



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

Bulgaria



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Sofia

### **Authors**

Angel Nikolaev, Nikolay Iliev, Maria Andreeva, Lulin Radulov  
[office@bsrec.bg](mailto:office@bsrec.bg)

Black Sea Energy Research Centre  
Bulgaria  
[www.bsrec.eu](http://www.bsrec.eu)

### **Co-authors**

Olivier Garnier  
[Olivier@eevs.co.uk](mailto:Olivier@eevs.co.uk)

EEVS Insight Ltd  
United Kingdom  
[www.eevs.co.uk](http://www.eevs.co.uk)

Jana Szomolányiová  
[Jana.szomolanyiova@svn.cz](mailto:Jana.szomolanyiova@svn.cz)

SEVEn – The Energy Efficiency Center  
The Czech Republic  
[www.svn.cz](http://www.svn.cz)

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## Abbreviations

EE	Energy Efficiency
EEA	Energy Efficiency Agency
EED	Energy Efficiency Directive
EEEF	European Energy Efficiency Fund
EEl	Energy Efficiency Improvement
EEM	Energy efficiency Measures
EERSF	Energy Efficiency and Renewable Sources Fund
EES	Energy Efficiency Services
EESI	Energy Efficiency Services Initiative
EPC	Energy Performance Contract
ESCO	Energy Service Company
EU	European Union
M&V	Measurement and verification
SEDA	Sustainable Energy Development Agency
EWRC	Energy and Water Regulatory Commission

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## 1 Summary

The present report aims at providing an overview of the existing EPC market in Bulgaria 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 Bulgaria.

The report is building on the data and information gathered by two other similar projects, the European Energy Service Initiative<sup>1</sup> (EESI) and the ChangeBest project<sup>2</sup>. 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 Europe<sup>3</sup>.

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

- remove the regulated energy price mechanism
- strengthen the capacity of EPC providers and EPC clients in the field of EPC
- disseminate information (successful projects, database of EPC providers, etc.)
- expand the scope of EPC regulation to include more types of projects
- establish of ESCO association
- make EPC and ESCOs eligible in programmes funding energy efficiency

## 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

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

<sup>2</sup> [http://www.changebest.eu/index.php?option=com\\_content&view=article&id=43&Itemid=10&lang=en](http://www.changebest.eu/index.php?option=com_content&view=article&id=43&Itemid=10&lang=en)

<sup>3</sup>

<http://publications.jrc.ec.europa.eu/repository/bitstream/11111111/15108/1/jrc59863%20real%20final%20esco%20report%202010.pdf>

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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 to the following Bulgarian stakeholders:

- 12 companies that have signed EPC (only few are pure ESCOs, while most of them have other main focus of activities, but have signed at least one EPC).
- 5 financial institutions (4 banks and EERSF - the Bulgarian Energy Efficiency and Renewable Sources Fund)
- 2 EPC experts
- The Sustainable Energy Development Agency - the national authority in charge of energy efficiency and energy services policy implementation.

Responses were received by:

- 7 companies that have signed EPC, of which 6 completed the survey online. It must be noted that some of these companies have not initiated EPC in the last 24 months (but earlier) and a large part of the questionnaire has been automatically skipped.
- 1 financial institution – EERSF, which supported 29 EPC (relatively large share of all EPC in the last years). Other financial institutions responded that they have not completed the survey, because they have not financed EPC.
- The Sustainable Energy Development Agency.

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 Bulgaria. This report also makes a series of recommendations tailored Bulgaria'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 Bulgaria 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 Bulgaria 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 EPC<sup>4</sup> (Code of Conduct) (JSI and SEVEn 2014). The Code of Conduct has been officially launched on 28<sup>th</sup> of August in Brussels.

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<sup>4</sup> 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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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 Bulgaria 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 Bulgaria 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 Bulgaria: an introduction

The national policy framework neither provides serious barriers nor substantial stimuli to EPC. The main direct stimuli are:

- national Energy Efficiency and Renewable Sources Fund (EERSF) that provides different financial products for ESCOs: guarantees, soft loans, ESCO portfolio guarantees;
- a regulation that establishes a standardized procedure for EPC in public buildings.

Several energy efficiency policies of the country, e.g. the energy efficiency targets of energy suppliers, mandatory energy audits, etc., provide indirect stimuli for EPC market

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development. Additionally, the upcoming introduction of tradable white certificates is expected to substantially trigger the EPC market (Energy Efficiency Act 2015).

In Bulgaria, the EPC market started its development in the late 1990s, but the number of contracts was negligible until 2006. The market expanded sharply in 2007 due to the activities of one large company. In 2007 and 2008 the annual EPC of this company exceeded 5 million EUR annually (ChangeBest, 2009). After 2008, the 2013 survey results and interviews with experts indicate decrease of the EPC market size and this can mainly be attributed to the financial crisis (Transparensense survey 2013). On the other hand, according to a more recent survey (Transparensense survey 2015) the market in the last years is increasing.

In the country, neither certification nor an official list of ESCOs / EPC providers is available. Based on the literature review and interviews with experts, 12 companies that have signed at least one EPC (not necessarily during the last years) have been identified in the country. These companies largely vary in size and specialization. There are several micro enterprises (less than 10 employees) specialized in energy audits, a couple of medium-sized equipment supply companies (e.g. biomass energy utilization technologies, lighting technologies, control equipment), and several large ones (several hundreds or thousands employees) that offer a wide variety of energy services, including energy supply. Two of these companies are international ones.

