



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

Latvia



Co-funded by the Intelligent Energy Europe Programme of the European Union



Transparensense project

This document has been conducted within the framework of project “Transparensense – Increasing Transparency of Energy Service Markets” supported by the EU program “Intelligent Energy Europe”

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Date

July 2015

Place

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Abbreviations

ASAP (As soon as possible)

CHP (Combined heat and power)

DIGH (Dutch International Guarantees for Housing)

EE (Energy Efficiency)

EED (Energy Efficiency Directive)

EES (Energy Efficiency Service)

EFIEES (European Federation of Intelligent Energy Services)

EPC (Energy Performance Contracting)

EBRD (European Bank for Reconstruction and Development)

ESCO (Energy Services Company)

EU (European Union)

eu.ESCO (European Association of Energy Service Companies)

HMC (Housing Management Company)

JRC-IE (Joint Research Center Institute for Energy)

M&V (Monitoring and Verification)

NGO (Non-governmental organization)

ROI (Return of investment)

SME (Small Medium Enterprises)

SPV (Special purpose vehicle)

VAT (Value added tax)

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1 Summary

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

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

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

- Create action plan for EPC market development;
- Government has to publish best practice and standardized documents;
- Establish list of qualified ESCOs;
- Publish and advertise the Code of Conduct;
- Establish forfeiting facility;
- Improve the decision making process in the residential sector;
- Raise awareness about EPC market.

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

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

³ <http://publications.jrc.ec.europa.eu/repository/bitstream/111111111/15108/1/jrc59863%20real%20final%20esco%20report%202010.pdf>

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2 Introduction

2.1 Methodology

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

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

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

The survey was sent to all the major ESCOs, banks and financiers in Latvia and to EPC market facilitator in Latvia.

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 Latvia. This report also makes a series of recommendations tailored for Latvia's national EPC market. These recommendations are based on the information gathered from the respondents to the surveys (in written form or by conversations), as well as on the author's knowledge of the national market and of any relevant literature / research piece.

This report aims at showcasing the successful experiences for EPC providers in Latvia 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 Latvia 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 no need for up-front capital on the customer's side.
- **Risks for customers minimized:** The ESCO assumes the contractually agreed performance risks of the project.
- **Savings guaranteed:** The ESCO guarantees the achievement of the contractually agreed level of savings and is obliged to compensate savings shortfalls.
- **Support in finding financing:** The capital to finance the EPC project can either be supplied out of the Client's own funds, by the EPC provider or by a third party. Provision of financing by the EPC provider is an option, not a necessary part of the EPC project.

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

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

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

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

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

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

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

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

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

" **energy service provider** means a natural or legal person who delivers energy services or other energy efficiency improvement measures in a final customer's facility or premises", where the **energy service** is defined by the EED as follows: "the physical benefit, utility or good derived from a combination of energy with energy-efficient technology or with action, which may include the operations, maintenance and control necessary to deliver the service, which is delivered on the basis of a contract and in normal circumstances has proven to result in verifiable and measurable or estimable energy efficiency improvement or primary energy savings".

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

2.3 EPC Code of Conduct

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

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

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

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

The key success factor is that EPC providers understand that they benefit from adhering to a set of rules for the EPC business due to an increase in trust on the client side and a resulting increase in demand for EPC projects. Also, the Code of Conduct can be used by governments, being major EPC clients, as minimum requirements for the EPC projects conducted on their property. For example, the key characteristic of an EPC project is that the EPC provider guarantees a contracted level of the energy savings and/or related costs. If these are not achieved, they have 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 Latvia 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 Latvia 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.

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3 The EPC market in Latvia: an introduction

The EPC market in Latvia can be considered not well developed; however there has been slight growth over the last three years (2011, 2012, 2013).

As the JRC-IE report from 2010 states, only five companies were identified as ESCOs offering EPCs in 2009 with size of the market €1-1.5 million (at the moment around €2-3 million/year). Considering a wider definition including also the so-called Energy Service Provider Companies the number of actors is more in the range of 50-60 companies⁵. At that time, the most addressed sectors had been the district heating sector, the street lighting sector and then in general the building sector (public and residential) regarding the implementation of energy efficiency measures for reducing heat energy demand. The market was sensibly undeveloped regarding energy efficiency in universities, hospitals and in the tertiary sector (office, commercial and retails). Implementation of Energy Performance Contracting has developed in residential building sector thanks to European Structural Fund for the programming period 2007-2013 of Energy Efficiency for multi-family residential buildings.

