



D2.5A Country Report on Recommendations for Action for Development of EPC Markets

United Kingdom



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Transparensense project

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Abbreviations

BEEP: Buildings Energy Efficiency Programme

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CEM: Contract Energy Management
CRC: Carbon Reduction Commitment
DEC – Display Energy Certificate
DECC – Department of Energy and Climate Change
ECA: Enhanced Capital Allowance
EEEF: European Energy Efficiency Fund
EED: Energy Efficiency Directive
EESI: European Energy Service Initiative
EMA: Energy Managers Association
EPC: Energy Performance Contract
EPC – Energy Performance Certificate
ESCO: Energy Service Company
ESOS – Energy Saving Opportunity Scheme
ESTA: Energy Services and Technology Association
FM: Facilities Management
GIB – Green Investment Bank
IGA: Investment Grade Audit
IPMVP – International Performance Measurement & Verification Protocol
JRC-IE: Joint Research Centre – Institute for Energy
LEEF: London Energy Efficiency Fund
M&V: Measurement and Verification
M&T: Monitoring and Targeting
NHS: National Health Service
PFI: Private Finance Initiative
SME – Small and Medium Enterprise
SPV: Special Purpose Vehicle

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1 Summary

The present report aims at providing an overview of the existing EPC market in the United Kingdom and providing recommendations for action for its successful development. The report focuses on identified barriers and success factors for the implementation of EPC projects in the United Kingdom.

The report is building on the data and information gathered by two other similar projects, the European Energy Service Initiative¹ (EESI) and the ChangeBest project². It is also intended as a continuation on the work of the European Commission's Joint Research Centre – Institute for Energy, and more particularly on its 2010 Status Report on Energy Service Companies Market in Europe³.

The key recommendations that aim to help boosting EPC market in the United Kingdom and maintaining the high quality of EPC projects are to:

- A long-term, coherent governmental policy programme (general energy-efficiency policies such as Green Deal, ESOS, but also policies specifically designed for the EPC sector, and in particular ones that will increase customer demand for EPC);
- Government leading by example and generalising the use of EPC for public buildings, leading on visible enforcement of DEC's, and replicating public EPC programmes that have proved to be successful;
- Government publishing best practice and guidance documents on EPCs as well as a registrar of EPC providers;
- The organisation of a high number of workshops and seminars on EPCs throughout the country as well as training sessions to develop networking and knowledge transfer;
- Ensure that the relevant decision makers in the public sector / government are equipped with sufficient knowledge to undertake and EPC when appropriate;
- Promote and advertise the Code of Conduct currently developed by the Transparense project;
- Promote the use of sound and rigorous M&V techniques;
- Create a new asset class specifically for EPC or energy-efficiency projects;
- Ensure that EPC stakeholders take better advantage of the funding schemes available to them;
- Create a non-domestic subsidiary to The Green Deal Finance Company

¹ <http://www.european-energy-service-initiative.net/eu/toolbox/national-reports.html>

² http://www.changebest.eu/index.php?option=com_content&view=article&id=43&Itemid=10&lang=en

³

http://publications.jrc.ec.europa.eu/repository/bitstream/111111111/15108/1/jrc59863%20real%20final%20e_sco%20report%202010.pdf

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2 Introduction

2.1 Methodology

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

- the results of a nation-wide EPC survey which was sent to the country's main actors within the EPC market;
- the market knowledge of the authors, as well as research from local / national literature (publications and studies, legislation documents, official statistics and databases).

The first step in collecting the data used in this document was to distribute a survey focused on Energy Performance Contracting (EPC) to the country's most relevant energy services companies, organisations, public agencies/policy makers and finance houses. The survey contained questions around four main areas: existing ESCOs and national EPC market; EPC models, financing models and policy initiatives. The answers were then analysed and the results are presented in this report in aggregated form.

The survey was sent and communicated to all the major ESCOs and finance houses in the UK, through direct meetings, phone conversations or emails. The survey was filled in by 14 of them.

Once the survey responses had been obtained, additional information was gathered by the authors in order to present a thorough and up-to-date picture of the state of the EPC market in the United Kingdom. This report also makes a series of recommendations tailored for the UK's national EPC market. These recommendations are based on the information gathered from the respondents to the surveys (in written form or in conversations), as well as on the authors' knowledge of the national market and of any relevant literature / research piece.

This report aims at showcasing the successful experiences for EPC providers in the UK and separating what has been proven to enhance the EPC offering from what constitutes potential barriers. The recommendations contained in this report have been made in order to tackle the issues highlighted in the previous Transparensense report (Transparensense National Report on identified barriers and success factors for EPC project implementation). The authors believe that EPC providers / customers and the EPC industry as a whole will benefit from replicating the success factors observed within the national market. These recommendations should be seen as "best practice" guidelines and disseminated within the UK in order to improve the quality of the EPC market.

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2.2 What is Energy Performance Contracting

Energy Performance Contracting (EPC) can provide substantial energy savings in the EU countries using the principle of repaying the energy efficiency investments directly from the saved energy costs.

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

- **Turnkey service:** The energy service company (ESCO) provides all services required to design and implement a comprehensive energy saving project at the customer's facility, from initial energy audit to measurement and verification of savings.
- **Without the need for up-front capital:** Energy efficiency investments are repaid directly from energy savings and related financial savings, so there is not need for up-front capital on the customer's side.
- **Risks for customers minimized:** The ESCO assumes the contractually agreed performance risks of the project.
- **Savings guaranteed:** The ESCO guarantees the achievement of the contractually agreed level of savings and is obliged to compensate savings shortfalls.
- **Support in finding financing:** The capital to finance the EPC project can either be supplied out of the Client's own funds, by the EPC provider or by a third party. Provision of financing by the EPC provider is an option, not a necessary part of the EPC project.

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

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

While there is a vast number of definitions of EPC within Europe, within Transparense project we use the EU wide definition provided by the Energy Efficiency Directive (EED):

"Energy performance contracting' means a contractual arrangement between the beneficiary and the provider of an energy efficiency improvement measure, verified and monitored during the whole term of the contract, where investments (work, supply or service) in that measure are paid for in relation to a contractually agreed level of energy efficiency improvement or other agreed energy performance criterion, such as financial savings."

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At the same time, within Transparensense project, 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, inter alia, 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.

Further, within the Transparensense, we define the companies providing EPC as follow:

" **EPC provider**' means an energy service provider who delivers energy services in the form of EPC. "

Such definition respects the fact that EPC is only one type of energy services, and is in line with the definition of the energy services provider specified in the EED as follows:

" **energy service provider**' means a natural or legal person who delivers energy services or other energy efficiency improvement measures in a final customer's facility or premises", where the '**energy service**' is defined by the EED as follows: "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".

Within the Transparensense texts, we use the commonly used term "ESCO" as equivalent of the energy service provider.

2.3 EPC Code of Conduct

An important step towards a transparent and trustworthy EPC market is the acceptance and widespread usage of the European Code of Conduct for EPC⁴ (Code of Conduct) (JSI and

⁴ European Code of Conduct for EPC can be downloaded from the Transparensense project website <http://transparensense.eu/eu/epc-code-of-conduct>.

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SEVEn 2014). The Code of Conduct has been officially launched on 28th of August in Brussels. It was developed within the Intelligent Energy Europe project Transparensense, in cooperation with inter alia EPC providers, clients, and European ESCO associations.

The Code of Conduct defines the basic values and principles that are fundamental for the successful preparation and implementation of EPC projects within European countries. Thus it creates one common European quality standard for EPC projects. Provided that a significant number of the energy service companies (ESCOs) sign the EPC Code and will adhere to its basic principles when implementing EPC projects, the transparency and trustworthiness of EPC markets will increase. Code of Conduct faces the major barriers on the EPC markets as identified by the Transparensense market survey: low confidence in EPC providers, complexity of the EPC method and low demand on the client side.

