



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

LITHUANIA



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# Country Report on Recommendations for Action for Development of EPC Markets in Lithuania



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## Abbreviations

- EU – European Union.
- ESCO – Energy Service Company.
- EPC – Energy Performance Contract.
- NEEAP – National Energy Efficiency Action Plan
- List of Figures.
- TPF – Third Party Financing.
- EED – Energy Efficiency directive.
- EEM – Energy Efficiency Measures.
- SF – EC Structural Fund.

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## 1 Summary

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

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 the Lithuania and maintaining the high quality of EPC projects are to:

- evaluate of existing legal acts, existing barriers stopping EPC development in Lithuania and to prepare a real action plan for EPC implementation, including measures for the removal of legislative and administrative barriers;
- prepare new financial models and schemes for financial support of ESCOs;
- develop existing structure of authorities, responsible for energy efficiency improvements in Lithuania.

## 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

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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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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.

Lithuania is the beginner of EPC. There are not real working ESCOs in country. But exist a lot engineering companies implementing different energy efficiency measures in energy production, consumption, energy service fields. Part of them are interested and want to start his business on ESCO models. For survey were selected 4 the most potential companies, working in energy service field. Also, were selected 4 the main banks in country. Banking is the largest member of existing financial system. Biggest part of assets (60%) are concentrated in the three major banks “SEB”, “Swedbank” and “DNB” – all of them are fully owned by their Nordic parent banks.

The first step in collecting the data used in this document was to distribute a survey focused on Energy Performance Contracting (EPC) to the selected, most potential energy services companies and banking sector. 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.

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 Lithuania. This report also makes a series of recommendations tailored Lithuania’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 Lithuania 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 Lithuania 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 Transparensense 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

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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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SEVEn 2014). The Code of Conduct has been officially launched on 28<sup>th</sup> 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 Lithuania 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 Lithuania 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.

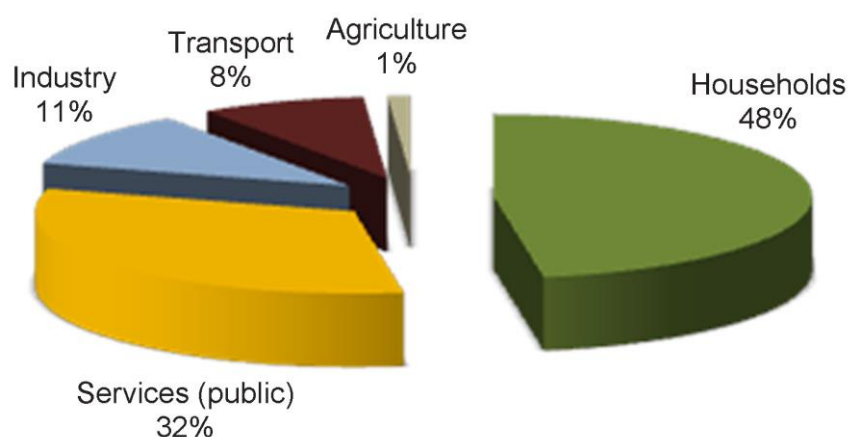
### 3 The EPC market in Lithuania: an introduction

#### Existing EPC potential for ESCOs

Overview of existing situation with energy efficiency shows, that the potential for ESCOs in Lithuania is big. The biggest potential of energy saving exists in buildings sector (households

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and public buildings). Energy saving potential distribution between sectors is presented in Figure 1.



**Figure 1. Energy saving potential distribution between sectors**

Energy saving potential in buildings sector is 80% of the total energy saving potential in country. This sector is a priority area of the Lithuanian NEEAP, with particular attention given to multi-flat buildings and various types' public buildings.

The main part of buildings sector is residential houses, Table 1.

**Table 1. Data about buildings in Lithuania, 2012**

Nr.	Type of buildings	Number of buildings	Overall area of buildings, m <sup>2</sup>
1.	<b>Residential</b>	<b>478 898</b>	<b>1090 037 945</b>
	- one and two flats	439 767	53 481 976
	- three and more flats	37 379	51 917 557
	- social houses	1 752	3 638 412
2.	<b>Public</b>		
	- administrative	9 981	8 899 715
	- hotels, commerce, others	17 086	8 938 532
	- culture, science, sport	7 261	10 869 414
	- hospitals	1 843	2 821 783
	- others		

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Detailed survey of buildings sectors showing that the biggest numbers of buildings were built in period 1961 – 1990, table 2.

**Table 2. Age of single and residential houses in Lithuania**

Year of construction	Residential (multiflat) houses		Single houses (one or two flats)	
	numbers	percentage	numbers	percentage
Till 1940 m.	10 311	27,6	115 907	26,3
1941-1960 years	3 750	10,0	86 599	19,7
1961-1990 years	20 118	53,8	193 777	44,1
1991 years and later	3 200	8,6	43 484	9,9
Total	37 379	100	439 767	100

Legal requirements for energy consumption in these buildings were very low, so energy consumption in existing buildings is too big. Average heat demand for heating in single houses makes up 200 kWh/m<sup>2</sup> year, for multiflats buildings 120-200 kWh/m<sup>2</sup> year. Energy-saving potential in these buildings of up to 50 percent.

By establishing of energy efficiency in buildings Lithuania seek to attract a financial resources of various organizations also EU funds (Structural, Cohesion funds). Under initiative of Lithuanian Ministry Environment the Lithuanian Housing Strategy in 2004 was prepared and adopted.

Lithuanian Housing Strategy foresees to renovate 70% of the multi-apartment dwelling houses built before 1991 and to reduce the cost of heat-energy up to 30%. The implementation period of the strategy is foreseen until 2020.

The strategy mentions the following objectives:

- to ensure broader housing choices to all social groups,
- to rationally use the existing housing stock and energy resources necessary for its adequate maintenance and renovation.
- to improve capacity of housing entities to participate in activities of the housing market and management.