Data from the *Transparensense* survey indicates that two of the three ESCO respondents believe that the market for EPCs in Latvia had seen “*little change*” since 2010. One respondent believes that the market has seen “*slight growth*”. One of three ESCO organisations surveyed confirmed that their EPC orders were increasing significantly, while the remaining indicated that their orders remained constant and falling significantly. That shows there is a quiet big uncertainty in the market. As the survey shows, in the EPCs market of Latvia there is only one commercial bank which is active. The other banks reached by the *Transparensense* survey indicated that they have been financing energy efficiency projects, but not based on EPCs. Asking for the approximate number of active EPC suppliers in Latvia, only one of ESCO respondents answered somewhere between 5 and 10 with another – 2, but the third – don’t know.

As of 2013, eight companies offer energy efficiency services, most of which implement ESCO projects in addition to their usual business activities (typically energy delivery or installation companies and equipment supplier).

Only a few companies provide risk management and/or saving guarantees. In the building sector there are two EPC suppliers. One EPC supplier had started between 1 and 5 projects over the last two years, and one between 11 and 20.

The building types at which EPCs were being carried out is only private residential buildings with most common overall value of projects between 200 000€ – 500 000€.

⁵ http://www.changebest.eu/images/stories/deliverables/national_report/task2_1_latvia_final.pdf

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The respondents considered that their company was best described simply as an ESCO. The number of staff involved in the EPC function of the responding organisation was between “1-10”, confirming that they are small-sized enterprises.

It is however very interesting to note that one of the organisations surveyed were offering EPCs to customers abroad. No bank was funding EPCs abroad.

Clear trends are also visible when it comes to the characteristics of the contracts offered: for all of the respondents, a typical EPC addresses both energy efficiency and quality improvement measures, lasts between 16+ years, its typical annual energy saving is more than 50%.

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4 Legislative framework

The Latvian legislative framework for energy efficiency is defined by a number of documents:

- Europe 2020 – A strategy for smart, sustainable and inclusive growth;
- EU Council recommendations to Latvia 2012;
- Latvian National Reform Programme for implementation of “Europe 2020” strategy;
- The European Commission's position paper on the activities of the Partnership Contract and programs for the period 2014-2020 programming period;
- The National Development Plan 2014-2020 (NDP).
- Latvian national energy efficiency action plan

The general policy is based on the Energy End-use Efficiency Law, which transposed the EU directive on Energy End-Use Efficiency and Energy Services. However the regulatory framework for ESCOs and EPC is currently poor and there are no particular regulation in place yet. Public subsidy programmes were available for the implementation of energy efficiency measures in different sectors (public, residential, industrial) through European Structural Funds and Green investment scheme. The Ministry of Environment and Regional Development and the Ministry of Economics are currently working on a legislative framework to support EPC in the public sector.

At the moment, legislation is rather restrictive than supportive. Public budgeting rules discourage savings. Public procurement law hinders the participation of ESCOs in tenders.

Generally, the legal and administrative requirements for an EPC suffer from a lack of standardisation (i.e. there is no “typical” type of contract and there is no experience in tendering ESCO’s in the public sector). This means that from one side the initial investment from ESCOs is high and from the other side the public sector is not tendering projects suitable for EPC.

This is confirmed by answers to questions relating to the government’s policies: if all of the ESCO respondents considered the energy efficiency policies “ineffective”, that trend was the same for policies specifically aimed at the EPC market: one of ESCO respondents branding them “ineffective” and the other two actually considering that there were “no policies in place” to support EPCs. This shows that legislative framework for Latvian EPC market has a wide range to develop.

The Housing and Energy Conservation Bureau, which is a facilitator for EPC, is currently developing a template example of EPC, in liaison with the Ministry of Economics.

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Currently in Latvia there is one ESCO association. However given the size of the market, this association is not particularly active. Another organisation was created in 2012, the Housing and Energy Conservation Bureau, an independent organisation meant to facilitate the use of EPC.