The key success factor is that EPC providers understand that they benefit from adhering to a set of rules for the EPC business due to an increase in trust on the client side and a resulting increase in demand for EPC projects. Also, the Code of Conduct can be used by governments, being major EPC clients, as minimum requirements for the EPC projects conducted on their property. For example, the key characteristic of an EPC project is that the EPC provider guarantees a contracted level of the energy savings and/or related costs. If these are not achieved, he has to compensate the shortfalls in cost savings to the client. This is one of the main principles of the Code of Conduct, which helps to make it clear to the client that they should require such guarantees from the companies. The wording of the final version of the Code of Conduct is a result of discussion with wide range of stakeholders from 20 European countries, and has been endorsed by both European ESCO associations; eu.ESCO and EFIEES.

As a result of the above, the EPC market as a whole in the UK will benefit from adherence to the Code of Conduct in terms of increasing the quality and volume of the EPC projects. More on the Code of Conduct implementation in the UK can be found in the Country Report on the Uptake of the European Code of Conduct for the Energy Performance Contracting prepared within Transparensense project.

3 The EPC market in the United Kingdom: an introduction

The EPC market in the United Kingdom can be considered well developed, in the sense that the EPC as a business model has been alive for decades, even though it was previously referred to as Contract Energy Management (CEM)⁵.

However, the model, although mature, is not necessarily widespread in the UK. There are still major barriers against its further development and customers are still reluctant see it as

⁵ Langlois & Hansen, 2012; Marino, Bertoldi & Rezessy 2010

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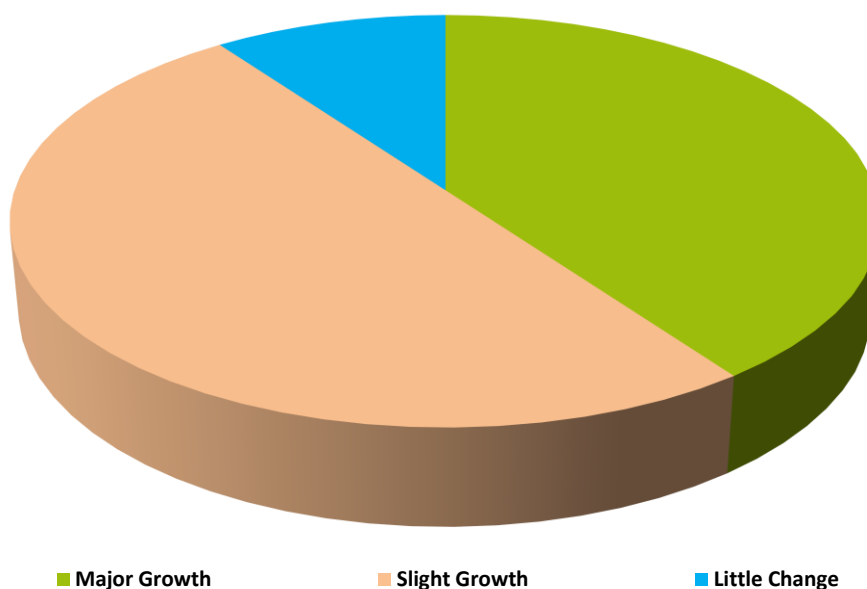


a win-win type of contract, as will be explained in a later section of this report. As the JRC-IE report from 2010 states, only 5-6 companies were identified as ESCOs offering EPCs in 2009. Moreover, the market was qualified as showing “no significant growth”. At that time, the majority of the ESCOs active on the market were large international manufacturers or energy service and supplies companies. The remaining was made up of mid to small size organisations as well as Facilities Management and utilities companies, the latter having entered the market in the years preceding the report. EPCs were also mainly being applied to industrial sites, hospitals and universities⁶.

Data from the Transparensense survey and Figure 1 below indicates that 50% of the ESCO respondents believe that the market for EPCs in the UK had seen “slight growth” since 2010. The remaining respondents believe that the market has either seen major growth (40%) or remained stable (10%).

Figure 1: Evolution of the EPC market in the UK between 2011 and 2013

Transparensense UK Survey Evolution of the EPC market since 2011 (October 2013)



Source: Transparensense EPC Survey (2013)

⁶ Marino, Bertoldi & Rezessy 2010

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Half of the ESCO organisations surveyed confirmed that their EPC orders were increasing (“slightly” or significantly”); 40% indicated that their orders remained constant and only 10% mentioned a slight decreasing trend in their orders. The totality of banks and finance houses surveyed agreed that the number of organisations applying for finance with them for an EPC project was slightly increasing. This is encouraging when compared with the results from 2010, and shows that the market is expanding. That trend is confirmed by another question: when asked for the approximate number of active EPC suppliers in the UK, 70% of the respondents answered somewhere between 5 and 30. The remaining 30% believed it was rather above 30. This is a long way away from the 5-6 identified in 2010. Furthermore, half of the people who answered had started between 1 and 5 EPC projects over the last 2 years, and 40% had started more than 6.

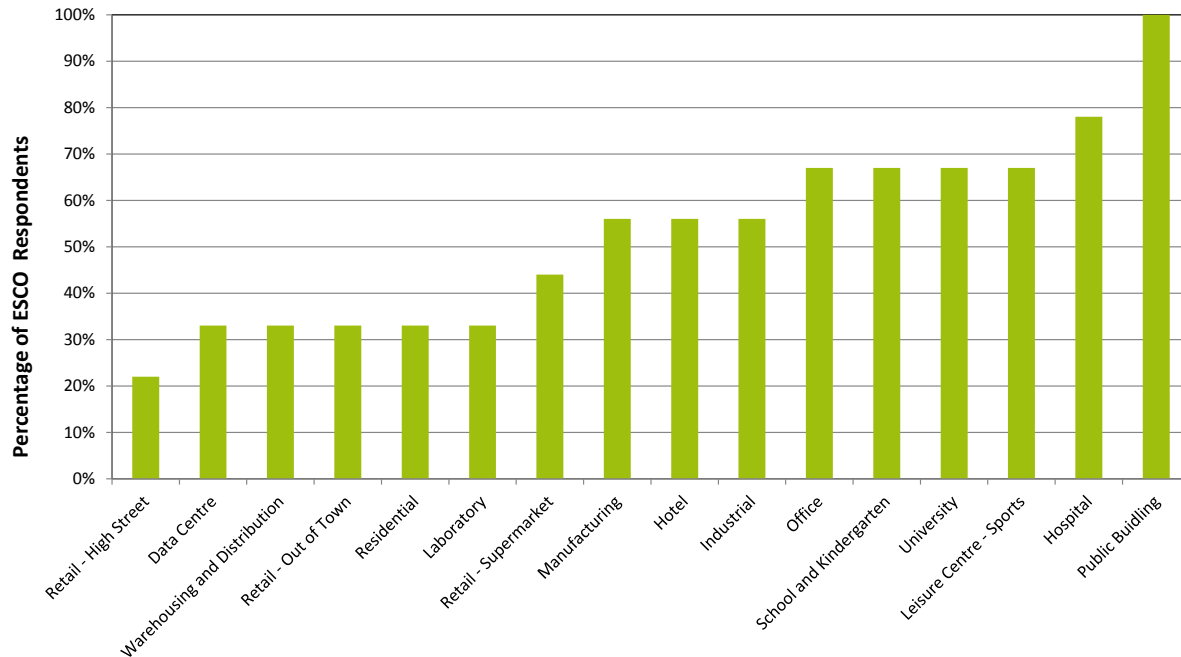
The building types at which EPCs were being carried out also appear slightly more varied than they were in 2010, which can be seen as another testimony of the expansion of the EPC contract. 100% of ESCO respondents were implementing EPCs in public buildings, 78% in hospitals, almost 70% in offices, leisure centres, schools and universities. More than half of them were also involved in EPCs for manufacturing sites, hotel or industrial sites. This can be seen in Figure 1 below.

