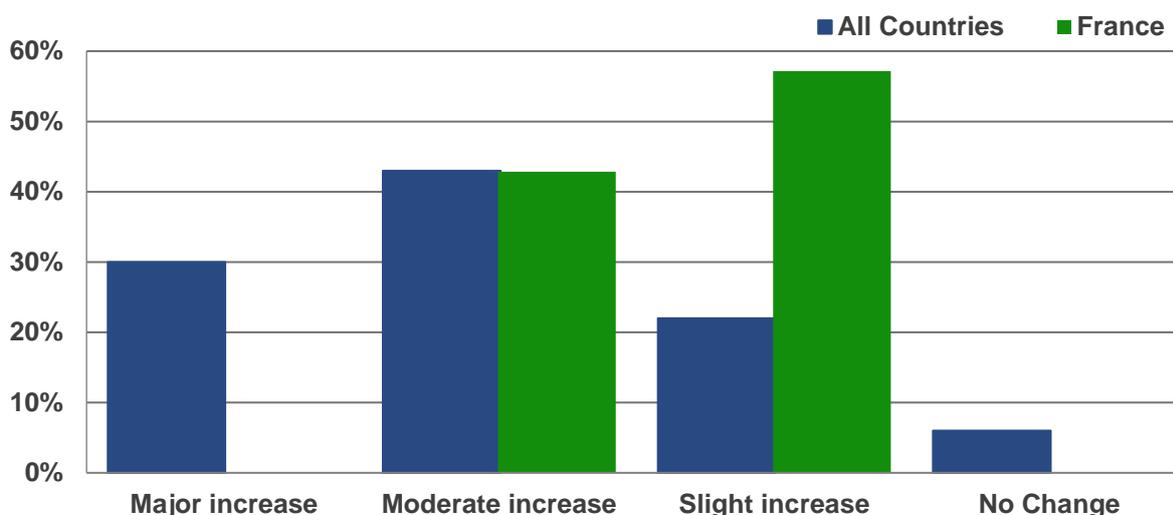


Figure 33 shows that in France, as in all covered countries, 72 % of respondents think that well-defined procurement specifications increase the quality level of services.

Figure 34: To what extent would a quality assurance scheme increase client trust in EPC/ESC services and providers? (Percentage share of responses by providers and facilitators Sept 2017)



57 % of French respondents think that an EES quality assurance scheme would have a slight impact on clients' trust in services providers, where 43 % think this might have a moderate impact (Figure 34).

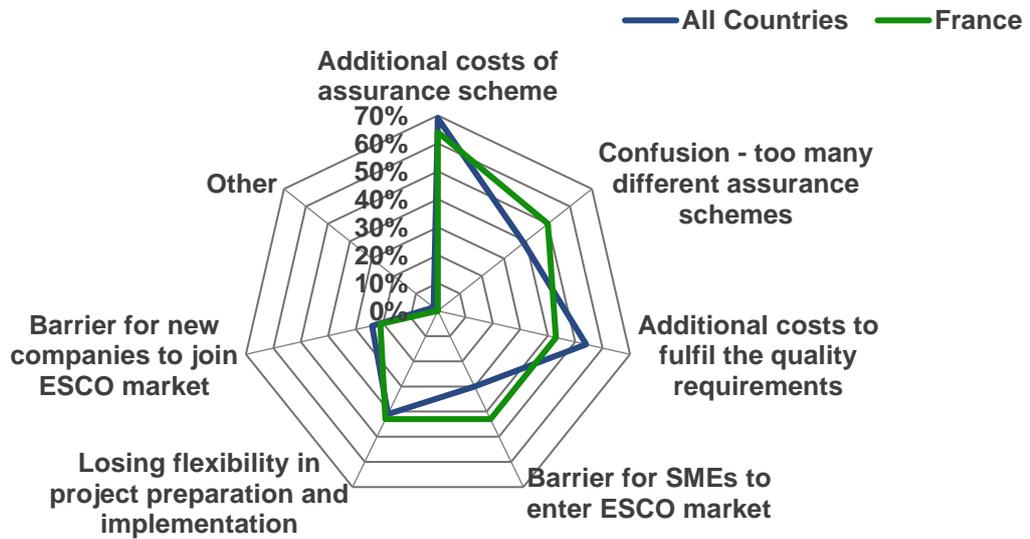
Figure 35: In your opinion, what would be the added value of a quality assurance scheme like this? (Sept 2017)