In the last several years, increased EPC market competition can be observed. On one hand, new EPC providers have emerged, on the other hand, the dominant EPC provider is less active in this market in the last years.

The vast majority of the contracts are in the public sector. Several ESCOs expressed their preference to public clients, due to their high (compared to the private ones) financial reliability. Most of these contracts concern full renovation of buildings (mainly hospitals, schools, kindergartens, administrative buildings), while others - fuel switch from oil or electricity to biomass or natural gas. Finally, some EPCs in the public sector are related to the introduction of more efficient lighting, sometimes combined with improved lighting management. In the private sector, there are several shared saving contracts and a couple of guaranteed saving contracts, but their exact number is not known.

The survey results show that the most typical duration of EPC contracts is 5-8 years (less for fuel switch projects) and the most typical project size is 0.3 – 0.5 million EUR, although project size largely varies among companies (e.g. for some it is typically below 0.2 million EUR and for others – above 1 million EUR). All survey respondents that realize full building renovation (the most common EPC measure) indicated that usually the annual energy savings are in the range 31% - 50%.

Although the national EPC market is at an early stage of development, it has huge potential, due to the high energy intensity of the economy (the highest in EU) and the ambitious

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energy efficiency policies. It can be expected that the number of EES (including EPC) providers and the market size will grow quickly in the coming years and the need of both the standartization of EPC and collaboration among EPC providers (e.g. via establishment of an association) will be pressing.

### 4 Legislative framework

The EPC legal framework has been developed in 2009 and slightly updated in the following years. The legal framework is included in two pieces of legislation: the Energy Efficiency Act (2015) and Regulation 16-347 (2009).

Some of the most interesting texts of the Energy Efficiency Act (2015) are as follows:

- According to Art.72(1), EPC can be implemented in either buildings, companies, industrial systems, or lighting systems (the companies and lighting systems were included into the scope of EPC on 15.05.2015 and this is a positive development)
- According to Art.72(3), EPC providers are not allowed to carry out the energy audit and/or energy certification of the facility subject to EPC.
- According to Art. 73(1) EPC can be signed only after the energy audit and certification of buildings or energy audit of the other facilities.
- According to Art. 73(4) the contractors implementing EPC finance the energy efficiency measures by using either their own funds or funds from a third party. Customer's financing is therefore not allowed.

Regulation 16-347 (2009) determines the amount and payment of planned funds under EPC leading to energy savings in public buildings. The budgets of the public clients for EPC payments must be budgeted in advance. The funds related to budgeted EPC payments are provided by the State budget for both buildings owned by the State and buildings owned by municipalities that carry out activities delegated by the State. According to the Regulation, the payments of the public client to EPC provider cannot exceed the difference between the normalized energy consumption before the implementation of the energy efficiency measures (EEM) and the actual consumption after the EEM.

The Bulgarian Energy Efficiency and Renewable Fund (EERSF) is a national fund established by the Energy Efficiency Act in 2004. In addition to the several financial products offered by EERSF to a large variety of clients (including ESCOs), such as financial guarantees and soft loans for energy efficiency and renewable energy investments, there is one product specifically targeting ESCOs - ESCO portfolio guarantee. The procedure concerning the latter is as follows: EERSF signs a framework agreement with the ESCO to issue a guarantee for a pre-approved portfolio of projects; ESCO wins a tender for a project; EERSF approves the project and adds it to the project portfolio; EERSF guarantees that it will cover up to 5% of the defaults of the delayed payments of this portfolio. With this guarantee, the ESCO gets

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better interest rates on its debt with commercial banks and secures 5% failsafe trigger that will prevent cash flow disruptions and will reduce the risk of the clients (EERSF, 2013).

A policy indirectly supporting EPC market is the energy efficiency obligations imposed to energy traders (Energy Efficiency Act, 2015).

Several recent EU funded projects have supported the development of the ESCO market in Bulgaria, namely the IEE projects:

- ChangeBest project helped EES providers to develop business plans and marketing strategies for innovative EES;
- ESOLi project developed a guidance promoting EPC in the field of intelligent street (public) lighting (BSERC, 2012);
- PERMANENT project provided training to governments, energy consumers, EES providers, and financiers on various energy efficiency topics, including EPC (Kamburov P., 2010).
- FRESH project provided policy recommendations for public authorities on EPC in residential buildings (FRESH Consortium, 2012)
- Concerted Action projects CA-ESD (2008-2011) and CA-EED (2011-2016) facilitate the exchange of experiences among Member States in relation to the harmonization of the national legislations with these directives (ESD and EED).
- EESI2020 project supports large cities and metropolitan regions to use EPC and builds the capacity of EPC facilitators.

EBRD project "Expanding the opportunities in the market for energy efficiency services provided by ESCOs for the public sector" (2015) is another important project that organized training courses, contributed to the removal of legal barriers, and assisted to many Bulgarian municipalities in the preparation of tender documents for EPC.

## 5 Identified Barriers

The barriers are summarised in the table below.

**Table 1 Summary of EPC market barriers**

	Short description of barrier	Comments
Barrier 1	Low and unpredictable energy tariffs	The energy tariffs in BG are the lowest in EU and the Government has strong influence on them (energy market is predominantly regulated)
Barrier 2	Regulation	only building renovation is eligible for EPC in public sector
Barrier 3	EPC and ESCO are not eligible for public funding	The existing funds (excl. EERSF) are not open for EPC & ESCOs.