Figure 2: Distribution of EPCs by building type in the UK

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**Transparensense UK Survey
Distribution of EPCs by Building Type (October 2013)**



Source: Transparensense EPC Survey (2013)

To add another layer of comparison with the results from 2010, it is interesting to note that 50% of the respondents considered that their company was best described simply as an ESCO. 30% answered “utility / multi-utility company”. The number of staff involved in the EPC function was between “20 and 50” for 70% of the responding organisations, confirming that the balance was still in favour of large energy supply or Facilities Management companies rather than smaller-sized ESCOs.

In terms of the sector from which their clients come from, it is very much an equal divide between private and public organisations for the ESCO respondents. It is however very interesting to note that only 10% of the organisations surveyed were offering EPCs to customers abroad. Similarly, no bank was funding EPCs abroad.

Clear trends are also visible when it comes to the characteristics of the contracts offered: For the vast majority of respondents, a typical EPC addresses both energy efficiency and quality improvement measures, lasts between 11-15 years, its typical annual energy saving is between 16-30% and the most common investment outlay (value of the contract) is between 1 and 5M€. It can be noted that the length and value of the contract are on the increase when compared with studies from the last 5-10 years.

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4 Legislative framework

In the last decade or so, EPCs and ECOs in general suffered from a rather unattractive image, particularly in the public sector, where it was widely believed that EPCs were deals in which ESCOs were “ripping off” public organisations. Private Finance Initiative (PFI) also suffered from a negative image, with the UK treasury often advising to be very cautious with its use, although that trend is slowly being reversed. Finally, historically it has also been difficult to evaluate demand-side services on a competitive basis through tendering. This is slightly less true in the recent years as new ways to do competitive tendering are emerging and being encouraged⁷.

Generally, the legal and administrative requirements for an EPC are quite high, and suffer from a lack of standardisation (i.e. there is no “typical” type of contract). This means that the initial investment from ESCOs, whether it’s for a tender or for a private proposal, is high both in terms of time and resources spent. This automatically makes smaller contracts look unattractive to ESCOs as they need to make their initial investment worthwhile⁸.

In the UK, support from the government to the EPC industry has historically been weak. The UK has a strong history of economic liberalism, and interventionism from the Government has rarely been the preferred route. As a result, the EPC industry has largely been left on its own and had to rely on its own initiative(s) to grow and become successful.

Recently however, several pieces of legislation have been passed to promote energy-efficiency improvements, in the midst of the climate change debates of the last 15 years or so. As a result, the main incentive was to reduce CO2 emissions; however, a few policies have also been introduced to facilitate the financing of energy-efficiency measures⁹. The Carbon Reduction Commitment or CRC Energy Efficiency Scheme¹⁰ aims at encouraging non-energy intensive public and private organisations to reduce energy use and develop energy management strategies through a cap and trade scheme. Enhanced Capital Allowance (ECA) “provides businesses with enhanced tax relief for investments in equipment that meets published energy-saving criteria”¹¹. The Green Deal¹², one of the flagship policies of the Conservative / Lib-Dem coalition, is an EPC-type scheme that allows customers to improve the energy-efficiency of their home or commercial building and pay off the investment through their electricity bills, as long as they use accredited surveyors and installers.

⁷ Langlois & Hansen, 2012

⁸ Langlois & Hansen, 2012

⁹ Marino, Bertoldi & Rezessy 2010

¹⁰ <https://www.gov.uk/crc-energy-efficiency-scheme>

¹¹ <https://etl.decc.gov.uk/etl/site.html>

¹² <https://www.gov.uk/green-deal-energy-saving-measures/how-the-green-deal-works>

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Several financing options are also available through public-private partnerships: the Carbon Trust for example, through a partnership with Siemens, has developed a £550m fund for Energy Efficiency Financing, which is available to both public and private organisations¹³.

The Greater London Authority's Buildings Energy Efficiency Programme (BEEP), as mentioned in the JRC-IE 2010 report¹⁴, has been transformed and rebranded as the RE:FIT programme. It is effectively an EPC system through which public sector organisations and local authorities can benefit from a streamlined procurement process of pre-negotiated contracts, using pre-qualified ESCOs to retrofit their buildings¹⁵. The ESCOs guarantee the savings. Several other public bodies such as Peterborough City Council and the National Health Service (NHS) have also set up ESCOs or frameworks to facilitate EPCs.

Results from the Transparense survey show that over 60% of the ESCO respondents are member of the Energy Services and Technology Association (ESTA)¹⁶, widely regarded as the ESCO association in the UK (particularly through its Contract Energy Management group), although the focus of ESTA as a whole is wider. It should be mentioned that since the 2010 report, another association, the Energy Managers Association¹⁷ (EMA) has also pushed the EPC agenda as part of a wider strategy to increase knowledge and quality of successful energy management in the UK. The EnPC Guidance working group in particular is helping define the EPC sector in the UK. All the major ESCOs are also members of the EMA.

The survey results also shows that there remains a disparity of awareness regarding the legislative framework in the UK and the mechanisms available to encourage the uptake of EPCs, such as the ones mentioned above. 50% of the ESCO organisations surveyed were aware of the availability of low-cost and favourable loans. Similarly, 70% mentioned minimum requirements for energy or CO₂ savings (such as the CRC Energy Efficiency scheme). Nevertheless, only between 30 and 40% of them were aware of tax exemptions, standardised contracts framework or awareness campaigns. This shows that policies or programmes such as the ECA, the Green Deal or RE:FIT for the London area are still not systematically understood or well known by all organisations.

This is confirmed by answers to questions relating to the government's policies: only around half of the ESCO respondents considered the energy efficiency policies "effective" (with the remaining choosing "ineffective" or "very ineffective"). That trend was almost identical for policies specifically aimed at the EPC market, only slightly more pessimistic: only 40% of

¹³ <http://www.carbontrust.com/resources/faqs/services/loans>

¹⁴ Marino, Bertoldi & Rezessy 2010

¹⁵ <https://www.london.gov.uk/priorities/environment/tackling-climate-change/energy-efficiency/refit-putting-our-energy-reducing-yours>

¹⁶ <http://www.esta.org.uk/>

¹⁷ <http://www.theema.org.uk/>

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ESCO respondents branding them “effective”, with 60% choosing “ineffective” or actually considering that there were “no policies in place” to support EPCs. This shows that even though organisations are aware of the progress made in the recent years to develop policies to support energy efficiency or the EPC market, both of these areas still do not receive enough backing in their eyes.

5 Identified Barriers

The JRC-IE report from 2010 identified the main barrier to EPC projects in the UK at the time as the financial crisis, which created a lack of available funds and pushed energy efficiency at the back of the priority queue for organisations. The lack of appropriate finance was also cited as a major issue. Lack of capacity and awareness of the ESCO model, and the belief from private sector industrial clients that they did not need ESCOs and could manage their energy consumption themselves were the last barriers mentioned.

This section builds on these findings using updated information (notably from the Transparense survey) in order to show the areas that remain arguably the most problematic for the EPC industry in 2013.