Real implementation of Lithuanian Housing Strategy through Programme for the Modernization of Multi-family Buildings was very slow (until 2013 only several hundreds of multi-family buildings were renovated). Evaluating that in May 2011, the Government of Lithuania approved an additional grant scheme for the residents of multifamily building, who intend to refurbish their buildings until the end of 2013 by using JESSICA (Join European Sustainable Investment in City Areas) financial instrument.

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More about JESSICA financial instrument in Lithuania: <http://www.been-online.org/Modernization-of-multifamily-buildings-in-Lithuania-by-using-JESSICA-f.503.0.html?&L=15517>

The Lithuanian government’s JESSICA holding fund, managed by the EIB was established by the Ministry of Finance and the Ministry of Environment of Lithuania in June 2009 as an effective way of deploying EU Structural Funds for energy efficiency instruments. The initial capital committed by the Lithuanian government to the JESSICA holding fund is EUR 227 million. This is one of largest and one of the first JESSICA holding funds established. The loan agreement between the holding fund and Swedbank was signed. The Fund will be used as long term (up 20 years) loans with fixed low interest rate (3%) for the improvement of energy efficiency in multi-family buildings.

The Lithuanian Government also will support the preparation of technical documentations and the supervision of construction works with financial support of 50% of the costs. Precondition is that after the renovation the building achieves the D class according to the Energy Performance Certification classification. If the building demonstrates C class – 15% state support for energy efficiency measures is foreseen. The Lithuanian government also will provide a support of 100% for low income families.

From June 2013 financial support scheme from JESSICA was developed and named JESSICA 2. This scheme (Figure 2) is similar to ESCOs financial model and may be new adopted scheme will initiate ESCOs activities in Lithuanian.

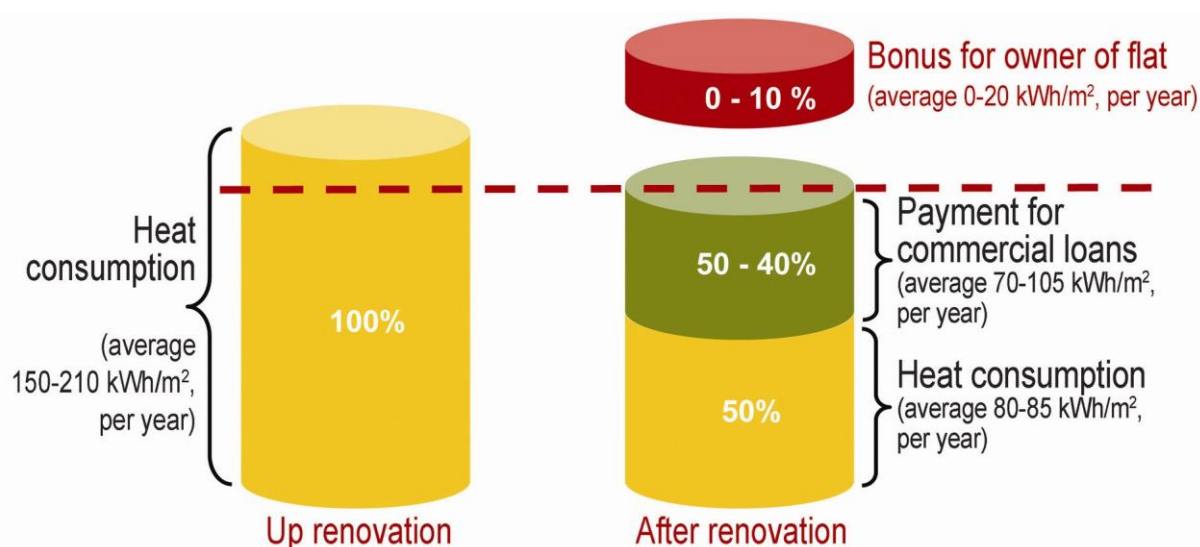


Figure 2. Developed financial scheme (according JESSICA 2)

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### 4 Legislative framework

The key documents reflecting the objectives of Lithuanian energy efficiency policy are the Law on Energy and National Energy Strategy.

The Law on Energy defines general provisions of energy activities and basic principles for the development, efficiency and management of the energy sector. The Law of Energy, together with sectorial Electricity, Heat and Gas laws, stipulates activities and efficiency of individual energy sub-sectors.

The National Energy Strategy reflects the objectives of Lithuania's energy policy and its main development trends. The first version of strategy was approved at the beginning of 1994 and included the Government's main guidelines for restructuring and developing of the energy sector up to 2015. The most recent version of strategy, approved on 10 October 2002, revises and updates trends outlined in the 1994 version.

26 June of 2012 Lithuanian Parliament approved new version of Strategy named "National Energy Independency Strategy".

The new version takes into account significant changes in the country's economy and the energy sector, experience gained and information necessary for planning and estimating the development of individual energy sub-sectors. It also takes into consideration the requirements of energy policy formation principles in the EU and individual member states. The 2012 strategy has the following objectives:

- Security of energy supply;
- Efficient use of energy sources and energy;
- Mitigation of the adverse impact of energy activities on the environment;
- Promotion of justified competition;
- Promotion of the use of indigenous and renewable energy sources.

In new Strategy presented vision of development Energy Sector in Lithuania up 2050. The new Strategy continues strong support for energy efficiency in energy production, transmission and consumption.

One of the main national programme documents promoting energy efficiency is the National Programme for Energy Efficiency Improvement. This is an interinstitutional programme implemented since 1992 and updated every five years with respect to political, economic, social and technological changes. The 2006-2010 programme was approved by Resolution No 443 of the Government of the Republic of Lithuania of 11 May 2006. The objectives of the programme cover the implementation of an energy policy in line with the sustainable

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development goals and coordination among sectors, development and application of appropriate regulation and activities on the issues of efficient use of energy.