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

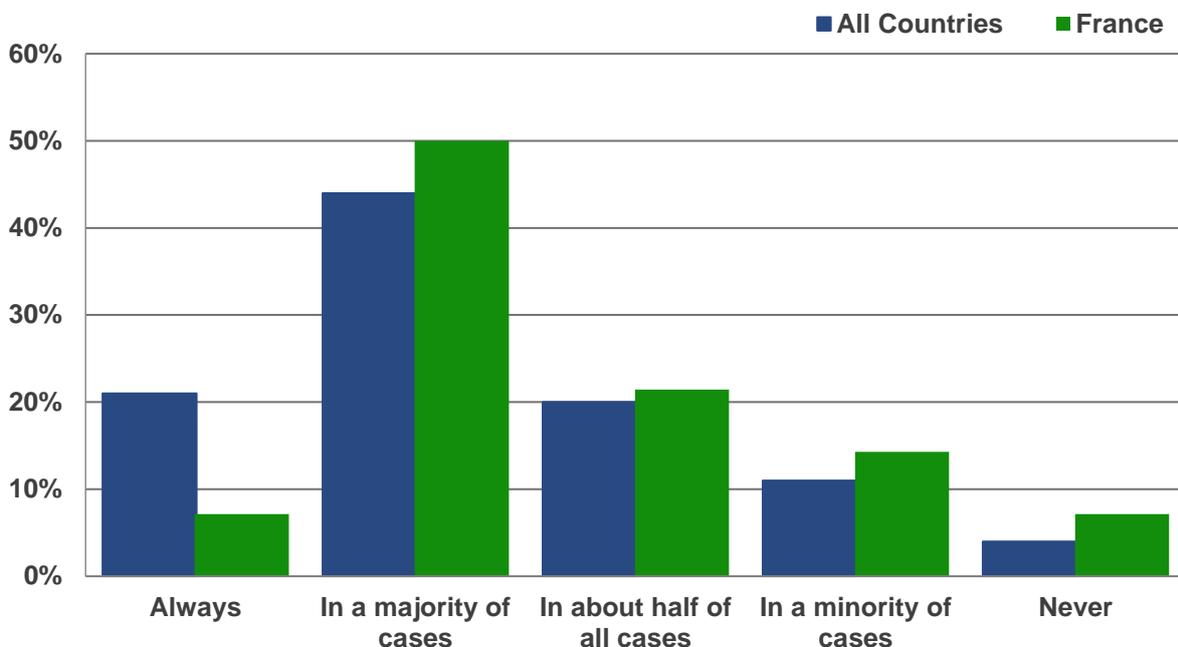
Regarding the added value of an assurance scheme for EES in Figure 35, 86 % of French respondents think that its first benefit would be an increase of clients’ trust in services providers; 50 % think that it would lead to more standardised quality criteria. On the other hand, 64 % of French respondents think that an assurance scheme would result in higher project costs (Figure 36) and 50 % think it that it would bring more confusion on the clients’ side, as there would be too many assurance schemes.

Figure 36: In your opinion, what drawbacks or barriers may be created by a quality assurance scheme like this? (Sept 2017)