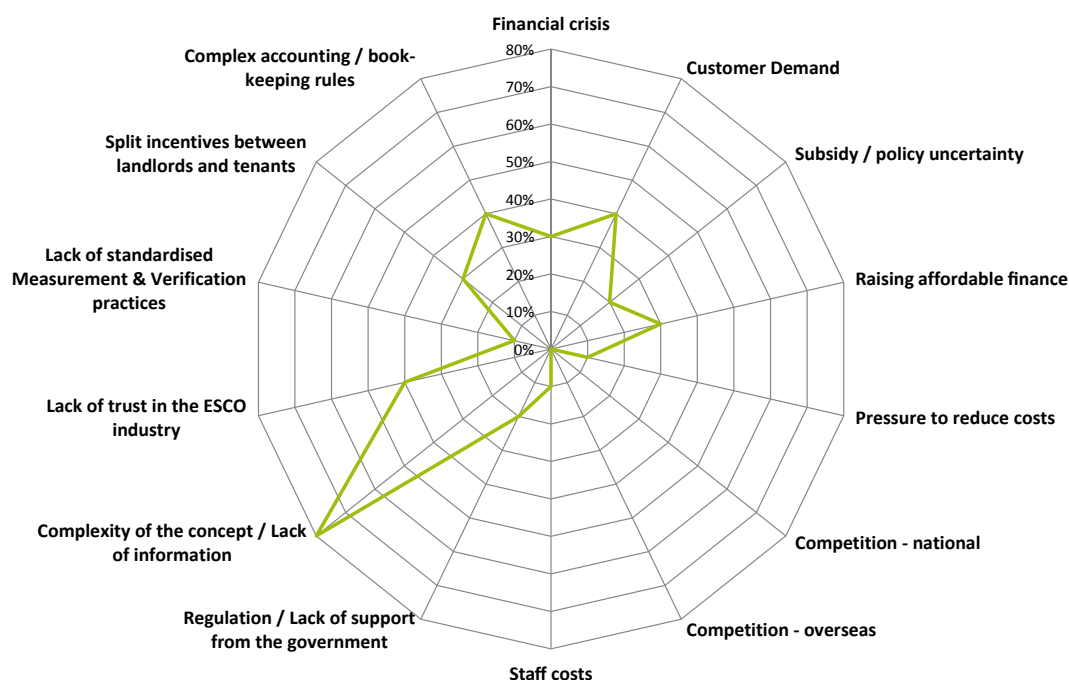
The main barriers to EPC business are identified as follows: structural (complexity of the concept/lack of information, lack of customer demand, lack of trust in the ESCO industry, complexity of the contract model) and financial (financial crisis, raising affordable finance and complex accounting).

Figure 3: Main barriers for the EPC industry in the UK

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Transparensense UK Survey Main Barriers of EPCs Business according to ESCOs



Source: Transparensense EPC Survey (2013)

Table 1: Summary of EPC market barriers

	Short description of barrier	Comments
Barrier 1	Complexity of the concept/of contracts /lack of information	Limited knowledge among potential clients on EPC. Unclear contracts may cause problems regarding responsibilities and Measurement and Verification of agreed savings.
Barrier 2	Lack of customer demand	Demand remains at a low level despite recent efforts to increase it.
Barrier 3	Lack of trust in the ESCO industry	The client is to some extent dependent on the ESCOs and this may lead to caution to embark on EPC projects.
Barrier 4	Financial crisis	The financial crisis has relegated energy efficiency at the lower end of many potential customer's priorities list, particularly in the public sector.
Barrier 5	Raising affordable finance	Obtaining finance at a reasonable cost

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		is difficult for a lot of potential customers.
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5.1 Regulatory and administrative barriers

This part exposes which elements of the regulatory framework are proving to be an obstacle for the development of successful EPC projects.

5.1.1 General regulatory barriers

One of the first elements that make it difficult for ESCOs to establish themselves as a unified EPC industry, is the lack of a clearly defined ESCO association. As stated previously, both ESTA and the EMA have working groups or sub-groups dedicated to advancing the EPC industry. However, none of these associations is fully focused on ESCOs, as their reach is wider and more general. Having several associations representing the EPC industry may also prove to be counter-productive at times, by effectively duplicating tasks or failing to centralise the efforts to improve the industry, thus resulting in a slightly disjointed sector.

Furthermore, drawing on section 4 above, the Transparensense survey made it clear that if most organisations were aware of low-cost loans, only a minority of respondents were aware of tax exemptions or standardised contracts framework such as the ECA, the Green Deal or RE:FIT for the London area. In parallel, only between 40 and 50% of respondents were generally satisfied with the government’s energy efficiency or EPC policies. This hints at a double issue from a regulatory point of view: first the market may not fully understand – or be aware of – the regulatory tools at its disposal. Second, and despite the first point, it is still not fully appreciative of the government’s policy efforts and believes more could be done to help the EPC industry.

It is however important to be a little more precise here: if the respondents call for higher support from the government in terms of policies, financial incentives and subsidy programmes, they do not believe that this is a *major* barrier to the expansion of the ESCO industry. This is revealed by a question asking the organisation surveyed to choose the main barriers to EPC business: only 20% of the ESCO respondents and only a third of the banks mentioned “subsidy or policy uncertainty”, while only 20% of ESCOs opted for “regulation / Lack of support from the government”.

5.2 Structural barriers

When asked about the main barriers to EPC business, structural barriers were clearly an issue for most of the respondents: 40% of ESCOs and 100% of banks mentioned “customer

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demand”, proving that the demand for EPC projects is still much too low for the industry to be a widely profitable sector. An even bigger 80% of ESCOs and 100% of banks chose “complexity of the concept / lack of information” as one of the main barriers, showing that the EPC concept is still far from being understood or communicated effectively to all potential customers. This could be linked to a lack of governmental effort in that area, although some may argue (particularly in the UK) that the industry should achieve this on its own. Around a third of the ESCOs and two thirds of the banks also believed that “split incentives between landlords and tenants” were a clear issue.

“Lack of trust in the ESCO industry” was also mentioned by 40% of the ESCO respondents and two thirds of the banks, while “lack of standardised M&V practices”, “length of the contract” and “development costs for the ESCO” were amongst the least chosen responses.

Another clear structural barrier is the potential complexity of the contracts. This has been widely discussed in previous reports and studies, so this report will not repeat these previous observations, but it is clear that in the UK this remains problematic. Most customers and potential customers are very wary of this issue, and there does not seem to be a simple solution to get over that hurdle. A typical EPC will be very long (over 10 years), will probably address the energy efficiency of several buildings, will aim at reducing energy consumption significantly and will involve several parties (ESCO, host, financier, facilitator, third-party M&V specialist, etc.). The legal contract that binds all of this together necessarily needs to be thorough, detailed and very technical. All parties need to agree to it but also to protect themselves against any shortfall in performance, usually through provisions for dispute resolutions. The Measurement & Verification (M&V) of the results in terms of energy savings needs to be accurate, transparent and efficiently communicated to all parties, whether it comes directly from the ESCO or from a third-party.

Several frameworks have been developed in the UK to facilitate the development of EPCs, with some success particularly in the public sector with streamlined procurement processes and pre-approved ESCOs as explained in Section 4. But despite this, the industry in 2013 still faces a tough task when it comes to engaging customers and convincing them to be part of an EPC contract. The EPC model remains complicated, with high transaction costs both for the ESCOs and the customers.

5.3 Financial barriers

In the UK, funding for EPC projects and more generally energy efficiency investments originate from three major sources: banks (mostly Royal Bank of Scotland and Co-Op, and at a lesser degree Lloyds Banking Group, ING and Deutsche Bank); private investors; and specialist funds.

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The latter include the London Energy Efficiency Fund (LEEF)¹⁸ with £100m available to public and private sector projects; the European Energy Efficiency Fund (EEEF)¹⁹ with 265m€ available to public sector; SDCL UK Energy Efficiency Investments Fund²⁰ with £100m; Equitix Energy Efficiency Fund²¹ with £100m; and Aviva REaLM Fund with £100m. Although these funds are available, they are having difficulties actually investing into energy efficiency projects; evidence that the market may not yet be ready to take advantage of that type of financial mechanisms.