Other very important national document is the National Energy Efficiency Action Plan (NEEAP). The first Lithuanian Energy Efficiency Action Plan was prepared (according with EC Directive 2006/32/EC) and adopted in 2007 (Decision of Ministry of Economy No 4-270, 02.07.2007).

In 2011 the second Energy Efficiency Plan was adopted.

The Second Energy Efficiency Action Plan (hereinafter referred to as the Action Plan) was prepared pursuant to the provisions of Article 14(2) of Directive 2006/32/EC of the European Parliament and of the Council of 5 April 2006 on energy end-use efficiency and energy services and repealing Council Directive 93/76/EEC (hereinafter referred to as Directive 2006/32/EB).

The main objective of the Action Plan is to describe the results of achieving the intermediate energy saving target for 2010. The Action Plan also presents an overview of the current energy consumption situation and describes newly adopted and envisaged energy efficiency measures aimed at the improvement of energy efficiency that must ensure the achievement of the national energy savings target for 2016.

The national energy savings target for a period of nine years (2008–2016) set in the First Energy Efficiency Action Plan, which was calculated in line with the requirements laid down in Annex I of Directive 2006/32/EC equals 9% of the average final energy consumption in 2001–2005, which is 3 797 GWh. The intermediate energy savings figure for a period of three years (2008–2010) is 1.5% of the average energy end-use in 2001–2005 and is equal to 628 GWh.

The energy end-use savings for 2010 amount to 780 GWh, which represents 1.8% of the energy end-use consumption average for 2001–2005 established according to the scope of Directive 2006/32/EC. The energy savings were calculated using the bottom-up method with regard to the energy savings per each energy efficiency improvement measure. Savings for some of the energy efficiency improvement measures described in the Action Plan are not covered, as quantification of their effect is impossible.

The main contributions to the achievement of the 2010 target came from horizontal measures (76%, 590 GWh), the service sector (14%, 110 GWh) and the household sector (10%, 80 GWh). With regard to the impact of individual energy savings measures that have already been implemented, are being implemented or are planned, the energy end-use savings for the 2008–2016 period are estimated at 3 962 GWh, which accounts for 9.4% of the energy end-use average in 2001–2005 established according to the scope of Directive

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2006/32/EC. It is estimated that horizontal measures will account for 31% (1240GWh), the energy sector – 19% (740 GWh), industry – around 14% (565 GWh), the household sector – around 14% (558 GWh), the transport sector – 12% (472 GWh), and the service sector – 9% (374 GWh) of the 2016 savings target. Authorities responsible for energy efficiency improvement presented in Table 3 and Table 4.

**Table 3. Authorities responsible for energy efficiency improvement**

Authority	Functions
<b>Ministry of Energy</b>	<ul style="list-style-type: none"> <li>➤ Adopts the audit methodologies for energy consumption in buildings, installations and technological processes;</li> <li>➤ In cooperation with the Ministry of Transport and Communications, establishes the procedure and conditions for audits on energy consumption in buildings, installations, transport facilities and technological processes;</li> <li>➤ In cooperation with the Ministry of Transport and Communications, establishes the procedure for the training and certification of specialists performing audits on energy consumption in buildings, installations, transport facilities and technological processes;</li> <li>➤ Establishes the procedure for the conclusion of voluntary agreements and concludes voluntary agreements with energy undertakings;</li> <li>➤ Organises exchange of experience of efficient use of energy resources and energy among public authorities, bodies, enterprises and organisations at national and international levels;</li> <li>➤ Establishes efficiency requirements and the efficiency control procedure for:               <ul style="list-style-type: none"> <li>• hot water boilers;</li> <li>• boilers and other installations using energy resources with an effective heat output above 0.4 MW.</li> </ul> </li> </ul>
<b>Ministry of Transport and Communications</b>	<ul style="list-style-type: none"> <li>➤ Develops programmes for the improvement of energy resource and energy efficiency in transport facilities and coordinates the implementation thereof;</li> <li>➤ Gives recommendations and implements measures improving energy resource and energy efficiency in transport facilities;</li> </ul>



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	<ul style="list-style-type: none"> <li>➤ Adopts methodologies for auditing energy efficiency in transport facilities (except for structures);</li> <li>➤ Carries out informational and educational activities promoting efficient use of energy resources and energy in transport facilities.</li> </ul>
<b>Ministry of the Environment</b>	<ul style="list-style-type: none"> <li>➤ Drafts and submits recommendations on energy resource use;</li> <li>➤ Intends to enable the country's residents to upgrade their housing, while reducing energy consumption;</li> <li>➤ Regulates the thermal characteristics of building envelopes and energy performance certification of buildings, and prepares proposals on assistance for housing upgrading while reducing energy consumption.</li> </ul>
<b>Ministry of Energy</b>	<ul style="list-style-type: none"> <li>➤ Implements the National Energy Efficiency Improvement Programme and its implementing plan;</li> <li>➤ Carries out promotional and informational work for efficient consumption of energy resources and energy and performs the functions prescribed by law or entrusted by the Ministry of Energy of the Republic of Lithuania in connection with energy efficiency improvement.</li> </ul>
<b>State Energy Inspectorate</b>	<ul style="list-style-type: none"> <li>➤ Controls energy and energy resource efficiency of energy facilities and installations.</li> </ul>
<b>Energy undertakings</b>	<ul style="list-style-type: none"> <li>➤ Take part in the preparation and development of efficient energy supply, distribution and transmission plans;</li> <li>➤ Supply residents and local authorities with information on efficient use of energy resources and energy.</li> </ul>
<b>Municipalities</b>	<ul style="list-style-type: none"> <li>➤ Take part in the preparation of educational public awareness raising measures helping to use energy and energy resources efficiently;</li> <li>➤ Implement energy efficiency improvement programmes.</li> </ul>
<b>Training bodies</b>	<ul style="list-style-type: none"> <li>➤ Are responsible for the inclusion of the issues of efficient use of energy and energy resources into the training programmes for the employees building and operating energy facilities and installations.</li> </ul>