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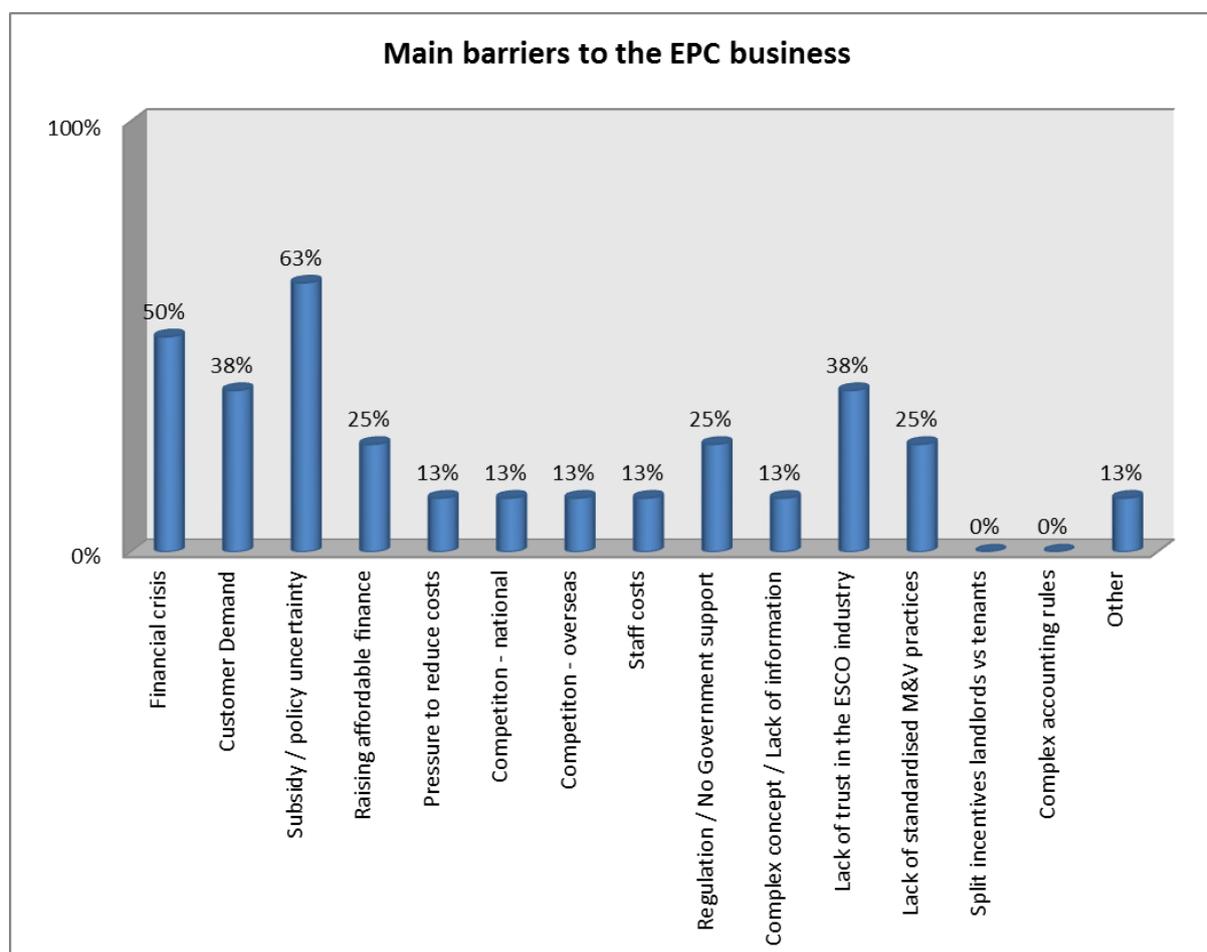


Barrier 4	Low capacity in public sector for EPC tenders	Due to the complexity of EPC and lack of experience, public authorities are in a difficulty to prepare and evaluate tenders
Barrier 5	Lack of information about EPC	EPC concept is not well known in the private sector
Barrier 6	Lack of trust in ESCOs	Potential clients (especially private) have no trust in ESCOs. Due to the asymmetric knowledge, clients are afraid that the contract and M&V may damage their interests.
Barrier 7	Limitation of maximum duration of EPC contracts	The Public Procurement Act limits the maximum duration of EPC contracts in the public sector to 5/10 years (depending on the nature of activities).

### 5.1 Regulatory and administrative barriers

In the survey carried out within this project, respondents were asked to specify the main barriers to EPC business. Figure 1 summarizes the share of respondents who specified each barrier.

Figure 1: Main barriers to the EPC business



Source: Transparense survey, 2013.

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The figure shows that the most frequently quoted barriers are: uncertainty in the subsidy availability and the policy in general (63% of respondents); financial crisis (50%); customer demand (38%); Lack of trust in ESCO industry (38%).

### 5.1.1 General regulatory barriers

The unpredictable national policy is a major barrier (see Fig.1), as it makes companies (e.g. EPC potential clients) more cautious when planning longer term investments. A good example is the Government policy in the last several years to reduce the energy (especially electricity) prices, despite the increasing energy costs. The resulting groundlessly low energy tariffs decrease the profitability of on-going EPC and discourage future EEI investments.