Going back to the survey, 30% and 40% of ESCO respondents mentioned “raising affordable finance” and “complex accounting” respectively as a main barrier to EPC business. Two thirds of banks mentioned these two barriers. Just under 15% of ESCOs and a third of banks cited “pressure to reduce costs” and “staff costs”. The financial crisis was also deemed to be a main barrier for the further development of the EPC industry by 30% of ESCO respondents. It is not rare in the UK to see EPC projects being abandoned due to the difficulty of using “off-balance sheet” financing. This can be due to the financial crisis, very strict accounting rules or a combination of the two in most cases. Currently the UK government is discouraging at high level the use of debt financing as it tries to cut debt. As a result, potential customers in the public sector find it difficult to justify implementing debt financing projects such as EPCs as they know the project might be stopped once the proposal reaches their finance director. This is a clear obstacle to the widespread use of EPCs in public buildings, coming from the top-down. This particular obstacle may gradually disappear once the UK recovers fully from the financial crisis and the attitude towards public sector investment shifts again; however, at the moment it is an established fact that hampers the uptake of EPCs.

All the ESCO respondents declared that no more than 10 banks or finance houses were willing to fund EPC projects in the UK. This is a relatively low number for a country and an economy of the size of the UK. This is clearly a barrier that remains against the EPC industry.

The majority of banks and finance houses surveyed considered the type of transaction proposed, the financial condition and creditworthiness of the ESCO / client and the ROI as “critical” in determining whether or not to finance an EPC project. The history and ownership, business prospects of both the client and ESCO, audit of the project, size and track record of the ESCO and accuracy of the savings verification were also deemed very important. Only the tax status of client & ESCO, the type of equipment to be installed, the

¹⁸ <http://www.leef.co.uk/>

¹⁹ <http://www.eeef.eu/>

²⁰ <http://www.sdcl-ib.com/what-we-do/energy-efficiency-projects-investments/what-we-do.html>

²¹ <http://www.equitix.co.uk/NDEE.html>

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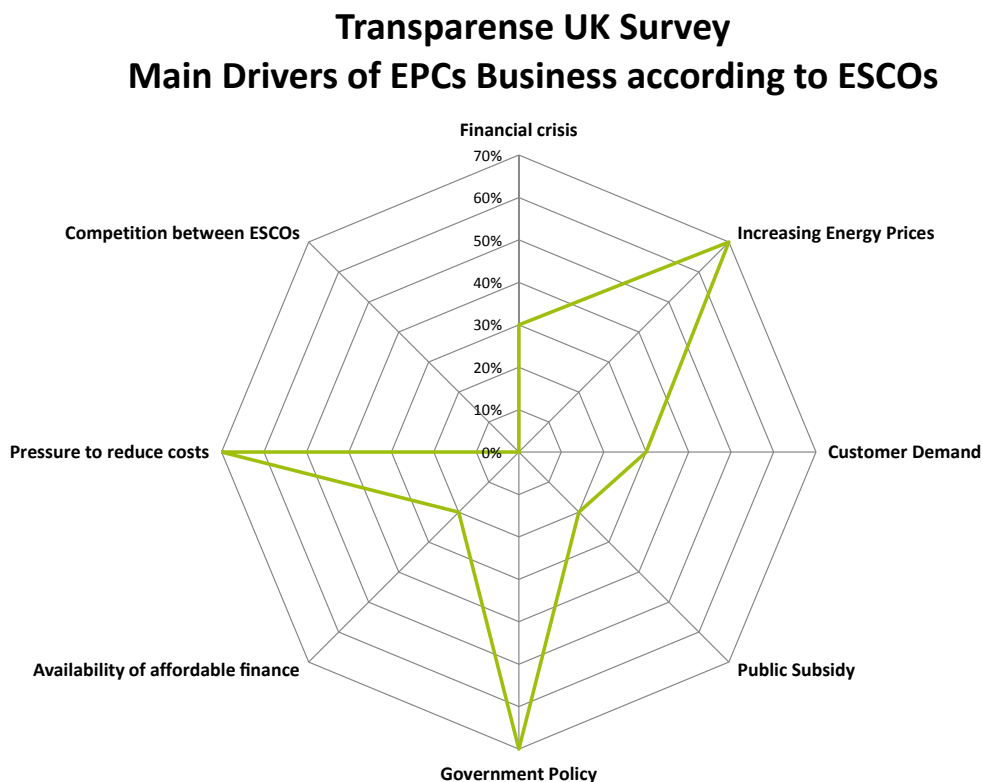


length of the contract and the sector of origin of the client were considered “moderately important”. What transpires from these results is that the size, history and track record of the organisations involved in the project are crucial. These can prove to be a clear barrier for a number of smaller ESCOs or smaller end-clients.

6 Success factors

This section identifies areas with high replication potential and fields of application which have brought, or could bring innovation to the EPC market. As a starting point, the diagram below shows the main drivers of the EPC business, as identified by the Transparensense survey ESCO respondents.

Figure 4: Main drivers for the EPC industry in the UK



Source: Transparensense EPC Survey (2013)

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6.1 Successful regulatory models

As seen in the previous sections, EPC providers and the EPC market as a whole are aware of the major governmental policies and incentives to boost the industry, but still believe that more could be done. This is reflected in the answers to the Transparense survey: generally speaking, the governmental action (or lack of) in the regulatory and legislative spheres is not seen to be a major barrier to the EPC industry; however, it could clearly be a major driver if it was improved or pushed further forward. 70% of the ESCO respondents believe that “government policy” is one of the main drivers of the EPC business. This is the highest answer, alongside two drivers of the financial nature (these will be detailed in sub-section 6.3). Overall, it is clear that the relative lack of regulation leads to a diversity of fluctuating EPC models in the UK, with a lot of experimentation in the sector²².

It is interesting to note that some of the programs, frameworks or projects set up by government or local authority are starting to be fairly successful. The RE:FIT program for example, a framework established by the Greater London Authority (GLA) in order to retrofit public buildings through streamlined EPCs with pre-negotiated and EU-compliant procurement processes, providers and finance, is showing positive results. The client is helped along the process, from the initial stage to the delivery stage, with technical, financial and legal support available, ensuring that best practice templates and standards are shared and used.

To date, over 80 London organisations are engaged with RE:FIT, 216 buildings (equivalent to almost 900,000 m² of space) are undergoing retrofits, and almost 50M kWh have been saved. The type of organisations involved is local authorities, higher education bodies, National Health Service (NHS) or government organisations. The range of building is even wider: libraries, hospitals, offices, civic/leisure centres, fire stations, police buildings, school, colleges and universities, etc. In terms of finance, the individual EPCs can be self-financed, use energy-efficiency loans or third-party funding.

The programme is also a chance to hold ESCO/EPCs workshops, to raise awareness and to get valuable feedback from all parties involved, be it potential clients, EPC providers, or finance houses. Similarly, the programme has grown, adapted and evolved since 2010, in order to provide a better fit to the customers’ needs and to constantly improve the different stages of the process²³.

²² Hannon, Foxon, and Gale, 2013

²³ McKinnon, 2013

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6.2 Successful structural models

Before the Transparensense project, the *World ESCO outlook* (2012) identified six main categories of ESCO projects in the UK, the last three being more recent trends²⁴:

- Demand-side retrofits, with the provision of finance and performance guarantees;
- Supply-side retrofits, also with the provision of finance and performance guarantees;
- New buildings: for larger ESCOs, with provision of construction finance, operation and maintenance as well as total facilities management if required;
- Community ESCO: when a local authority creates a dedicated ESCO which will only offer services to that particular community. Peterborough Council, through its Blue Sky Peterborough ESCO, is a good example of that type of framework.
- Domestic ESCO: utilities offering household services.
- FM-style ESCO: mostly ESTA members offering an EPC type service.