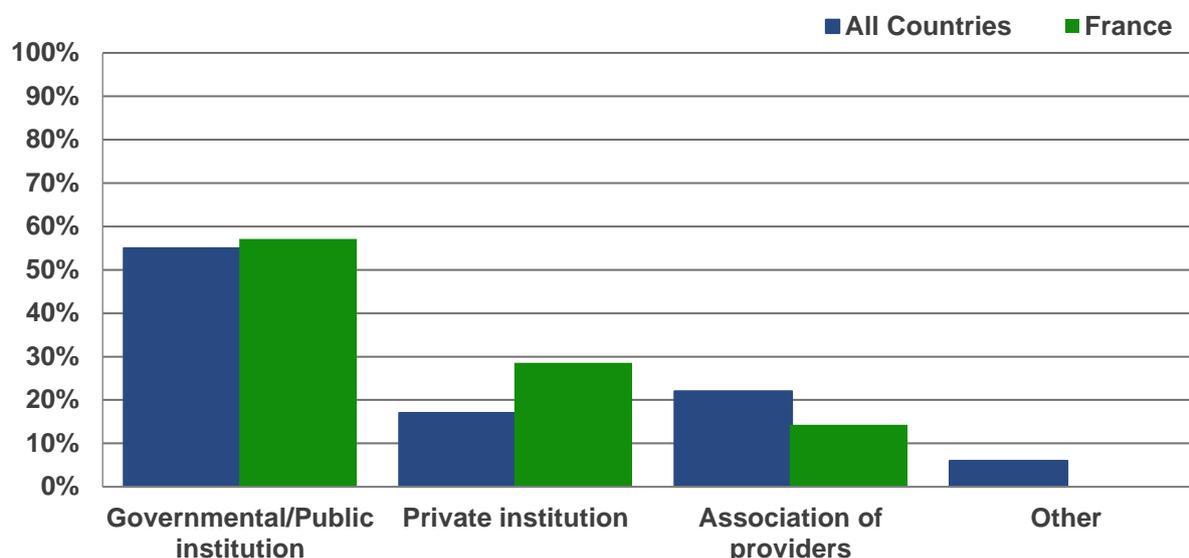
Note: Respondents may have selected multiple answers. The chart shows the proportion of respondents selecting each answer out of overall respondents to the question. Results therefore do not sum to 100%.

Figure 37: Would you prefer implementing a project, which is subject to quality assurance over a project without quality assurance? (Percentage share of responses by providers and facilitators Sept 2017)



In Figure 37, it can be observed that 57 % of French respondents would prefer implementing a project that is subject to one that is not, in the majority of cases or always, which is the case for 65 % of all respondents in the All Countries dataset.

Figure 38: Which would be the most respected body to issue a quality assurance label or certification for EPC/ESC services in your country? (Percentage share of responses by providers and facilitators Sept 2017)



In Figure 38, 57 % of French respondents think that a governmental or public authority would be the most respected body to issue a certification of EES; 29 % think that a private institution such as Certification Bodies (see Sub-section 8.1.1) would be more adequate, in a matter of independence and 14 % were in favour of an association of providers in this role. The trend in All Countries dataset is the same, as 55 % of respondents are in favour of a public institution to deliver a quality assurance label, however the second most respected body would be an association of providers (22 %), and then, a private institution (17 %).

Figure 39: Who should pay for the quality assurance of EPC/ESC projects? (Percentage share of responses by providers and facilitators Sept 2017)