All surveyed organizations (Transparensense survey, 2013) indicated that the Bulgarian policy in EPC area is either “inefficient” (as indicated by most of the respondents) or “very inefficient”. The attitude towards the energy efficiency policy in general is somewhat more positive – the majority define this policy as “inefficient”, but a couple consider it “efficient”. The results of the 2015 survey (Transparensense survey, 2015) indicate positive policy developments, as none of the respondents mentioned policy-related barriers.

In Bulgaria, there are no possibilities to obtain grants related to any EPC phase (preparation, investments, verification, etc.). There are several public funds and programmes providing different forms of financing, such as grants, soft loans, and guarantees, for energy efficiency improvements (EEI) in different sectors (industry, buildings, and lighting) and types of ownership (public and private), the main one being the EU Structural and Cohesion Funds. However, none of these funding opportunities (except for EERSF mentioned above) is open to ESCOs – they are neither eligible for funding nor the projects can be realized by using EPC. This positions ESCOs in a disadvantageous position.

As mentioned in section 4, the national legislation prevents ESCOs from carrying out the energy audit and/or energy certification of the building or industrial system that is subject to the contract. This prohibition has been introduced recently to prevent intentional distortion (bias) of the audit results. This requirement, however, may result in additional work (e.g. a second energy audit of the same building/system) by the ESCO, if there is no trust in the audit results.

The lack of networking and cooperation among ESCOs is a barrier to better representation of this sector in the policy making process (lobbying) and establishment of potential partnerships. It is currently feasible to organize such a cooperation in a structured way (e.g. to establish ESCO association), because of the good perspectives for EPC market development, high number of EPC providers (more than 50 companies offer EPC, although most of them have no past experience in the field), and improved standardization of these services (normative requirements, availability of model contracts, Code of Conduct).

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### 5.1.2 Regulatory and administrative barriers in the public sector

As mentioned in section 4, the Regulation (2009) concerns only EPC in public buildings. This is a serious barrier from financial and budgeting points of view to implement EPC in public lighting systems. On the other hand, these systems proved to offer attractive opportunities for EPC (BSERC, 2012).

Additionally, EPC in the public sector is hindered by the lack of capacity in public bodies to prepare tender dossiers for EPC and carry out the evaluation. Training materials for public bodies have been developed within EU-funded projects, but they need to be further disseminated. The EBRD project "Expanding the opportunities in the market for energy efficiency services provided by ESCOs for the public sector" (2015) is expected to remove most of these barriers.

### 5.2 Structural barriers

One of the major barriers to EPC, especially in the private sector, is the lack of trust in ESCOs. This barrier is interrelated to two other barriers - lack of standardized M&V practices and lack of customer demand (see Fig. 1). In the last years, efforts have been put to remove these barriers through the development of regulatory framework, and development of model contracts that incorporate the Code of Conduct. Standardization of M&V practices is available only in the building renovation projects.

The high level of EPC transaction costs (tender procedure, determination of baseline, M&V, etc.) compared to simple contracts is an important obstacle in some sectors.

### 5.3 Financial barriers

The Transparense surveys (2013, 2015) indicate that the access to financing from banks is a serious problem for ESCOs. According to the respondents, only few banks are ready to finance EPC and the financing conditions are quite unfavourable. One of the reasons for this problem is the high amount of required financing – typically from several hundreds of thousands to several millions euro.

Banks are not prepared to finance projects on the basis of receivables from EPC (project financing), meaning that only ESCOs able to provide substantial collateral have the capability to raise finance. This problem, highlighted in previous studies (e.g. Kamburov, 2010), is still actual.

While some of the larger companies have financed the EPC projects with own funds, this is not an option for most of the EPC providers and they need to rely on external financing. The options for the external financing are limited, due to the lack of available grants for ESCOs (mentioned above) and restrictive regulations not allowing customer's financing in the public sector.

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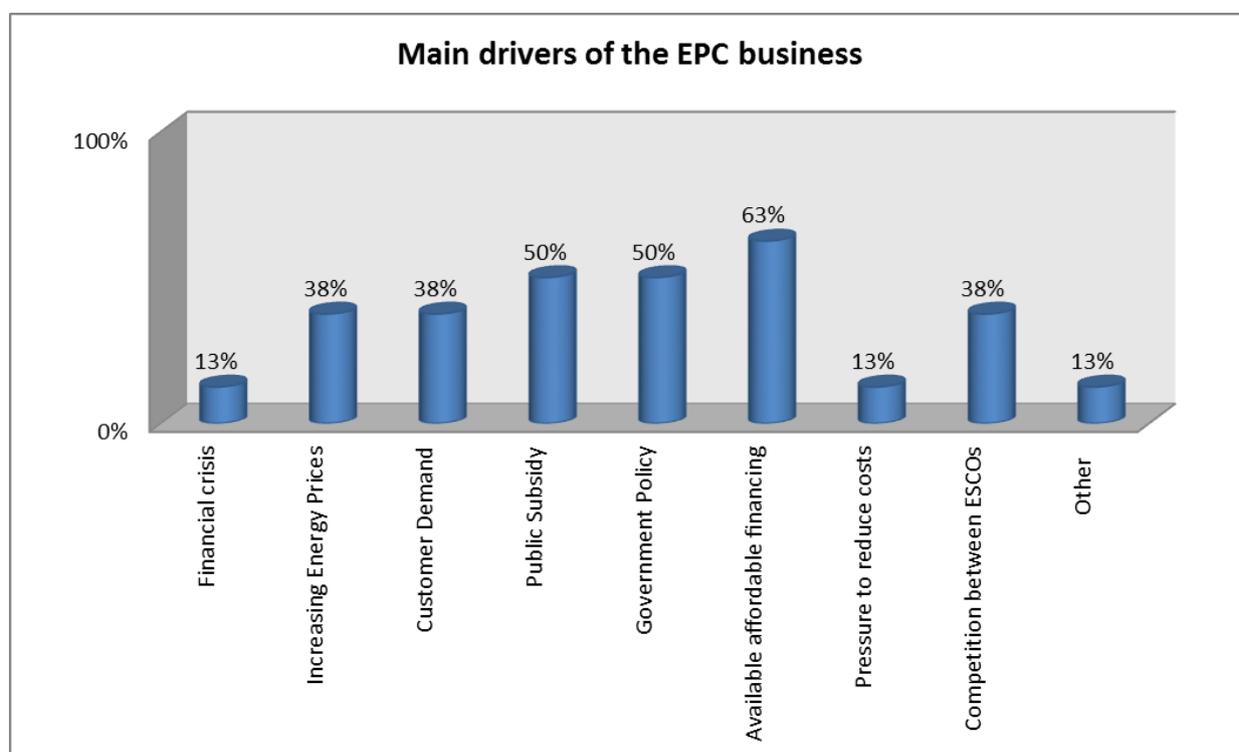