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5 Identified Barriers

The JRC-IE report and national report in the framework of Change Best from 2010 identified the main barriers to EPC projects in Latvia. The most common barriers for ESCO projects were defined as mistrust from clients, the public procurement rules, lack of motivation and experience, lack of support from government etc.

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

Table 3 Summary of EPC market barriers

	Short description of barrier	Comments
Barrier 1	Raising affordable finance	<p>Long-term commercial financing continues to be a major barrier because the banks are reluctant to lend against long-term energy efficiency projects.</p> <p>Banks misunderstand project implementing risks.</p>
Barrier 2	Lack of equity	<p>One of the key issues: As ESCO's are successful, their debts increase but banks judge companies for their risks. And this is reflected in the debt to equity ratio they require from the companies. So ESCOs, typically small, cannot borrow to further their business. However in the case of Service co., after completion, the payment risk lies with the client not the company.</p>
Barrier 3	No policies in place for the development of the EPC market	<p>The existing regulatory framework is more destructive than supportive for development of the EPC market.</p>
Barrier 4	Public procurement rules	<p>In the private sector there are no necessary public procurement rules for EPC projects, consequently increasing ESCOs' transaction costs. In the public sector there are no rules, procedures and criteria in place.</p>

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Barrier 5	Decision making in residential sector	The decision making process to agree to invest in the renovation projects of multi-family buildings is very incomplete.
Barrier 6	Complexity of the concept	There are no standardised documents or procedures for stakeholders to easily understand the concept and implement the projects.
Barrier 7	Lack of awareness	There is lack of awareness both at policy level and residents/owners level. In general, residents have a lack of comprehension in the field of energy efficiency.
Barrier 7	Lack of awareness	There is lack of awareness both at policy level and residents/owners level. In general, residents have a lack of comprehension in the field of energy efficiency.

5.1 Regulatory and administrative barriers

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

5.1.1 General regulatory barriers

The current size of the market makes it difficult for the few ESCO operating in Latvia to establish them as a unified EPC industry. In this sense, they lack institutional power to enhance the development of an appropriate regulatory framework.

The structural funds for Energy efficiency in buildings helped the industry to emerge, however the requirements of the programme remarkably increased transaction costs for EPC. One of the ESCO participating in the Transparensense survey mentioned that the subsidy programme covers up to 40-45% of their investment costs for comprehensive building energy efficient renovation (building fabrics and internal heating and domestic hot water networks). However, the ESCO said that all together: the application to subsidies, the consequent need for public procurement and the auditing from the agency disbursing the funds, increased their transaction costs by more than 50%.

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At regulatory level cross subsidies are as well mentioned by an ESCO as a general barrier, which is distorting energy prices. District heating companies have received (and will receive) subsidies both for refurbishment of the heat distribution networks and for the renovation of boiler houses. On top of this, the high feed-in tariff for electricity produced by CHP, has lowered heat energy tariff in several municipalities, making EPC less competitive.

The Housing and Energy Conservation Bureau as well indicated a regulatory problem for EPC in the residential sector the reduced VAT rate for centralised energy supply and the real estate tax (increase of cadastral value of building after renovation).

5.1.2 Regulatory and administrative barriers in the public sector

No specific legislative background for ESCO is in place. In particular for the public sector there is a lack of a clear legislation for Public Private Partnerships (PPP) and concession agreements in case of energy efficiency related investments.

According to the Public Procurement Law the lowest price or the most economically advantageous tender are decision factors. In the EPC tender different criteria needs to be applied, for example, energy and cost savings. Mostly of tenders in the public sector is not transparency because of corruption.

One of the ESCOs chose “complex accounting/book-keeping rules”, showing above written (section 4) that there are difficult and time-consuming documentation during project implementation.

5.2 Structural barriers

When asked about the main barriers to EPC business, structural barriers were clearly an issue for most of the respondents: 100% of ESCOs and 100% of banks mentioned “customer demand”, proving that the demand for EPC projects is too low for the industry to be a widely profitable sector. Two of the ESCOs and bank, which is the only player from banking sector in the EPC market, chose “complexity of the concept / lack of information” as one of the main barriers, showing that the EPC concept is still far from being understood or communicated effectively to all potential customers.