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**Table 4. Authorities responsible for the monitoring of energy efficiency improvement**

<b>Authority</b>	<b>Functions</b>
<b>Efficiency measure implementing bodies</b>	Having implemented energy efficiency measures, during the same calendar year and the next calendar year record the ambient and specific indicators of the facility and transfer the collected data to the administrator of the respective programme.
<b>Efficiency programme administrators</b>	Evaluate individual indicators presented by the bodies implementing efficiency measures, summarise the monitoring, offer projections and submit to the Ministry of Energy the monitoring reports on the efficient use of energy resources and energy for the programmes of the previous calendar year.
<b>Ministry of Energy</b>	Performs the evaluation of the indicators for the previous calendar year, the monitoring summary and projections on a national scale based on the monitoring reports on the programmes for efficient use of energy resources and energy submitted by programme administrators
<b>Energy Agency</b>	Performs the calculations of national-scale energy savings and drafts a report on national-scale energy savings.

Experience of many countries shows that good energy efficiency projects can result in significant energy savings with short payback periods, which turns these projects into interesting investment opportunities. However, one of the impediments to implementation of energy efficiency projects is the failure of financial markets to provide appropriate financing. On the other hand, the limited capacity of the project sponsors to follow a process of project development may be a barrier to a successful implementation. To overcome financial barriers for financing energy efficiency projects can help Energy Service Companies ESCOs are expected to play an important role in promoting and implementation energy efficiency projects in Lithuania in nearest future.

## 5 Identified Barriers

The legislation of the Republic of Lithuania does not impose any constraints on the rights and abilities of ESCOs, assemblers, energy advisers and energy consultants to provide energy services, to conduct energy audits and provide other energy efficiency improvement measures.

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In Lithuania the market of energy services is not well developed and there are only a few ESCs there. The majority of ESCs on the Lithuanian market act in the district heating sector (in particular, heat generation and supply). The most popular type of contract in Lithuania is very similar to one of the key energy contract types – the chauffage (heating) contract.

By Order No 4-511 of 27 October 2008 approving the template for energy efficiency contracts in buildings the Minister for the Economy of the Republic of Lithuania approved the template for energy efficiency contracts with a view to encouraging energy consumers to conclude energy efficiency contracts with energy service providers.

The activity of energy companies active in Lithuania involves the generation, supply and saving of energy. As profits of these companies is the difference between energy consumed and energy generated, it may be true to say that they also engage in ESC activities (invest in energy efficiency improvement measures).

One of examples of energy companies active in Lithuania is UAB Litesko. Having started its activity in 1998, UAB Litesko currently holds the lease of district heating systems for at least 15 years in cities which it provides with heat. With its eight branches, UAB Litesko conducts its activities in Marijampolė, Alytus, Palanga, Telšiai, Vilkaviškis, Druskininkai, Kelmė, Kazlų Rūda, Biržai and nearby villages.

Another example is UAB E energija. Enterprises of this group generate and provide district heating and hot water to the population, establishments and organisations in Ukmergė, Naujoji Akmenė, Prienai and Trakai cities and regions in Lithuania as well as Rezekne and Gulbene towns in Latvia and Artiomovsk in Ukraine. Among these enterprises, it is also worth mentioning UAB Vilniaus energija and UAB Naujoji šiluma. In the buildings sector energy services are provided by AB City Service.

The household sector of ESCs is associated with high risks. It concerns the way the customer makes a decision (in condominiums decisions are adopted by voting, which requires time-consuming explanatory efforts at the beginning of the project), the customer's solvency, long duration of the project and the complexity of project management.

Although the implementation of energy efficiency projects in condominiums is a complex process associated with the said risks, the implementation of projects in multi-apartment residential houses without a condominium set up is also complicated. However, it may be true to say that another obstacle limiting ESC activities is a slow process of incorporation of condominiums of flat owners in multi-apartment buildings and lack of initiative on behalf of the public.

A major circumstance suppressing the development of energy services in public buildings is the existing practice of upgrading public buildings (owned by municipalities or the state).

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Funding received from the EU Structural Funds, i.e. investments must be made within a certain defined period, which is why their fragmentation or postponement until sometime in the future and compensation from the savings envisaged are not attractive. If own budgetary funds were used for the upgrading of buildings and efforts were made to optimise investment costs, the hiring of energy services companies would become attractive. With the existing method of funding, an enterprise implementing energy efficiency measures have significantly fewer liabilities than an ESC and does not give any guarantees of energy savings while the funding is provided by the consumer proper. Practically all project implementation risks are borne by the energy consumer, i.e. the savings planned will be achieved if: energy saving possibilities are identified accurately, the measures proper are implemented with quality and at optimal prices and the project implementation is coordinated seeking to maximise energy savings.

Budgets for the maintenance of public buildings are annual, i.e. in accordance with the current procedure savings attributable to energy efficiency improvement measures do not remain with the body or organisation but are returned to the state budget.

In the sectors of services and industry, there is a lack of substantiated and reliable information about possible savings due to energy efficiency improvement projects and their economic attractiveness. Enterprises often lack the competence needed and cannot identify cost-effective energy saving opportunities. These questions could be answered by an energy audit.

Business entities use the services of enterprises implementing energy efficiency improvement measures. However this form of cooperation is often not an ESC but one-off provision of services.

The legal framework for the provision of energy services in the country is set by the Civil Code regulating the conclusion of transactions as well as the Law on the heating sector stipulating the responsibility of heating and hot water system supervisors.