It is known that in some EU Member States there is an accounting and statistical barrier to EPC related to the increase of the public debt when public entities sign EPC. Although this problem is applicable to Bulgaria, it is not perceived as barrier to EPC, according to Transparensense survey (2013). On the other hand, there are ongoing discussions at policy level on how to overcome it.

## 6 Success factors

In the project survey, respondents were asked to specify the main drivers of EPC business. Figure 2 summarizes the share of respondents who specified each barrier.

Figure 2: Main drivers of the EPC business



Source: Transparensense survey, 2013.

Many respondents consider the available affordable financing, available public subsidy, and the supportive government policy as the main stimuli for EPC market development. Other important drivers are the high energy prices, customer demand, and increased competition between ESCOs.

Furthermore, financial institutions were asked to rate the importance of several factors for the success of EPC (Transparensense survey, 2013). According to the experience of EERSF, which is arguably the financial institution with the most extensive experience in supporting EPC in Bulgaria, the *most crucial* factors are as follows:

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- Business prospects of the Client / ESCO
- Financial condition & creditworthiness of the Client / ESCO
- Audit of the project

The factors, rated as *very important* are:

- Size and track record of the ESCO
- History and ownership of the Client / ESCO
- Accuracy of the savings verification
- ROI / internal rate of return

The factors marked as averagely important are the following:

- Length of the project
- Sector / Branch in which the client operates

Finally, the factors with no importance are:

- Type of equipment to be installed
- The Client / ESCO's tax status

### 6.1 Successful regulatory models

No examples of successful regulatory models have been identified.

### 6.2 Successful structural models

No examples of successful structural models have been identified.

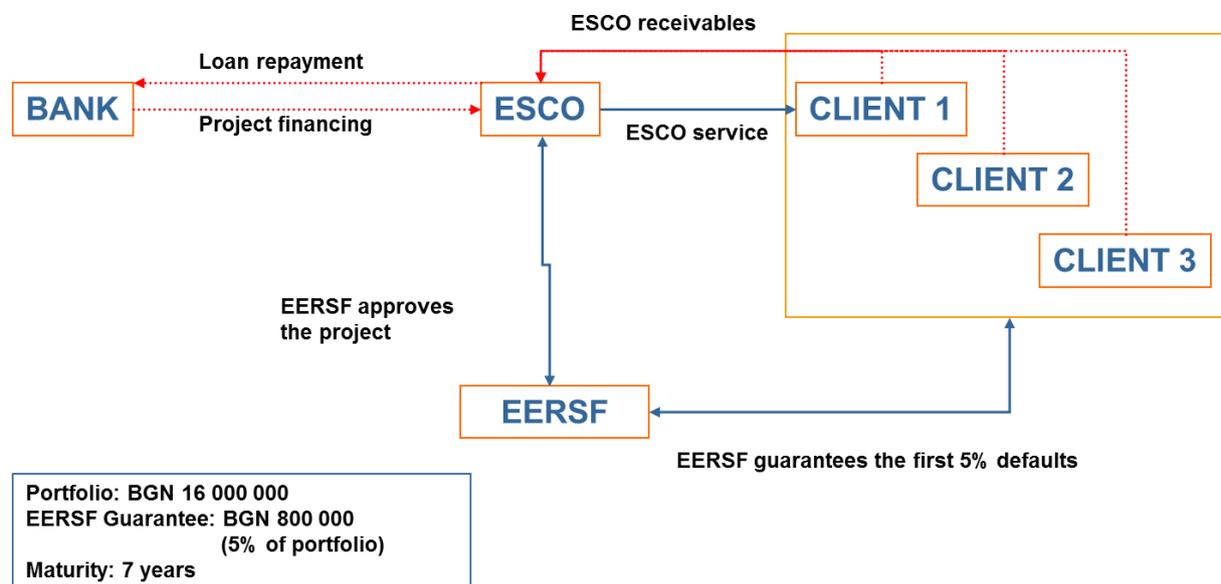
### 6.3 Successful financing models

The Bulgarian Energy Efficiency and Renewable Fund (EERSF) was established through the Energy Efficiency Act in 2004. Its initial capitalization is entirely with grant funds, its major donors being: the Global Environment Facility through IBRD (the World Bank) - USD 10 million; the Government of Austria - Euro 1.5 million; the Government of Bulgaria - Euro 1.5 million and several private Bulgarian companies. The fund is a public-private partnership with independent management and self-sustaining capacity (EERSF, 2013).