“Lack of trust in the ESCO industry” was also mentioned by one of the ESCO respondent and bank, while “lack of standardised M&V practices”, “length of the contract” and “development costs for the ESCO” were not selected through the survey.

5.3 Financial barriers

In the Latvia funding for EPC projects and more generally energy efficiency investments originate mainly as debt financing from commercial banks with equity from private

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investors. Energy efficiency projects are also supported with structural funds or by climate change mechanism (Latvian green investment scheme). Currently specialist funds are missing financial mechanism in the country.

The banks surveyed considered the type of transaction proposed, the history and ownership, business prospects of the client, audit of the project, the sector of origin of the client and the ROI as “*very important*” in determining whether or not to finance an EPC project. Financial conditions & creditworthiness and the length of the project were deemed “*critical*”. Banks are reluctant to lend beyond five years in many cases unless they are receiving cash or interest subsidy either directly or through the beneficiary. Besides the size and track record of the ESCO, the type of equipment to be installed, accuracy of the savings verification was considered “*moderately important*”. The client/ESCO’s tax status was deemed irrelevant.

One of the ESCO mentioned that the terms proposed by commercial banks are difficult for the feasibility of long term EPC (20 years contracts) and special funds are needed for up scaling the market.

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6 Success factors

EPC market in the Latvia ranks among the beginners in Europe. In the public sector there are no tangible experiences of EPC; only two projects, which were implemented more than 10 years ago in the lighting sector.

However, the residential sector represents an area where EPC in Latvia have brought innovation in the market.

In Latvia one ESCO has been operating in the residential sector since 2009. This ESCO offers Energy Performance Contracting in multifamily residential buildings. So far, 22 EPC contracts have been sold, of which eight projects have been implemented proving 53% energy savings, four projects are to be finalised in 2013 and ten projects are planned to start in 2014. The company is now successfully building the project pipeline for 2015.

The proposed scheme is based on a guarantee savings and agreed comfort level (indoor climate) to the occupants of the building. The residents during the contract period have guarantee payment for heating, which will not be higher than the adjusted costs (adjusted for the current energy tariffs and weather conditions) agreed in the baseline study and for the end of the contract period have a guarantee level of energy savings. The ESCO offer comprehensive renovation, meaning a mix of energy efficiency measures, structural measures and aesthetical measures (all building fabric is insulated, replacement of windows, roof repairs, staircases, replacement of heat distribution networks, etc.). The EPC contract clearly indicates the set of energy efficiency and refurbishment measures that will be implemented. The ESCO also keeps open the possibility to implement additional measures during the contract term, like for example the integration of renewable energy sources.

The EPC contract is signed between two main parties, the ESCO and the home owners representing the building (either gathered into a home owner association or as results of a general assembly decision).

The terms of the EPC for these type of project is typically 20 years. The EPC contracts are placed in a SPV (special purpose vehicle), and each building is booked as an independent project. Based on an independent yearly audited report, 25% profit is returned to the building owner.

Periodic administrative practices like billing and the daily communication with the residents of the buildings are left to the operating house management company. As the ESCO takes over the operation and maintenance of the energy relevant facilities in which it invested, the fee of the HMC (housing management company) is often reduced.

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All buildings are equipped with a remote energy and temperature monitoring system. For the calculation of the heating costs and energy savings house-level metering is used. The hot water consumption (m³) is measured both at the house and the flat level. The HMC does monthly checks of these meters; the ESCO makes M&V, baseline adjustment and a yearly balance of payments.

Lately one more ESCO has entered this market implementing a first project in 2013. One more company is planning to provide EPC to the residential sector starting from 2014.

This success is mainly thanks to the continuous work of individual ESCOs and EPC facilitators who keep explaining and marketing the advantages of EPC and have also developed detailed EPC procedures and standard documents. The bottom-up hard work and willingness to explore new paths is an important success factor in Latvia.

There is the potential in Latvia for developing EPC market. In recent decades government bodies increasingly pay attention to issues related with financing of energy efficiency measures. The greatest emphases are on the household because this sector consumes 37% of the total energy consumption of Latvia⁶. Report of Ministry of Economics of the Republic of Latvia provides the potential financial support instruments in the near future⁷.