The legal framework in the Republic of Lithuania does not create obstacles to the market in energy services. Relations between the energy supplier (producer) and the consumer are regulated, i.e. the procedure for calculating energy prices (tariffs) is regulated and relations between the parties are documented in the form of energy sale contracts, etc. Such detailed regulation does not encumber and has no direct impact on the activity of ESCs.

An energy services contract is concluded by and between the consumer and the ESC. The energy supplier is not involved in this arrangement, i.e. the energy supplier as usual issues invoices to the consumer for actual energy consumption while the latter makes payments against those invoices. At the same time, relations of ESCs and energy consumers would be defined in an energy services contract. In this case, relying on the method agreed upon with

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the consumer, the ESC would assess the actual savings and issue an invoice to the consumer in accordance with the contract provisions. Thus, relations of energy suppliers and energy consumers are clearly separated from those of energy consumers and ESCs. To set standard transaction terms and conditions and thus reduce administrative costs when providing energy services to small consumers, there is a template of the energy efficiency contract in buildings drafted and approved by Order No 4-511 of the Minister for the Economy of 27 October 2008.

In Lithuania the market in energy services is not well developed. ESCs active here offer profitable energy saving measures, and services provided and measures implemented reduce energy consumption. More and more such enterprises are emerging. Apart from the ESCs mentioned in this Chapter, it is also worth making reference to the members of the Lithuanian Energy Consultants Association (<http://www.leka.lt/nariai>) or certified auditors who, in accordance with the provisions of Order No 1-148 of the Minister for Energy of the Republic of Lithuania of 2 August 2012 approving the Procedure for and conditions of conducting energy audits in buildings, installations and technological processes and for the training and appraisal of specialists conducting energy audits in buildings, installations and technological processes, are granted an auditor's qualification to conduct energy audits ([http://www.ena.lt/pdfai/Auditorius\\_duombaze\\_internete.pdf](http://www.ena.lt/pdfai/Auditorius_duombaze_internete.pdf)) contributing to the broader application of various energy saving measures and the reduction of energy consumption.

Among the key measures promoting energy services to be undertaken in the future, what is worth mentioning is the draft Law on energy efficiency as one of the crucial legislative instruments starting the process of achieving energy efficiency targets of 2020.

The draft Law on energy efficiency is published in the information system of draft legislation. This draft instrument sets out that energy services will be provided by persons appraised in accordance with the procedure laid down by the Government or an institution authorised thereby, and with a view to creating more favourable conditions for the development of the market in energy services the institution authorised by the Government will publish information on energy services contracts concluded and recommendations on terms and conditions of energy services contracts ensuring energy savings and interests of final customers as well as information on incentive programmes and other measures to support energy efficiency services projects; will promote the creation of quality marks including quality marks of commercial associations; will publish and regularly update a list of providers of energy services and create conditions for consumers to learn about services offered by energy service providers; will draft sample energy efficiency contracts, provide information on best practices in concluding and implementing energy efficiency contracts including the results of a cost-benefit analysis taking into account the application of the lifecycle method and through other measures will support the use of energy services in the public sector; will

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compile overviews of the developments on the market in energy services having regard to the implementation of energy efficiency measures listed in the planning documents.

In accordance with the procedure and conditions laid down by the Government or an institution authorised thereby, a joint information centre under the National Control Commission for Prices and Energy will have to provide consumers with comprehensive information on the conditions and procedure for the provision of energy services and energy service providers and other information relating to the provision of energy services.

Complaints and disputes in respect of the provision of energy services will have to be handled by the State Energy Inspectorate under the Ministry of Energy in accordance with the procedure laid down in the Law of the Republic of Lithuania on energy.

In the event of any obstacles relating or unrelated to regulation in using energy efficiency contracts and other energy efficiency services provided that make it possible to establish and/or implement energy efficiency improvement measures, an institution authorised by the Government will have to take steps to eliminate any such obstacles.

Moreover, to support national energy efficiency programmes, a national energy efficiency fund may be established. It will be incorporated, managed and administrated by the Government or an institution authorised thereby in accordance with the procedure and conditions laid down by the Government.

All these incentives are envisaged for the better development of the market in energy services with a view to achieving greater energy savings and energy efficiency improvements.

**Table 5. Summary of EPC market barriers**

	Short description of barrier	Comments
Barrier 1	Regulatory.	No legal definition on ESCOs, no legal requirement for this type of companies.
Barrier 2	Financial.	Lack of the financial instruments to support EPC.
Barrier 3	Structural.	The existing structure of authorities, responsible for energy efficiency improvement is quite complicated. There is lack of good coordination and cooperation between the existing responsible authorities.

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### 5.1 Regulatory and administrative barriers

#### 5.1.1 General regulatory barriers

There is no clear legal definition on ESCOs in Lithuania, so there is no legal requirement for this type of companies. ESCO type business licensing and/or certification is not defined. The existing country legal system does not provide financial support that could get ESCO of its activities.

In the absence of clear legal status, there are many different barriers for the establishment, operation and development of ESCO, its promotion, potential clients and financial institutions confidence, etc.

Governmental initiatives in developing the existing legal system, promoting ESCO for the interested companies, public, are not sufficient.

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

In the absence of clear legal status on ESCOs, EPC, there are not allowed to implement EPC projects in Lithuania, for other ones there is a number of administrative barriers, or a lack clarity on how to financially report on the project in the long-term, lack of interest from government, lack of standard guidelines for the public organizations..

### 5.2 Structural barriers

EPC model is directly related to the guaranteed energy savings. So, the assessment of energy savings should be adopted strict legislation on the energy audits, implementation of energy saving measures (quality of implementation) and what is very important – energy savings measurement and verification functions. Currently Lithuanian legislation is insufficient to ensure the guaranteed energy savings. The existing accounting system prevents from potential direct settlements with the ESCO. At present time, an energy consumer for consumption of energy can pay directly to the energy supplier. A more flexible accounting system should be developed, that allows payments for energy consumed through ESCO.