Among the other financial products, the Fund offers portfolio guarantee for ESCOs. Through this innovative product, the Fund guarantees the first 5% of defaults in the portfolio of projects. In that way, by undertaking some risk, EERSF helps ESCOs to guarantee the receivables from their clients. This guarantee is an instrument of average financial risk and un-collateralized, thus appropriate also for new ESCOs. A small guarantee covers large number of projects (e.g. guarantee for 0.8 million euro can cover 16 million euro portfolio). The operation of this guarantee is illustrated in Figure 3.

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Figure 3: ESCO portfolio guarantee



Source: EERSF

As of 31.12.2014 EERSF provided ESCO portfolio guarantees for 29 projects with total project size of about 8.5 M EUR, where EERSF financing amounts to about 0.3 M EUR (EERSF, 2015).

## 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.

An assessment of the level of power and interest for each stakeholder group has been made. The power and interest have been scored with the numbers 1 - 5 (1=very low, 2=low, 3=neither high nor low, 4=high, 5=very high).

Depending on the power and interest, the stakeholders are grouped into the following categories:

- Key players (KP): High power (power >3-5) AND high interest (interest >3-5)
- Meet their needs (MTN): High power (power >3-5) but low interest (interest 1-3)
- Show consideration (SC): Low power (power 1-3) but high interest (interest >3-5)
- Least important (LI): Low power (power 1-3) AND low interest (interest 1-3)

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**Table 2 Analysis of stakeholder groups in the Bulgarian EPC market**

Stakeholder group	Number of stakeholders	Level of power (1-5)	Level of interest (1-5)	Power/interest group (KP, MTN, SC or LI)
Municipalities	264	5	3.5	KP
Ministry of Energy (ME) and Sustainable Energy Development Agency (SEDA)	2	4	5	KP
National Association of Municipalities (NAMRB)	1	3.5	3	MTN
Regional Associations of Municipalities	>6	2	2	LI
EcoEnergy – Municipal Energy Efficiency Network	1	2	4	SC
energy audit companies, equipment suppliers, utilities	>100	2.5	4	SC
Ministry of Environment and Water (MoEW)	3	2.5	2	LI
Ministry of Regional Development (MRD)	3	4	3.5	KP
Energy and Water Regulatory Commission (EWRC)	1	5	2	MTN
Energy agencies and other market facilitators	>10	2.5	4	SC
EESI 2020	1	2	5	SC
Private financing community	>50	5	2.5	MTN
Public funding programmes	>5	5	4	KP

The above table shows that the Key Players are the municipalities, ME & SEDA (SEDA is under ME), MRD, and the public funding programmes. Therefore, ESCOs (and this project) need to approach mainly these stakeholders.

The group “Meet their needs” (high power, but low interest) also includes important stakeholders, namely NAMRB, EWRC, and the Private financing community. While it is very difficult to influence EWRC and private financiers, probably it is possible to increase NAMRB’s interest in EPC by providing well-targeted information to them.

In the “Show consideration (SC)” group (low power but high interest) the stakeholders are EcoEnergy, energy companies, energy agencies, and EESI 2020. All of them are interested in the EPC market development and are actively working in this direction.

The remaining stakeholders (MoEW, and Regional associations of municipalities) fall under the Least Important group (low power and low interest).

The **action plan** is summarised in the table below.

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**Table 3. Overview of actions to overcome market barriers.**

	Action associated with barrier no (Error! Reference source not found.)	What should be done and how	Who should act	When should actions be taken	Comments
Action 1	1	Creation of free energy market and higher internalization of externalities	EWRC, Ministry of Economy and Energy	2015 - 2017	It's necessary to remove the regulated energy price mechanism and create free energy market. The non-market mechanism results in a very hazardous environment for the ESCOs. e.g. in 2013 there were two successive acts for decreasing the price of electricity, not based on economic, but rather populist considerations.
Action 2	4	strengthen the public bodies' capacity in EPC	SEDA; Energy agencies and other facilitators	a.s.a.p.	enhance the capacity in EPC, i.e. benefits, legislation, steps, tender procedure, risks, etc.
Action 3	2	expand the scope of EPC regulation	SEDA, MRD	a.s.a.p.	Include public lighting in the scope of possible EPC; provide regulatory framework (including and stimuli) for EPC in multi-tenant buildings
Action 4	6	Implementation of EPC Code of Conduct	ESCOs, SEDA, Transparense, EESI-2020, energy agencies, facilitators	a.s.a.p.	The CoC would increase the quality in EPC and the trust in this market
Action 5	5, 6	Establishment of ESCO association	ESCOs, energy agencies and other facilitators	a.s.a.p.	provision of information and education of ESCOs and clients; networking of ESCOs; lobbying
Action 6	4, 5, 6	Training and dissemination of information	SEDA, energy agencies and other facilitators, ESCO association (if established)	continuously	Distribution of materials (awareness raising, success stories); Training of clients and ESCOs; Online database of ESCOs
Action	3	To make EPC and ESCOs eligible in	Public funding	a.s.a.p.	The public funding bodies could be approached by SEDA, energy

n		programmes funding energy efficiency.	programmes		agencies and other facilitators
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## 8 Recommendations

### 8.1 Governmental strategy to boost the EPC market

Government policy and especially its uncertainty is the major obstacle in the process of development of EPC contracting. The Government strategy should include the removal of the regulated energy price mechanism and creation of a free energy and power market, which is of utmost importance, because this non-market mechanism results in a very hazardous environment for the ESCO companies. As an example, there were two successive acts for decreasing the price of electricity in the present year, which were not based on economic, but rather populist considerations.