Survey results show that respondents (Banks, ESCOs, and facilitator) recognized as an important factors, which are the main drivers of the EPC business, are: Increasing energy prices (100%); Customer demand (60%); Public subsidy (60%); Government policy (80%); Availability of affordable finance (20%); Competition between ESCOs (30%). These are the main factors which have to be taken into account to develop the EPC market in Latvia.

6.1 Successful regulatory models

The Housing and Energy Conservation Bureau (the Bureau) was founded in order to:

- inform residents and owners of condition of housing stock through technical measures and the investment cost-benefit analysis of the most popular series of apartment buildings as well as public buildings;
- engage policy makers, national and international financial institutions to ensure financial, technical and other support to facilitate the development of the market;
- contribute in a legal framework to facilitate the development of the industry.

In order to promote the development of the EPC market in Latvia, the Bureau has hold seminar with workshops and brought all the stakeholders together. Seminar was attended by representatives of government, financial, construction companies', maintenance

⁶ http://wiki.em.gov.lv/wiki/%C4%92ku_energoefektivit%C4%81te

⁷ Ministry of Economics: Informatīvs ziņojums par ēku renovācijas finansēšanas risinājumiem

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companies' sector and European Bank of Reconstruction and Development as well as representatives of NGOs and association of the apartment owners. ESCO principle was also presented for Board members of Federation of Latvian Pensioners and the Parliament of Republic of Latvia to raise awareness of EPC. At the moment the Bureau in collaboration with Ministry of Economics is starting to push the EPC into new stage and is starting development of the guidelines of EPC as well as discussing the financing options.

6.2 Successful structural models

The EPC model has been successfully applied in the private residential sector in Latvia, where two ESCOs are providing EPC and one more company has intention to start operating from 2014.

6.3 Successful financing models

EPC are currently funded in Latvia through dept financing and private equity from investors. Subsidies have helped the market.

From the Transparense survey an ESCO mentioned the importance of having special funds of bank interested in buying future receivable.

Ministry of Economics has been considered number of instruments to support energy efficiency improvements across the different sectors. One of the financial tools is public subsidy, which was mainly derived from the EU Structural Funds (up to 60% of project investments). It was used during the programming period 2009-2013 and which could be used also in the future. In planning period 2014-2020 should be considered part of the amount of co-financing for the building sector.

It may be possible to expect support for energy efficiency projects, including EPC, through reduced loan interest rates. Implemented projects that have interest rate in the range of 5-7%, in the future could be supported with long terms soft loans at 2-4%.

Rotating Fund is discussed as potentially possible financial instrument. This fund capital may consist of co-financing from the State and its local governments, institutional funds, and in some cases financing by the European Union structural funds.

Latvian legislation does not offer tax incentives for renovated buildings, but real estate tax policy can serve as a tool for promoting energy efficiency in buildings.

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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 4 Overview of actions to overcome market barriers

	Action associated with barrier no (see Error! Reference source not found. above)	What should be done and how	Who should act	When should actions be taken	Comments
Action 1	ALL	Action plan for EPC market development	Policy makers	ASAP	Action plan for measures for the removal of legislative and administrative barriers, information dissemination, indication about financial instruments, issues regarding with public procurement both in private and public sector
Action 2	6, 7, 8	Government publishing best practice and standardised documents	Policy makers, EPC facilitators	ASAP	Government has to publish the standard EPC contracts and procedures like for M&V, signing EPC, tendering (public sector) etc.
Action 3	3, 7, 8	Lists of qualified ESCOs	Government, EPC facilitators	When market more advanced	Lists of qualified ESCOs to be established including technical and financial qualifications needed.
Action 4	6, 7, 8	Publish and advertise the Code	Government,	According to Transparensense	Code of Conduct for EPC public available, on public

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Action 5	1, 2, 6	of Conduct	Transparense, ESCOs	process	websites as Ministry of Economics, Local municipalities, Latvian development agency
		Establishing forfeiting facility	Government, EPC facilitators, EBRD, commercial banks	2015	The development of Secondary Market is considered very important (see more info in D2.05. National Recommendations).
		Improving the decision making process in the residential sector	Policy makers	ASAP	Currently building general assemblies are organised with a single convocation and every decision shall be voted by 51% of the total house owner's number. It should be change to a double convocation system (see more info in D2.05. National Recommendations).
Action 6	5				
Action 7	7, 8	Raising awareness	Government, EPC facilitators, Energy Agencies, ESCOs, Costumers with exp.	Constantly	Calls for public and private initiatives for transferring know-how, training and networking in the developing EPC market at all levels (beneficiaries, intermediaries, banks, policy, municipal etc.)