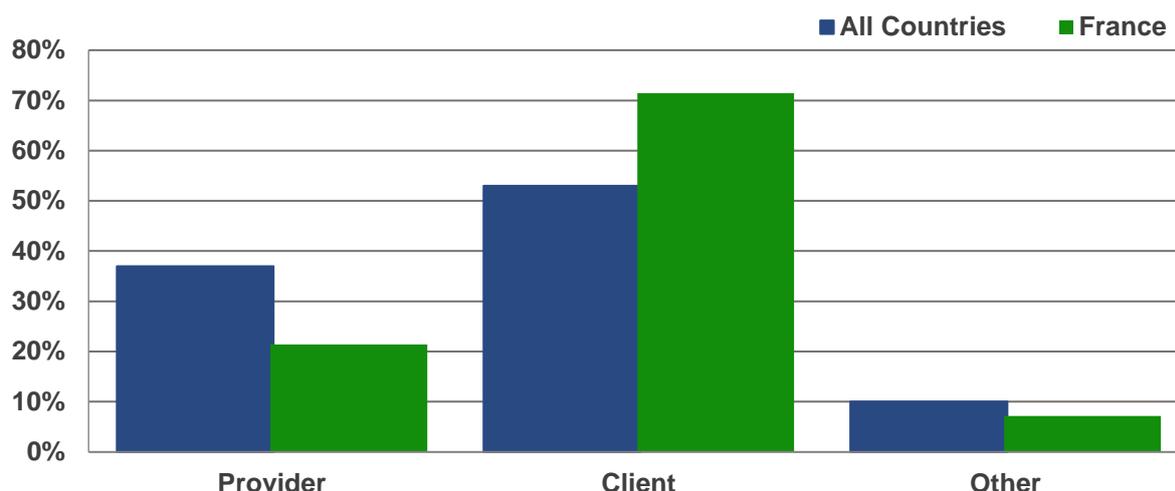
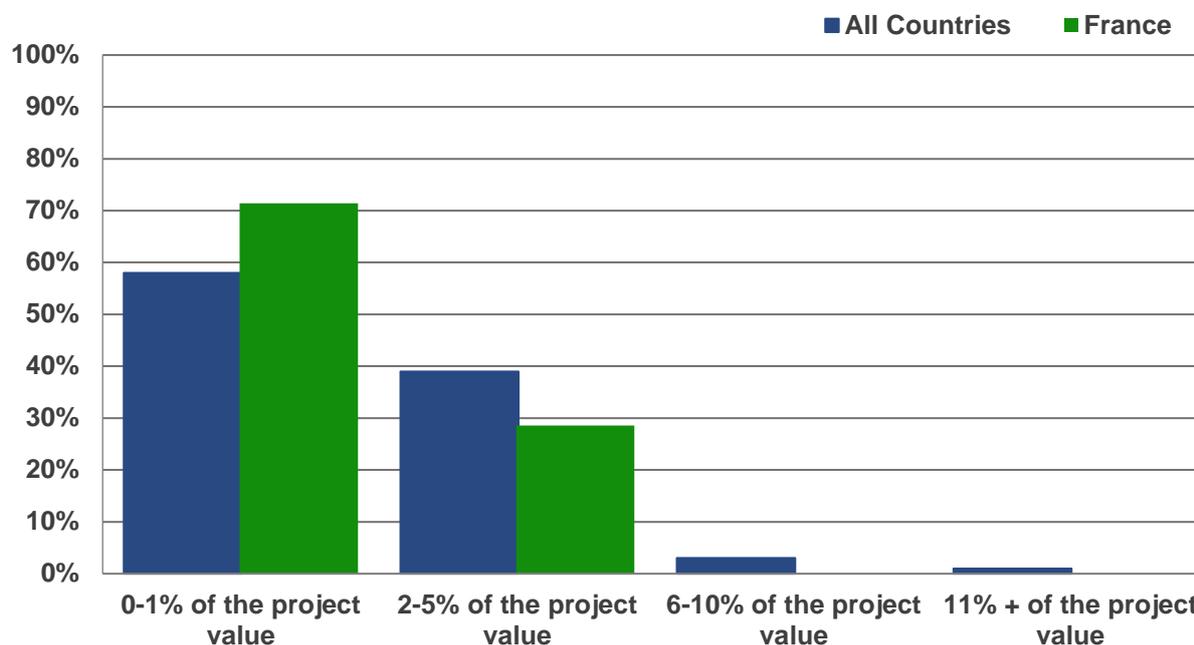


Figure 39 shows that 71 % of French respondents think that the cost of quality assurance should be assumed by the clients, where only 21 % of them think that it should be the provider's role. In All Countries dataset, clients (53 %) are also preferred to providers (37 %).

Figure 40: What would be a viable fee level for external quality assurance per EPC/ESC project? (Percentage share of responses by providers and facilitators Sept 2017)



Finally, it can be observed in Figure 40 that 71 % of French respondents think that the share dedicated to quality assurance in an EES project's investment should remain inferior to 1 % for it to be viable, when 29 % think that it could still be tolerated up to 5 % of the total investment outlay. In the All countries dataset, 58 % of respondents estimated this value should remain inferior to 1 % of the total investment where 39 % estimated that this could be considered as acceptable up to 5 %.

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