The existing structure of authorities, responsible for energy efficiency improvement, is quite complicated (presented in Table 3 and 4). There is lack of good coordination and cooperation between the existing responsible authorities.

### 5.3 Financial barriers

The financial crisis in Lithuania (from the end of 2008 until now) had huge negative outcomes for initiating and developing ESCO projects. The economic downturn made potential ESCO clients more unstable, reducing their activity, increasing the difficulty in

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ensuring energy saving and raising the risk of insolvency. The economic downturn has also raised the importance of contractual flexibility. But, on the other hand, the financial crisis and economic restrictions had positive impact as well. The attention was focused on achieving cost for energy reduction through energy efficiency measures and taking advantage of the flexible financing mechanisms offered by ESCOs. Problems still exist in banking and other financial institutions. Lithuanian financial system is dominated by the banking sector, which leaves only 1/5 to other participants in terms of assets. The total number of banks including foreign bank branches is equal to 20. More, than half of assets (about 60%) are concentrated in three major banks: “SEB”, “Swedbank” and “DNB” – all of them are fully owned by their Nordic parent banks.

The financial crisis influence on the possibilities to receive loan from banks due to higher access to loan, higher interest rates. Banks need stronger securities, substantially reduced the availability of providers to engage in long term (15-20 years) contracts.

## 6 Success factors

The main country document supporting ESCOs activities is “National Energy Independence Strategy” (approved by the Lithuanian Parliament on the 26<sup>th</sup> of June, 2012). One of the Objectives of the Strategy is efficient use of energy sources and energy. The Strategy proposed strong support to energy efficiency. The second very important national document is the National Energy Efficiency Action Plan (NEEAP, adopted in 2008, second in 2011). Lithuanian Energy Efficiency Action Plan was prepared (according with the EC Directive 2006/32/EC) and adopted in 2007 (the Decision of Ministry of Economy No 4-270, 02.07.2007). The Action Plan presents an overview of the current energy consumption situation and describes newly adopted and envisaged energy efficiency measures aimed at the improvement of energy efficiency that must ensure the achievement of the national energy savings target for 2016.

The national energy savings target for a period of nine years (2008–2016) set in the Energy Efficiency Action Plan, which was calculated in line with the requirements laid down in Annex I of Directive 2006/32/EC equals 9% of the average final energy consumption in 2001–2005, which is 3 797 GWh. The intermediate energy savings figure for a period of three years (2008–2010) is 1.5% of the average energy end-use in 2001-2005 and is equal to 628 GWh.

The energy end-use savings for 2010 amount to 780 GWh, which represents 1.8% of the energy end-use consumption average for 2001–2005 established according to the scope of Directive 2006/32/EC. The energy savings were calculated using the bottom-up method with regard to the energy savings per each energy efficiency improvement measure. Savings for



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some of the energy efficiency improvement measures described in the Action Plan are not covered, as quantification of their effect is impossible.

The main contributions to the achievement of the 2010 target came from horizontal measures (76%, 590 GWh), the service sector (14%, 110 GWh) and the household sector (10%, 80 GWh). Regarding the impact of individual energy savings measures that have already been implemented, are being implemented or are planned, the energy end-use savings for the period 2008–2016 are estimated at 3 962 GWh, which accounts for 9.4% of the energy end-use average in 2001–2005 established according to the scope of Directive 2006/32/EC. It is estimated that horizontal measures will account for 31% (1240GWh), the energy sector – 19% (740 GWh), industry – around 14% (565 GWh), the household sector – around 14% (558 GWh), the transport sector – 12% (472 GWh), and the service sector – 9% (374 GWh) of the 2016 savings target.

The overview of existing situation with energy efficiency reveals that the biggest potential of energy saving exist in building sector (households and public buildings). With initiatives in this area, significant energy savings can be achieved. The main contribution to the achievement of the national targets came from EU relevant supportive policies. A number of legislative acts (Directive on Energy End-Use Efficiency and Energy Services (2006/32 EC), Directive 2012/27/EC, the European Performance of Buildings and its recast 2010/31/EU, Eco – design Directive (2009/125 EC), other EC acts are backgrounds for the development of country legislative acts, addressed for increasing energy efficiency in Lithuania and have direct impact on the demand for Energy Services.

All the above mentioned initiatives will enable real ESCOs activities in Lithuania.

### 6.1 Successful regulatory and structural models

The new Law on energy efficiency is under preparation in Lithuania.

The draft Law on energy efficiency is published in the information system of draft legislation. This draft instrument sets out that energy services will be provided by persons appraised in accordance with the procedure laid down by the Government or an institution authorised thereby, and with a view to creating more favourable conditions for the development of the market in energy services the institution authorised by the Government will publish information on energy services contracts concluded and recommendations on terms and conditions of energy services contracts ensuring energy savings and interests of final customers as well as information on incentive programmes and other measures to support energy efficiency services projects; will promote the creation of quality marks including quality marks of commercial associations; will publish and regularly update a list of providers of energy services and create conditions for consumers to learn about services offered by



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energy service providers; will draft sample energy efficiency contracts, provide information on best practices in concluding and implementing energy efficiency contracts including the results of a cost-benefit analysis taking into account the application of the lifecycle method and through other measures will support the use of energy services in the public sector; will compile overviews of the developments on the market in energy services having regard to the implementation of energy efficiency measures listed in the planning documents.

In accordance with the procedure and conditions laid down by the Government or an institution authorised thereby, a joint information centre under the National Control Commission for Prices and Energy will have to provide consumers with comprehensive information on the conditions and procedure for the provision of energy services and energy service providers and other information relating to the provision of energy services.

Complaints and disputes in respect of the provision of energy services will have to be handled by the State Energy Inspectorate under the Ministry of Energy in accordance with the procedure laid down in the Law of the Republic of Lithuania on energy.