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8 Recommendations

8.1 Governmental strategy to boost the EPC market

In recent years energy efficiency in Latvia has been set as a general policy priority. However, clear incentives and instrument to promote EPC have not been developed and yet considered.

The governmental strategy should include measures to enhance the implementation and approval of EPC in the public and private sectors. The strategy has to comply with the EED, which sets obligations on Member States to support energy services market (model contracts, provision of information, and removal of barriers...), particularly article 18.

Then main recommendation for this governmental strategy is the development of policy and regulation that can create demand for EPC, or at least a level playing field. Latvian policymaker should not be focusing on a particular product or service (thermal insulation of buildings, heat energy supply, etc...), but rather on an outcome (energy efficiency targets, deep and comprehensive renovation of public and residential buildings, adequate housing) defined through an agreed set of metrics; including economic, environmental and social dimension, and based on long term thinking and life-cycle basis. The policy must avoid the possibility for utilities and ESCOs to cherry pick the most profitable energy efficiency measures, without considering the need for deep renovation.

Policymakers should promote energy efficiency based on EPC. This means moving away from the dominant business models and promotes a new energy efficiency industrial policy for Latvia. The potential markets is enormous (two examples: the Latvian State Agency for Real Estate owns over 5m m² of buildings which need energy efficient renovation and the multifamily serial buildings account for over another 39m m². The cost of renovating would be close to €4b for 70% of the latter⁸) and this requires “thinking big”, meaning moving away from the dominant cost competitive models and start consider new business models and institutional frameworks.

This should start with the development of an action plan for EPC implementation, including measures for the removal of legislative and administrative barriers, information dissemination, education and networking and indication about financial instruments to support EPC.

⁸ Estimation made by an independent study commissioned by the Latvian housing and energy conservation bureau

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8.2 Removal of legislative and administrative barriers

In Latvia there are still numerous policies restricting the development of an energy efficiency service (EES) market and the use of EPC. For example lack of standard contracts, public procurement rules, lack of standards for M&V, rules for financial management, public sector tendering and decision making process in residential buildings (e.g. decision making process to agree to investment in multi-family building). Most of the legislative problems are not related to energy savings but regard arrangements between parties in general.

8.2.1 Lack of standard contract

The EPC market in Latvia is not thoroughly developed and there are not standardized contract throughout the industry.

For the residential sector a similar EPC form of contract has been used by two ESCOs active in the sector. Based on this EPC contract, the Latvian housing and energy conservation bureau, has developed an EPC contract for deep renovation of residential buildings, which had a further round of legal reviewers and is now under examination by the Ministry of Economic for acknowledgment. For the residential sector it is recommended to endorse this EPC as a standard type of contract. This EPC is mainly designed for residential building, addressing energy savings on space heating and domestic hot water preparation. The payments are expressed in Euro/m² (as residents are used to pay based on this unit) and invoiced on monthly basis with degree days yearly adjustments.

For public buildings, it is recommended to use the EPC developed for the residential sector as basis for the development of standard type contracts. The first task is to extend the contents for baseline studies (space heating, domestic hot water, lighting/electricity consumption, building usage, etc...), tailoring payment procedures to the public sector and have a legal review on the contract general terms.

8.2.2 Public procurement rules in the public sector

Latvia is now introducing legislation to require public authorities to refurbish at least 3% of their building stock each year. At the same time public utilities will be subject to National Energy Saving Obligation (1.5%), in which eventually they may subcontract the obligation of energy savings to ESCOs using EPCs. However, the current framework for public procurement is not suitable and Latvia shall adapt its legislative framework to address the specific issues needed for the procurement of EPC.

In Europe there are examples of models used for public procurement suitable for ESCOs and EPC. For example in Portugal a specific law on EPC was developed in 2011; in Germany since 2008 there is a Federal Law clarifying various aspects of energy efficiency public procurement and in France since 2004 the law on public private partnership gives a

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mechanism for procuring long term services suitable for EPC too, in Czech Republic more than 150 EPC projects have been already procured in the public sector.