Another price related measure necessary to be taken by the Government is higher level of internalisation of negative externalities. Such price policies should be predictable over a longer term as the expectations of future increasing energy prices already influence the current investment decisions (Szomolanyiova J., Sochor V. 2012). The internalization could be directed to the greenhouse-gas emissions that are not covered by EU ETS and to the other pollutants such as SO<sub>2</sub> or NO<sub>x</sub>.

A governmental strategy to boost the EPC market should be prepared by the organizations, responsible for Energy Efficiency, like Sustainable Energy Development Agency SEDA.

Measures, which can be taken, are for example: the obligation for EPC application assessment for energy projects (e.g. renovation of buildings, lighting systems, heating systems) in the public sector and multifamily building sector (especially buildings supplied by district heating), as well as support for the involvement of EPC facilitators.

The Strategy could take into account the results of the project “Expanding the opportunities in the market for energy efficiency services provided by ESCOs for the public sector” funded by KIDSF through EBRD. The project will elaborate 10 municipal programmes for EPC that can be used as model for all municipalities, recommendations for update of regulations, recommendations and training concerning the tender procedures and monitoring of results.

The government institutions should strengthen their role in stimulating the market for energy services, such as enhancing the position, assigned to the Energy Efficiency and Renewable Sources Fund as a co-financing institution and a guarantor in the performance of EPC.

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Additional forms of public financing, such as grants, soft loans and guarantees for EEI in all sectors (industry, transport, buildings and lighting) as well as for the different types of ownership (private, public), should be developed as freely opened to ESCO.

The government should encourage the creation of an ESCO association, with the purpose to increase the transparency and raise the truthfulness in the EPC market, especially through adoption of a common Code of Conduct.

One of the basic requirements for the successful implementation of a Government strategy to boost the EPC market is the decisive strengthening of the public bodies' capacity. Available materials, developed within EU-funded bodies should be further disseminated.

**Table 4: Recommendation for Government action for development of EPC market.**

Recommendation	Stakeholders	Timeframe
Action Plan preparation	SEDA	2014-2015
Free market development	EWRC, Ministry of Economy and Energy etc.	2015 - 2017
Guarantees	Energy Efficiency and Renewable Sources Fund	permanent
Public body capacity	SEDA, Ministry of Economy and Energy etc.	permanent

### 8.2 Removal of legislative and administrative barriers

All proposals made in the 2013 version of this report have been considered by the Bulgarian government. Some of them have been implemented successfully. Others faced objections by stakeholders and were abandoned.

No further actions can be proposed.

### 8.3 Information dissemination, education and networking

Although the EPC market in the country started in late 1990's, until 2014 the EPC publicity was scarce and practically concerned only the public sector. Since 2014, due to numerous training courses and information campaigns (carried out mostly within projects), the awareness is quickly increasing in the public sector, but the private clients are still not covered by the communication activities.

The present high energy intensity of the national economy (the highest in EU) determines the huge potential of this market, which can be realised only after overcoming the lack of

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knowledge and consequently lack of trust in the ESCO industry (this barrier has been indicated by 38% of the respondents of Transparense survey (2013)).

First and decisive step for the stimulation of the supply of information, education and networking to the ESCO society and to the public is the creation of an ESCO association. This process will be stimulated by the expected rapid growth of the market in the following years and the pressing need for standardization of EPC and collaboration between ESCO's.

The ESCO association must play a major role for overcoming the scepticism in the society, providing the necessary information and guidance, leading projects for training not only to government and ESCO's, but also to private consumers, financiers, facilitators.

The process of information dissemination, education and networking will base its success on the active cooperation with the proper government and public institutions, namely EERSE, SEDA, municipalities etc.

Strictly adhering to EPC Code of Conduct, ESCO association will be a major factor to ensure the credible process of Monitor & Verification, raising the truthfulness in the EPC contracting.

EU funded projects have supported the development of the ESCO market in Bulgaria (see section 4). Available materials, developed within EU-funded programmes should be further disseminated in order to boost the EPC market in the process of decisive strengthening of the public bodies' capacity.

In order to ease the access of potential clients to ESCOs, an online ESCO register need to be developed, including description of the services provided by each ESCO. The register could be accompanied with successful examples of EPC (reference projects of ESCOs).

Still the Government has not worked on the transposition of Article 18 of EED into the national legislation. In relation to this article, the main advancement concerns the support to the public sector to take up energy service offers for building refurbishment. In relation to the other requirements of the article, the main role could be assigned to the Sustainable Energy Development Agency (SEDA). SEDA could enhance its activities related to EPC promotion, including events and media releases (TV, radio, printed releases, online releases). SEDA could develop a section in their website dedicated to EPC, including comprehensive information, model contracts, list of ESCOs, etc. Additionally, SEDA could organize an EPC helpdesk for final consumers that could also play a role to resolve the disputes between ESCOs and their clients.