In the event of any obstacles relating or unrelated to regulation in using energy efficiency contracts and other energy efficiency services provided that make it possible to establish and/or implement energy efficiency improvement measures, an institution authorised by the Government will have to take steps to eliminate any such obstacles.

Moreover, to support national energy efficiency programmes, a national energy efficiency fund may be established. It will be incorporated, managed and administrated by the Government or an institution authorised thereby in accordance with the procedure and conditions laid down by the Government.

All these incentives are envisaged for the better development of the market in energy services with a view to achieving greater energy savings and energy efficiency improvements.

### 6.2 Successful financing models

The most successful financing model exist in residential building renovation sector. One of the largest and one of the first JESSICA holding funds for support residential buildings renovation programme is established.

In May 2011, the Government of Lithuania approved an additional grant scheme for the residents of multifamily building, who intend to refurbish their buildings until the end of 2013 by using JESSICA financial instrument.

If residents renovate their multi-apartment buildings until 31.12.2013 and by this achieve the D class (according to Energy Performance Certification classification) as well as 40%

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lower heating energy consumption, the state gives an additional grant up to 15%. Altogether, the state finances up to 30% of all costs for energy efficiency measures. The Lithuanian government also will provide a support of 100% for low income families. Furthermore, the residents of multifamily building can expect up to 100% state support for the preparation of technical documentation as well as for the project management and technical supervision.

More about JESSICA financial instrument in Lithuania: <http://www.been-online.org/Modernization-of-multifamily-buildings-in-Lithuania-by-using-JESSICA-f.503.0.html?&L=15517>

## 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.

**Table 6. Overview of actions to overcome market barriers.**

	Action associated with barrier no (see <b>Error! Reference source not found.</b> above)	What should be done and how	Who should act	When should actions be taken	Comments
Action 1	Regulatory.	Evaluation of existing legal acts. Evaluation of existing the barriers.  To prepare new legal acts for supporting EPC.	Ministry of Energy, Ministry of Environment, Ministry of Finance.	Immediately.	At present time is no legal definition on ESCOs, EPC, no legal requirement for this type of companies and activities.
Action 2	Financial.	Preparation models and schemes for financing support for ESCOs.	Ministry of Finance, Ministry of Energy, Ministry of Environment.	Immediately.	At present time lack of the financial instruments to support ESCOs and EPC.

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Action 3	Structural.	<p>To develop structure of authorities, responsible for energy efficiency improvements.</p> <p>To develop coordination mechanism between responsible authorities.</p>	Ministry of Energy, Ministry of Environment.	Immediately.	To existing structure is quite complicated. Existing coordination scheme is not effective.
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## 8 Recommendations

### 8.1 Governmental strategy to boost the EPC market

From 1994 energy efficiency in Lithuania has been set as an energy policy priority. The key documents reflecting the objectives of Lithuanian energy efficiency policy are the Law on Energy, National Energy Efficiency Strategy and National Energy Efficiency Action Plan.

The National Energy Strategy reflects the objectives of Lithuania’s energy policy and its main development trends. The first version of strategy was approved at the beginning of 1994 and included the Government’s main guidelines for restructuring and developing of the energy sector up to 2015. The most recent version of strategy, approved on 10 October 2002, revises and updates trends outlined in the 1994 version.

26 June of 2012 Lithuanian Parliament approved new version of Strategy named “National Energy Independence Strategy”.

The new version takes into account significant changes in the country’s economy and the energy sector, experience gained and information necessary for planning and estimating the development of individual energy sub-sectors. It also takes into consideration the requirements of energy policy formation principles in the EU and individual member states. The 2012 strategy has the following objectives:

- Security of energy supply;
- Efficient use of energy sources and energy;
- Mitigation of the adverse impact of energy activities on the environment;
- Promotion of justified competition;
- Promotion of the use of indigenous and renewable energy sources.

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In new Strategy presented vision of development Energy Sector in Lithuania up 2050. The new Strategy continues strong support for energy efficiency in energy production, transmission and consumption.

One of the main national programme documents promoting energy efficiency is the National Programme for Energy Efficiency Improvement. This is an interinstitutional programme implemented since 1992 and updated every five years with respect to political, economic, social and technological changes. The 2006-2010 programme was approved by Resolution No 443 of the Government of the Republic of Lithuania of 11 May 2006. The objectives of the programme cover the implementation of an energy policy in line with the sustainable development goals and coordination among sectors, development and application of appropriate regulation and activities on the issues of efficient use of energy.

Other very important national document is the National Energy Efficiency Action Plan (NEEAP). The first Lithuanian Energy Efficiency Action Plan was prepared (according with EC Directive 2006/32/EC) and adopted in 2007 (Decision of Ministry of Economy No 4-270, 02.07.2007). In 2011 the second Energy Efficiency Plan was adopted.

However, clear initiatives and instruments to promote EPC have not been developed and yet considered. Overview of existing situation with energy efficiency shows, that the potential for EPC in Lithuania is big. The biggest potential exists in buildings sector.

Lithuanian policymakers should start with the development of a real action plan for EPC implementation, including measures for the removal of legislative and administrative barriers.

### 8.2 Removal of legislative and administrative barriers

In Lithuania there are still numerous policies restricting the development of an energy efficiency service market and the use of EPC. There is no clear legal definition on ESCOs in Lithuania, so there is no legal requirement for this type of companies. ESCO type business licensing and/or certification is not defined. The existing country legal system does not provide financial support that could get ESCO of its activities.

In the absence of clear legal status, there are many different barriers for the establishment, operation and development of ESCO, its promotion, potential clients and financial institutions confidence, etc.