When adapting the procurement law for EPC the following main points shall be considered:

- For complex ESCO projects based on EPC, negotiated procedures are needed as they facilitate competition of solutions and prices;
- Technical and ecological award criteria are recommended, but shall be related to subject matter of the contract and verifiable/measurable;
- Most clients need support from market facilitators to define projects, business models, tender documents in order to procure “real” EPC;
- For the public sector it is important that the operating financial energy savings on the operating budget of a building can be used to reimburse ESCO’s investments;

To enhance this process it is recommended for Latvia⁹:

- Lists of qualified ESCOs to be established including technical and financial qualifications needed;
- Code of conduct for EPC and model contracts public available, on public websites (Ministry of Economics, Local municipalities, Latvian development agency);
- Consider the possibility in the procurement procedures about varied financing possibilities, including forfeiting (see chapter 7);
- Support EPC facilitator to assist the public procurement process, so ESCOs will need to deal with specialised entities along with the procuring agency;
- Consider the possibility to procure energy efficiency and energy generation together;
- Consider the possibility of joint procurement with pooling of buildings to gain sufficient energy use and to lower transaction costs to justifying procurement of energy efficiency savings;
- Consider longer contract periods of even 20 years for “deep renovation” requirements of new EU requirement;
- Consider the option where publicity owned ESCO directly contracts a public entity and then subcontract to private ESCOs on a competitive basis.

8.2.3 Public procurement rules for deep renovation of residential buildings

In Latvia currently EPC are used for deep renovation of residential buildings. This was enabled by the use of structural funds that ESCOs can receive in the form of subsidies.

⁹ Modified from: European Workshop on the Facilitation of Energy Services and the ESCO market in Europe (<http://iet.jrc.ec.europa.eu/energyefficiency/workshop/european-workshop-facilitation-energy-services-and-esco-market-europe>)

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In Latvia the use of public subsidies requires the use of full public procurement procedures for every construction project above the threshold of €170k. These full public tender procedures remarkably increase transaction costs for ESCO¹⁰. The EU directive for the award of public works contracts, public supply contracts and public service contracts (Directive 2004/18/EC) allows for higher thresholds.

To better enable ESCOs to use EPC in the residential sector it is recommended to bring this threshold above €1.5m, which allows the renovation of large residential buildings using simplified public procurement rules. Residents will benefit from this change because ESCOs will be able to improve their competitive offer and conditions.

8.2.4 Decision making in buildings

The decision making process for multifamily residential buildings in Latvia is currently a bottleneck to building deep energy efficient renovation. The critical issue concerns the definition of the legal number. Currently building general assemblies are organised with a single convocation and every decision shall be voted by 51% of the total house owners number. Therefore, house owners not attending the assembly are automatically voting against every investment decision. Moreover very often it is difficult to reach the legal number at the general assembly.

It is recommended to change the current system for taking decision in buildings and to introduce a double convocation system for example with the following requirements:

- At the first convocation of the assembly at least 75% of flat owners are represented at the assembly. Every decision voted by the majority of participants (51%) to the assembly is legal;
- If at the first convocation this legal number is not reached, there is a second convocation of the assembly not later than 10 days from the first convocation. At the second convocation of the assembly there are no restrictions on the legal number of participants. Every decision taken by the majority of participants (51%) to the assembly is legal;
- The vote of the owners should be weighted to the owned area (m²) and not to the number of apartments.

8.2.5 Regulatory

Public buildings have a yearly budget, of which energy is one item. This item should be flexible to the use of EPC, and the yearly budget for a building should not be reduced

¹⁰ D2.4 WP2 - D2.4 - Country Report on barriers & success factors LV

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because energy bills are reduced after the implementation of energy efficiency measures (whether as a part of an EPC or not).

After deep building renovation, the cadastral value of the property increases, meaning higher real estate tax. This issue is typically not part of an Energy Performance Contract. It is recommended to introduce a grace period to mitigate this barrier.