As can be seen by the variety of existing ESCOs, and as mentioned in Section 3, the UK does not have a standardised EPC industry. There is no single contract model, and most core elements of an EPC are flexible. As explained in the *World ESCO outlook* (2012), “shared savings, guaranteed savings (...) are all used depending upon the type of client and project concerned”²⁵.

This is a trend that is definitely observable in the results from our survey. When asked what type of energy savings model they offered (guaranteed or shared savings), 89% of the responding organisations answered “both”. In a similar question, when asked if they typically offered customers a range of savings models or levels of service to choose from, over 85% responded that they did, and that the contract models varied depending on the customer’s requests and requirements. The clients’ procurement approach and as well as the importance of their requests during the IGA phase were stressed as major drivers for an EPC’s structural model. It is also worth re-iterating here what we mentioned earlier: according to our survey, over 70% of ESCOs offer both energy savings and quality measures (improvement in comfort levels of occupants) to their customers.

The type of technology to be installed as part of an EPC in the UK also reflects this: for almost 60% of the respondents, this was described as a collaborative effort. Figure 2 below shows what type of technology is typically installed as part of an EPC in the UK, and it is obvious that the vast majority of technologies are being routinely installed, again reflecting the diversity of contracts within the UK EPC offering.

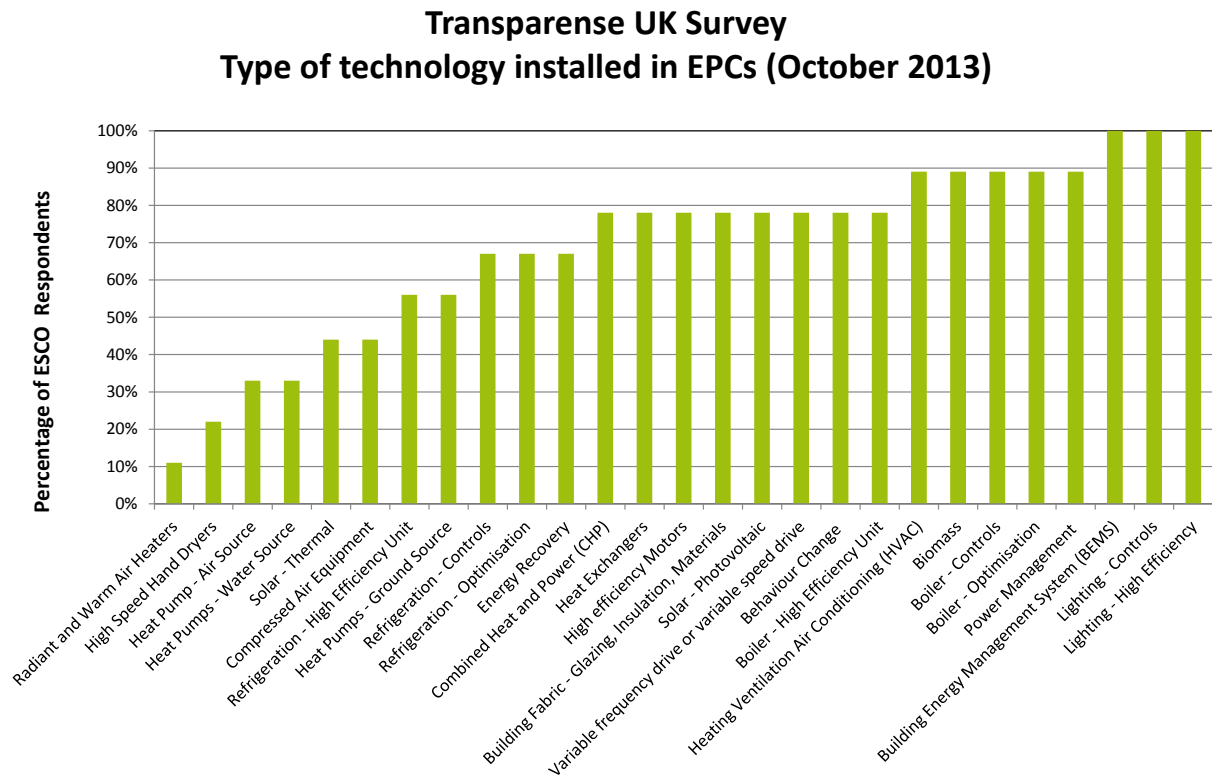
²⁴ Langlois & Hansen, 2012

²⁵ Langlois & Hansen, 2012

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Figure 5: Type of technology installed in EPCs in the UK



Source: Transparensense EPC Survey (2013)

Similarly, just under half of the ESCOs we surveyed are typically responsible for the maintenance of the equipment during the contract phase, while the remaining respondents either do it in cooperation with the customer or usually consider it to be the customer's responsibility. Finally, in the vast majority of cases the client takes legal ownership of the equipment after the contract ends, the ownership is equally divided between the ESCO and the customer during the contract according to the organisations we surveyed.

All these structural features paint a very clear picture: one of great diversity, flexibility and adaptability within the EPC industry in the UK. The EPC contract in the UK is very fluid and designed on a case by case basis²⁶ Whether it's by looking at the various type of ESCO offerings detailed in the *World ESCO Outlook* (2012) or at the obvious willingness to accommodate their customers' needs through a vast variety of contracts and models, it appears obvious that the UK EPC industry has benefited from not being too standardised yet. It seems reasonable to suggest that the recent growth of the market may be linked to that level of flexibility offered by EPC providers, in a truly bottom-up fashion. This may be a

²⁶ Hannon, Foxon, and Gale, 2013

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necessary step to popularise the EPC model and ensure a steady growth for the industry before a full set of best practice guidelines and standards help it grow further. At the moment, the wide range of contracts, savings model, and features of EPCs offered to potential customers is helping the industry grow and is proving to be a real success factor.

Another element that seems to be playing a major role in the successful delivery of EPCs is the rigorous quantification of energy savings performance. In a typical EPC contract, given the scale, length and breadth of the project, assessing the achieved savings as accurately as possible is obviously crucial. The success of the whole project actually rests on it, since payback, savings guarantee, and regular repayments are all determined by the level of performance which, ideally, should be in line with the initial Investment Grade Audit and contract. In the event of a need for dispute resolution, the proof of performance will also be crucial. It might actually help avoiding getting to that stage.

A robust and accurate quantification of the savings performance, when agreed on and defined contractually at the early stages of an EPC, is a guarantee for all parties involved that the project will be assessed fairly and that the financial elements of the contract are and will be secure throughout the length of the EPC.

In the last 3 to 5 years, the attention given to energy savings verification for an EPC in the UK has clearly improved, with more and more ESCOs, customers and financiers realising that it was one of the keys to a successful project.

As touched on in a previous section, two thirds of the finance houses surveyed by Transparense considered the accuracy of the savings verification to be “very important” in determining whether to provide finance for an EPC, with the remaining third deeming it “critical”. That trend is also observable in the answers provided by ESCOs regarding performance verification. For almost 80% of the respondents, the energy saving performance of the projects is typically measured and quantified using “a specified Measuring and Verification (M&V) process”. For almost 90% of ESCOs, the M&V standard used is the International Performance Measurement & Verification Protocol (IPMVP), showing the prevalence of IPMVP in the UK compared to other North-American or European guidelines. It is also interesting to see that 67% of the responding ESCOs state that they are doing the savings analysis internally, using an in-house M&V or Monitoring and Targeting (M&T) team. Only 34% use a third-party. For a little bit more than half of the ESCOs surveyed, the customer pays for the savings performance analysis. The cost is shared or borne by the ESCO alone in the remainder of cases.

These results confirm that savings verification in general, and M&V and IPMVP in particular, are indeed an essential element of a successful EPC in the UK; and that ESCOs do give it ample consideration to the point of having in-house M&V teams in most cases.