EPC model is directly related to the guaranteed energy savings. So, the assessment of energy savings should be adopted strict legislation on the energy audits, implementation of energy saving measures (quality of implementation) and what is very important – energy savings measurement and verification functions. Currently Lithuanian legislation is insufficient to

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ensure the guaranteed energy savings. The existing accounting system prevents from potential direct settlements with the ESCO. At present time, an energy consumer for consumption of energy can pay directly to the energy supplier. A more flexible accounting system should be developed, that allows payments for energy consumed through ESCO.

The existing structure of authorities, responsible for energy efficiency improvement, is quite complicated. There is lack of good coordination and cooperation between the existing responsible authorities.

Existing public procurement rules for renovation residential and public buildings are big barrier for EPC. To better enable ESCO's to use EPC in the public and residential sectors it is recommended to bring this threshold. Public buildings in Lithuania have a yearly budget, of which energy is one item. This budget is reduced after building renovation. This item should be flexible to the use of EPC, and the yearly budget for public buildings should not be reduced because energy bills are reduced after the implementation of energy efficiency measures (especially using EPC).

### 8.3 Information dissemination, education and networking

Energy performance contracting and ESCOs is still an emerging field in Lithuania. These are linked to the lack of information and education about EPC and calls for public and private initiatives for transferring know-how, training and networking in the developing EPC market.

The main actors in the field of education are country universities (Kaunas Technological University, Kaunas Vytautas Magnus University, Vilnius Gediminas Technical University). By this time the EPC methodology is not included in the universities curriculum.

To solve this educational barrier to involve EPC theoretical background into existing curriculums of universities are recommended. The government must play a major role for information and dissemination EPC. Special programmes on promoting positive energy consumption habits in the society must be prepared. These programmes must to include:

1. **Informing** – constantly providing information to consumers about energy efficiency, alternative energy sources and ways to save energy in daily life.
2. **Motivating** – creating favourable financial conditions for consumers to purchase energy – efficient products and encouraging them to save energy by means of mass media.
3. **Obligating** – energy saving as an obligatory social norm.

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### 8.4 Financial instruments to support EPC

In Lithuania Energy Performance Contracting (EPC) has not received practical implementation yet. Lack of the financial instruments to support EPC is stopping EPC market.

The financial crisis in Lithuania (from the end of 2008 until now) had huge negative outcomes for initiating and developing EPC market and ESCO projects. The economic downturn made potential ESCO clients more unstable, reducing their activity, increasing the difficulty in ensuring energy saving and raising the risk of insolvency. The economic downturn has also raised the importance of contractual flexibility. But, on the other hand, the financial crisis and economic restrictions had positive impact as well. The attention was focused on achieving cost for energy reduction through energy efficiency measures and taking advantage of the flexible financing mechanisms offered by ESCOs. Problems still exist in banking and other financial institutions. Lithuanian financial system is dominated by the banking sector, which leaves only 1/5 to other participants in terms of assets. The total number of banks including foreign bank branches is equal to 20. More, than half of assets (about 60%) are concentrated in three major banks: “SEB”, “Swedbank” and “DNB” – all of them are fully owned by their Nordic parent banks.

The financial crisis influence on the possibilities to receive loan from banks due to higher access to loan, higher interest rates. Banks need stronger securities, substantially reduced the availability of providers to engage in long term (15-20 years) contracts.

Transparence interview enclosed what financial instruments can help the EPC market development:

1. **Governmental subsidy for the facilitation** of the EPC projects. Government could subsidize part of all costs needed for the facilitation services of EPC projects. The following conditions for that should be fulfilled:
  - strong administrative procedures for the applicant of the subsidy;
  - subsidy is guaranteed if the conditions are full-filled.
2. **Governmental financial support for ESCOs**, using EC Structural, Cohesion and other Funds and financial support programmes.
3. **Governmental subsidy of pilot projects**. The government could accelerate the market development by financially supporting pilot projects where EPC are implemented.
4. **Third Party Financing (TPF)**. TPF is very important financial instrument for financing energy efficiency projects. Government has an important role to play in reducing barriers to the use of TPF. This role should involve both direct removal of administrative and legal barriers (it is required under the terms of the EU Directive

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2012/27/EU) and also the active encouragement of the approach within the context of the National Energy Strategy.

Such assistance can be categorized under two broad headings: assistance to stimulate the supply of energy services, and assistance to stimulate the demand for those services.

## References

1. Staničić D., Szomolányiová J., Valentová M., Sochor V., Maroušek J. (2014): European Code of Conduct for Energy performance contracting, version as of 11<sup>th</sup> of July 2014
2. EVO (2012): Concepts and Options for Determining Energy and Water Savings, Volume I, IPMVP Public Library of Documents, available for download on [www.evo-world.org/ipmvp.php](http://www.evo-world.org/ipmvp.php)
3. eu.ESCO (2011): Energy Performance Contracting in the European Union, Brussels
4. Lithuanian Energy Independency Strategy. Vilnius, 2012.
5. Lithuanian National Programme for Energy Efficiency Improvement. Vilnius, 2006.
6. Lithuanian National Energy Efficiency Action Plan. Vilnius, 2011.
7. Directive on Energy End-Use Efficiency and Energy Services (2006/32 EC).
8. Directive on energy efficiency (2012/27/EC).
9. Directive on the energy performance of buildings (2012/91/EC).
10. Directive on the energy performance of buildings (2010/91/EC).
11. Directive on establishing a framework for the setting of ecodesign requirements for energy – related products (recast) (2009/125/EC).
12. Lithuania Law on Energy No XI – 130, of 12 January 2009.
13. Lithuania Law on Heat Sector. No XI – 1613 of 11 October 2011.
14. Lithuania Law on Electricity. No 964 of 7 July 2010.
15. Lithuania Law on Natural Gas. No XI – 1564 of 30 June 2011.
16. Lithuania Law on Pollution Tax. No XI – 1894 of 22 December 2011.
17. Lithuania Law on construction. No XI – 1764 of 1 December 2011.
18. Lithuania Law on Public Procurement. No X – 471 of 22 December 2005.