**Table 5: Recommendation for information dissemination, education and networking**

Recommendation	Stakeholders	Timeframe
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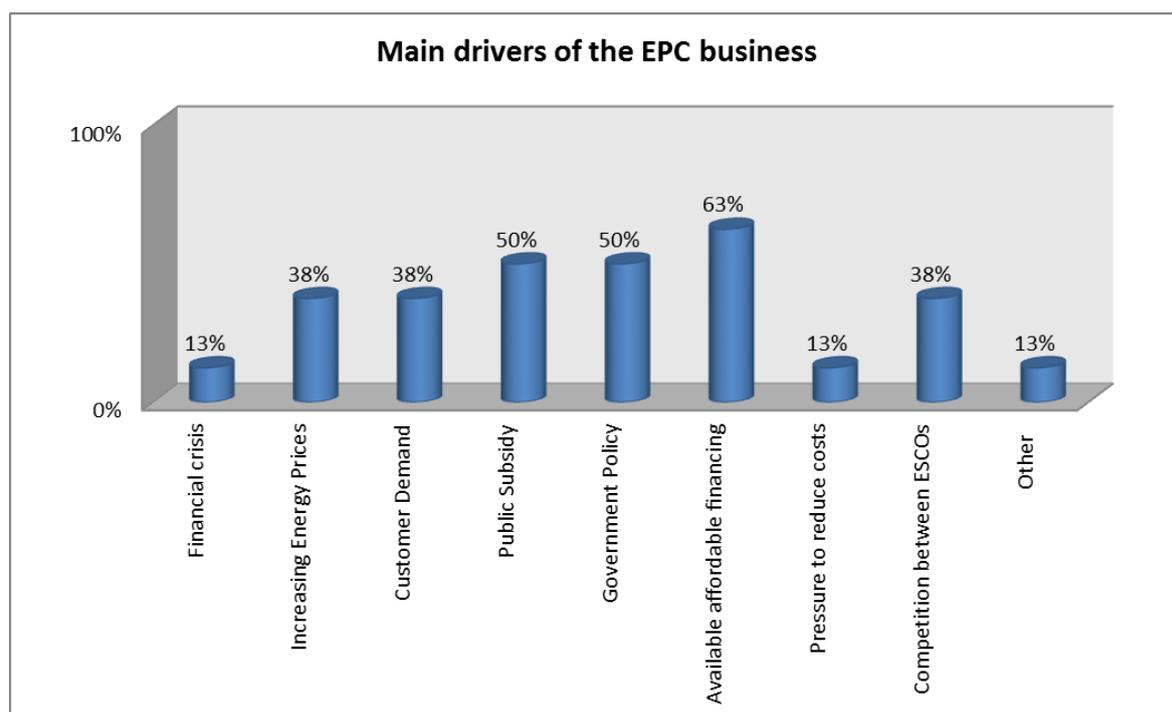
Code of Conduct	ESCOs, ESCO association, clients, facilitators	2014
Creation of an ESCO association	ESCOs	Urgent
Creation of an online register of ESCOs	ESCOs, ESCO association, public bodies	2014-2015
Distribution of materials, training, information dissemination	ESCOs, ESCO association, SEDA	permanent

### 8.4 Financial instruments to support EPC

In the Transparense survey (2013) for the main drivers of the EPC business, two of the first drivers are connected to the financial support, namely available affordable financing and public subsidies.

The lack of affordable low-rate financing is a consequence of the monetary board, introduced in the country in 1997 and the practical impossibility of the Central Bank to take measures for decreasing the rates of the commercial banks. Central Bank is restricted in its usual activities: to keep its own monetary policy, to credit the government and to finance the commercial banks. The result is high commercial rates and higher risk for the loan borrowers.

Figure 4: Main drivers of the EPC business



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Source: Transparense survey, 2013.

Regulation No RD-16-347 of 2 April 2009 about the conditions and procedure for determining the amount and payment of funds, earmarked for energy performance contracts, lays down the financial instruments, concerning the activities of legal entities in energy performance contracting.

An essential role in stimulation of the market for energy services is assigned to the Energy Efficiency and Renewable Sources Fund, as a co-financing institution and a guarantor in the performance of services, under energy performance contracts – ESCO services. This role should be widened and especially the guarantee portfolio should be broadened. The Fund currently considers introducing a new product for ESCOs – purchasing of ESCO receivables (forfeiting) at a price, slightly lower than the amount of receivables. This product would provide ESCOs with additional stability and will allow them to focus on their core business.

Public subsidies are considered as a strong driver of EPC business. Public funds and programmes providing different forms of financing, such as grants, soft loans, and guarantees, for energy efficiency improvements (EEI) in different sectors (industry, buildings, and lighting) and types of ownership (public and private), should be opened to ESCO's.

Special attention should be taken for the creation of a mechanism for funding preliminary phase of EPC projects, in order to overcome the public scepticism.

The lack of affordable financing in the country requires additional efforts from the national financial and banking authorities. Proper financial instruments like low-rate, revolving or partially subsidized loans should be available and instead of the customer's creditworthiness, the debt service to be based on the project cash flow.

**Table 6: Recommendation for development of financial instruments to support EPC**

<b>Recommendation</b>	<b>Stakeholders</b>	<b>Timeframe</b>
Affordable financing	Banks, Financial institutions	permanent
Public funds and programs. EPC contract guarantees	Energy Efficiency and Renewable Sources Fund, other public institutions.	permanent
Mechanism for preliminary phase funding of EPC projects	Energy Efficiency and Renewable Sources Fund, Banks, Financial institutions	2014 - 2020

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