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6.3 Successful financing models

As explained in Section 5, some of the major barriers to EPC business as mentioned by Transparense respondents were of financial nature. Similarly, the relatively small number of finance houses willing to finance EPC projects as well as the drastic requirements they sometimes set before providing finance can be a deterrent for ESCOs and their customers.

However, this does not necessarily mean that this is always the case. Answers from the survey tell a much less negative story: for 78% of ESCOs, the scale of the finance required is “never” or “in a minority of cases” considered an issue. Similarly, 89% of ESCO respondents are “always” or “in a majority of cases” able to obtain commercially viable terms and rates of interest from finance houses when setting up EPCs. Overall, almost 60% of ESCO respondents consider that obtaining workable finance for a viable EPC project is “easy”, with only just over 30% finding it “difficult”.

This may be due to the fact that a lot of the respondents also saw financial matters as main drivers for the EPC industry: Increasing energy prices (70% of ESCO and 100% of bank respondents) and pressure to reduce costs for customers (70% of ESCO and 66% of bank respondents) are clearly seen as positive elements.

In terms of the type of financing used, once again flexibility appears to be the key word in the UK. There is an almost equal distribution between ESCO-financed, client-financed and third-party financed EPC projects amongst our respondents. When third-party finance is used, there is a 65-35 split of respectively ESCOs or end-customers carrying the credit risk. Almost 70% of ESCOs surveyed stated that they used off-balance sheet finance, mostly through project finance; and that they sometimes used a Special Purpose Vehicle (SPV) to finance their EPCs. That SPV was owned by the ESCO in the majority of cases. The diversity shown in the type of financing used to set up EPCs seems to be another factor of success for the industry in the UK.

7 Action plan for EPC market development

This section builds on the stakeholder analysis and identified market barriers and includes an action plan for overcoming the market barriers. The action plan is summarised in the table below.

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Table 2. Overview of actions to overcome market barriers.

	Action associated with barrier no (see Error! Reference source not found. above)	What should be done and how	Who should act	When should actions be taken	Comments
Action 1	2	A long-term, coherent governmental policy programme	Central Government	ASAP	This is essential for the sector as a whole. The impetus has to come from the government.
Action 2	2,3,4	Government leading by example and generalising the use of EPC for public buildings	Central Government Local Authorities Public Organisations	ASAP	By its visibility, government can lead on the EPC front.
Action 3	1,2,3	Government publishing best practice and guidance documents on EPCs as well as a registrar of EPC providers	Central Government ESCO Associations ESCOs	ASAP	Best practice document are known to be considered more relevant when they come from central government departments.
Action 4	1,2,3	Organisation of a high number of workshops and seminars on EPCs	Central Government ESCO Associations ESCOs Customers with exp. EPC facilitators	Continuously	Information and networking is a key to reach decision makers and potential clients
Action 5	1,2,3	Training sessions on EPCs to develop networking and knowledge transfer	Central Government ESCO Associations ESCOs Customers with exp. EPC facilitators	Continuously	EPC professionals need to both be trained and be able to share their know-how to industry

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					newcomers
Action 6	1,2,3	Promote and advertise the Code of Conduct currently developed by Transparensense	Transparensense ESCOs ESCO Associations	According to Transparensense process	Compliance with the EPC Code of Conduct serves as a guarantee of the quality of EPC projects implemented.
Action 7	1,3	Promote the use of sound and rigorous M&V techniques	Central Government ESCO Associations ESCOs EPC facilitators	ASAP	Rigorous use of M&V is crucial for credibility of the EPC model
Action 8	4,5	Ensure that EPC stakeholders take better advantage of the funding schemes available to them	Banks/Financiers Central Government ESCO Associations ESCOs EPC facilitators	ASAP	Better visibility is needed for all the funding schemes available.
Action 9	4,5	Create a new asset class specifically for EPC or energy-efficiency projects	Banks/Financiers Central Government ESCO Associations ESCOs EPC facilitators	ASAP	This may be the most difficult suggestion to achieve but could help the market tremendously.

8 Recommendations

8.1 Governmental strategy to boost the EPC market

The government has recently proposed to implement Article 8 of the EU Energy Efficiency Directive (EED) on energy audits through the Energy Savings Opportunity Scheme (ESOS). ESOS is a policy that aims at ensuring that large companies undergo an energy audit. The idea is to raise awareness of the financial benefits associated with assessing the potential for energy savings and therefore higher energy performance of a company. SMEs would be excluded and simply “encouraged” to undertake an energy assessment through other existing schemes.

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Although the proposal would need a few modifications in order to become a successful energy-efficiency policy, it is a step in the right direction as it would encourage companies to look into the benefits of energy performance contracts. More generally, the UK government needs to have a **long-term, coherent policy programme in order to bolster the uptake of EPCs throughout the country.**

The implementation of the EED, and in particular of Article 18, requires further effort. As shown in the Transparense D2-04 report on Identified Barriers and Success Factors for EPC Project Implementation in the UK, “government policy” was recognised as the main driver of EPC business, along with increasing energy prices and pressure to reduce costs. This shows that much remains to be done by the UK government in order to develop the EPC industry. **General energy-efficiency policies such as the Green Deal²⁷ (residential or commercial) or the proposed ESOS will help create a momentum. But additional policies, specifically designed for the EPC sector are also needed.**

Three main recommendations can be made:

- Create an **action plan in order to lead by example and generalise the use of EPCs in the central government** / local authorities estate. Every public building could be checked for EPC suitability against a range of pre-agreed criteria.
- **Focus on policies that will increase customer demand for EPCs**, such as awareness campaigns from central agencies or government departments; tax reliefs for companies which invest in energy-efficient equipment (the Enhanced Capital Allowance²⁸ model); public-private partnerships to facilitate financing (the Carbon Trust/Siemens fund²⁹ model) , etc.

Promote and replicate public EPC programmes that have proven successful, such as the RE:FIT³⁰ programme, or the public ESCOs / frameworks set up by Peterborough City Council or the National Health Service. Dissemination throughout the commercial sector of case studies and lesson learned from successful RE:FIT projects would undoubtedly be very effective, whether it is through an online portal, webinars, workshops or media networks.

²⁷ <https://www.gov.uk/green-deal-energy-saving-measures/how-the-green-deal-works>

²⁸ <https://etl.decc.gov.uk/etl/site.html>

²⁹ <http://www.carbontrust.com/resources/faqs/services/loans>

³⁰ <https://www.london.gov.uk/priorities/environment/tackling-climate-change/energy-efficiency/refit-putting-our-energy-reducing-yours>

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8.2 Removal of legislative and administrative barriers

According to the results of the surveys presented in the Transparensense D2-04 report for the UK, the main barriers to the EPC industry are “customer demand” and “split incentives between landlord and tenant”.

As mentioned in the section, **government should therefore develop policies that will increase customer demand**. In the UK there are already several EPC providers, and an increasing number of companies - be it EPC specialists, larger ESCOs or utility providers – are entering the EPC space and eager to provide such services. Despite this, actual EPC deals seldom go ahead. A large number of EPC providers struggles to convince potential clients to actually commit to an EPC. From the customer’s point of view, there are still too many obstacles: fully understanding the contract offered, obtaining viable finance, choosing the right technologies/EPC provider, etc.

In the public sector, procurement rules can also be extremely complicated and time-consuming. As a result, legal and administrative requirements (and therefore transaction costs) are very high for a typical EPC, and can discourage potential customers. Programmes such as RE:FIT, for example, are addressing these administrative barriers. Through this framework, public organisations are encouraged to retrofit their buildings through streamlined EPCs with pre-negotiated and EU-compliant procurement processes, providers and finance. This saves a lot of time for the customer as there is no need to “shop around” for the best deal, who can instead benefit from readily available and rigorous frameworks for assessment, procurement, third-party financing and Measurement & Verification (M&V). The customer is helped along the process, from the initial stage to the delivery stage, with technical, financial and legal support available, ensuring that best practice templates and standards are shared and used. That **type of programme/framework should be replicated as much as possible in the public sector**.

The lack of standardisation is also a major issue: since there is no “standard” type of contract in the UK, EPC providers as well as customers are faced with high initial costs in terms of time and resources spent. This is the case both for public tenders or private proposal. As a result, both parties often decide that EPC deals may not be worth it, particularly if the contract in question is relatively small. This is an area in which input from the government would be very useful: in order to remove these high initial costs, the Department for Energy and Climate Change (DECC) should **publish best practice and guidance documents on EPCs** which would:

- list the most common types of contracts along with example for each type;
- give advice on the role of each stakeholder;
- provide financing advice / solutions along with practical examples;

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- recommend the use of facilitators;
- give a step-by-step account of a best practice EPC;
- list the typical pitfalls to avoid in order to run a successful EPC project.

The Energy Managers Association (EMA) is currently developing an EPC guidance for the UK. Governmental support for that document; or provision of additional resources would be very useful.

Split incentives between landlord and tenant also act as a barrier to higher uptake of the EPC model in the UK. As landlords do not pay for energy bills, they do not feel the need to implement energy-efficiency or renewable energy measures. Tenants, on the other hand, are very reluctant to pay for them (through an EPC for example) as commercial leases are typically quite short (between 4 and 5 years on average) and make long paybacks look rather unattractive. In order to address this issue, the government could³¹:

- Introduce a **substantial penalty for landlords failing to produce an Energy Performance Certificate (EPC)** when required. This would strongly encourage owners to improve the energy efficiency of their buildings;
- Use its position as a large property owner to proactively **lead on visible enforcement of Display Energy Certificates (DEC)** for all its buildings;
- Extend the length of time landlords can obtain **empty property rate relief from local authorities to 12 months instead of 3** if energy-efficiency improvements are being made, which would incentivise owners to do so.

The Green Deal is also intended to eliminate this split incentive barrier. By attaching the Green Deal Plan to the energy meter of the customer rather than to the property as a whole, it allows the tenant to get the full benefits of any energy-efficiency improvement.

8.3 Information dissemination, education and networking

The results of the surveys presented in the Transparensense D2-04 report for the UK showed that information dissemination and EPC education were still very much needed. 80% of the ESCO respondents cited “complexity of the concept / lack of information” and 40% “lack of trust in the ESCO industry” as the main barriers to the EPC business in the country. These figures tell a clear story: potential customers still do not fully understand the EPC concept due to its complexity, and as a result find it difficult to trust EPC providers.

³¹ Westminster Sustainable Business Forum & Carbon Connect (2013)

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There is still a lot to do in the UK in order to improve the understanding of the EPC concept. Several recommendations can be made to address this:

- Make **best practice information and guidelines** available publicly. The government, through DECC or a central agency, as well as the EMA have a role to play in that regard (see Section 5). Additionally, a publicly available **registrar or databases of EPC providers** would be very valuable to the industry.
- Organise a high number of **workshops and seminars** on EPCs throughout the country. It is important that these events are not limited to London, but should be organised in the regions as well in order to increase local knowledge throughout the country. These seminars could be organised by governmental bodies, national associations such as ESTA and the EMA, projects such as Transparense and ManagEnergy, or even private sector consultants. Ideally speakers would include EPC providers, finance houses, facilitators and governmental actors. By attending these events, potential customers would increase their understanding of the EPC offering. Repeating these events would raise EPC awareness throughout the country and would certainly result in a reduction in the number of people finding EPCs too complex or distrusting ESCOs.
- Organise **training sessions** for different sections of the market. Some banks and finance houses still need to be educated on the opportunities offered by EPCs and on the way they can respond to financing demands from EPC providers or customers. EPC providers and facilitators are still relatively few in the UK. Training sessions for current or prospective EPC providers and facilitators would be very useful in order to share best practice and give step-by-step examples of how a successful EPC project has been run. By holding regular training sessions, either through associations such as ESTA / EMA or through a private sector organiser, the industry as a whole would strengthen itself, increase the transfer of EPC know-how, and improve the trust between all the categories of stakeholders typically involved in an EPC project through **regular networking**.
- Ensure that the **relevant decision makers in the public sector / government are equipped with sufficient knowledge** to undertake and EPC when appropriate. Financial directors, energy managers and property managers need to understand the financial value of an EPC and to be able to articulate the concept. Awareness campaigns and training sessions should be organised to promote the EPC concept and remedy the lack of EPC expertise shown by key decision makers in the public

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sector.

- Promote and advertise the **Code of Conduct** currently developed by the Transparensense project. This would improve understanding and awareness of the EPC concept and raise EPC quality requirements by setting best practice commitments and proposing standards to be met by the EPC providers. Ideally, the Code of Conduct would be specified in all EPC projects in the near future in order to ensure the quality of the service provided by all stakeholders.

Promote the use of sound and rigorous M&V techniques, and in particular through the International Performance Measurement & Verification Protocol (IPMVP). As noted in the Building Efficiency, Reducing energy demand in the commercial sector³² report, *“the use of IPMVP can improve the cost-effectiveness of energy performance contracting and lower the overall cost of energy efficiency finance”*.

8.4 Financial instruments to support EPC

The Transparensense surveys showed that complex accounting /book-keeping rules and raising affordable finance are still considered to be major barriers to the EPC business in the UK. There is an obvious need to simplify the financing processes and to ensure that viable finance is available to EPC providers and customers.

The first recommendation is to improve the way banks see EPC projects. Very often, finance can be seen as too expensive for EPC providers or EPC customers, due to the banks focusing on the creditworthiness of the business when calculating the cost of energy efficiency finance. This is because they see energy efficiency projects as not fully suitable to either project-based or asset-based finance. *“There is a strong case for Greater government involvement to communicate to large financial institutions that there is a strong need to innovate their financial products to better suit a market primarily composed of relatively small projects with high upfront costs, low collateral asset values and sometimes long paybacks³³”*. The ideal solution would be to **create a new asset class specifically for EPC or energy-efficiency projects**. But for this to happen, as noted in the Building Efficiency, Reducing energy demand in the commercial sector report, lenders need to change the way they typically approach financing requests from EPC stakeholders. As noted in Section 6, training sessions for bank personnel would be very useful to that end.

³² Westminster Sustainable Business Forum & Carbon Connect (2013)

³³ Westminster Sustainable Business Forum & Carbon Connect (2013)

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The second recommendation is for **EPC stakeholders to take better advantage of the funding schemes available to them**. As mentioned in the Transparensense D2-04 UK report, there are currently several funds available to finance EPC projects: the London Energy Efficiency Fund (LEEF)³⁴, the European Energy Efficiency Fund (EEEF)³⁵, SDCL UK Energy Efficiency Investments Fund³⁶, Equitix Energy Efficiency Fund³⁷ and Aviva REaLM Fund. Similarly, the Carbon Trust and Siemens Energy Efficiency Financing scheme³⁸, the Grants4Growth³⁹ scheme are also available. However these funds have so far not been used as much as they could have been. SMEs in particular have struggled to obtain finance from these sources, due to a mixture of a lack of awareness of their existence, and the relatively small size of the projects that required finance.

Consequently, a third recommendation, as suggested in the Building Efficiency, Reducing energy demand in the commercial sector⁴⁰ report, is to “kick-start SME finance for energy efficiency through **the creation of a non-domestic subsidiary to The Green Deal Finance Company**. This could offer low rates of interest, relating to the term of each loan provided, funded by the Green Investment Bank (GIB) but under guarantee from HM Treasury.”

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³⁶ <http://www.sdcl-ib.com/what-we-do/energy-efficiency-projects-investments/what-we-do.html>

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⁴⁰ Westminster Sustainable Business Forum & Carbon Connect (2013)

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