Following the Directive 2006/112/EC on the common system of value added tax (VAT) Latvia has a reduced rate to the supply of district heating – a 12% rate compared to the standard 21% on goods and services. This reduced rate is typically not a problem in the Business to Business sector where companies and institutions are eligible to recover VAT, however the problem arise in the private sector for deep renovation of multifamily buildings, where the final consumer cannot recover VAT. In this way all saved energy from ESCO is under a 21% VAT regime, while the energy sold benefits from a 12% regime. This is a distortion of competition between energy supplier and energy efficiency supplier, as in this way the final consumer is induced to keep paying for energy supply instead then buying energy efficiency services from an ESCO.

To solve this regulatory barrier there are two different ways, which are recommended:

- To exclude district heating from the reduced rate and lift the VAT rate to 21%. Then, the government should use the extra VAT income to provide social support to low income population most vulnerable to fuel poverty;
- To include deep energy efficiency renovation of multifamily building as part of a social policy to reduce fuel poverty and provide suitable and affordable housing to Latvia. The regulation should focus on the possibility to refund ESCO services under this social policy at a reduced rate congruent with district heating supply and energy supply in general.

This issue should be addressed and considered as well as European level and taken into consideration when the Commission decides whether or not there is a risk of distortion of competition.

8.3 Information dissemination, education and networking

The complexity of EPC and the lack of trust in the ESCO industry are two of the structural barriers identified during the Transparense survey carried out in Latvia. These two barriers are linked to the lack of information and education about EPC and both calls for public and private initiatives for transferring know-how, training and networking in the developing EPC market.

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Information dissemination has to be targeted, focusing on the profitability of energy efficiency projects and EPC and addressing:

- EPC providers and/or association of ESCOs:
 - Dissemination of information material for potential clients and financial market;
 - Demonstrational sites/projects
- Customers
- EPC facilitators and energy agencies:
 - Dissemination of information material for potential clients and financial market;
 - Making energy data transparent, available and easy to understand. It is also important for financial markets, which need high-quality data on the actual energy savings associated with various types of energy efficiency projects;
 - Programmes to build the capacities of market participants to develop and structure finance for projects, including training for business plan preparation across a range of possible project;
 - Specific packages to assist and guide project proponents through procedures related to energy performance contracting and public procurement;
 - Standard procedures and documents to help setting up an ESCO project;
- Policymaker:
 - Supplementary policies, such as energy audit, voluntary agreement systems, or monitoring of energy consumption of public entities and large private energy users with a possible commitment and/or incentive to implement economically feasible projects;
 - Standard procedures and documents to help setting up an ESCO project;
 - Energy price increase and/or higher consciousness;
 - Guarantee schemes and ESCO assurance;
 - Setting up tax policies that encourage industrial investment in efficiency;

8.4 Financial instruments to support EPC

In the Latvia funding for EPC projects and more generally energy efficiency investments originate mainly as debt financing from commercial banks with equity from private investors. However, this sort of financing is not really suitable for most of the EPC, in particular when contract terms are more than 10 years. Definitely for deep renovation other types of financing mechanism are needed.

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To open the door to EPC and new energy efficiency financing opportunities, the general recommendation are:

- creating a secondary market for EPC contracts;
- setting up programmes to resell EPC contracts to investors in the secondary markets;
- attaching energy efficiency incentives to mortgages;
- increasing awareness of buyers of real estate through ratings and information;
- providing customers with their energy use data.

In particular the development of Secondary Market is considered very important. Currently there is no robust secondary market for energy efficiency loans because there is no uniform system for evaluating EPC contracts. In secondary markets, investors buy EPC which have already been issued and energy savings proved. If institutional investors could buy large quantities of EPC contracts, that would create a market for energy efficiency lending.

To remove this barrier and allow investors access to the market guidelines, template contract, and data requirements for EPC investment need to be further developed.

For EPC to take off in Latvia, to support the development of a forfeiting fund is highly recommended. The fund should be able to work attracting private investors. Lately a basic concept has been already presented in a number of events in Latvia and has already got support from the Latvian Guarantee Agency, from the Bureau for Housing and Energy conservation and from specialists in the sector.

In the first step, the ESCO signs an Energy Performance Contract with building owners, and designs/costs the project. Then, the ESCO submits the project to the Fund for a pledge (if needed): a commitment by the Fund that it will purchase the receivables if the project meets the targets. The ESCO can then apply for working capital from its bank and perform the works (figure 8.1).

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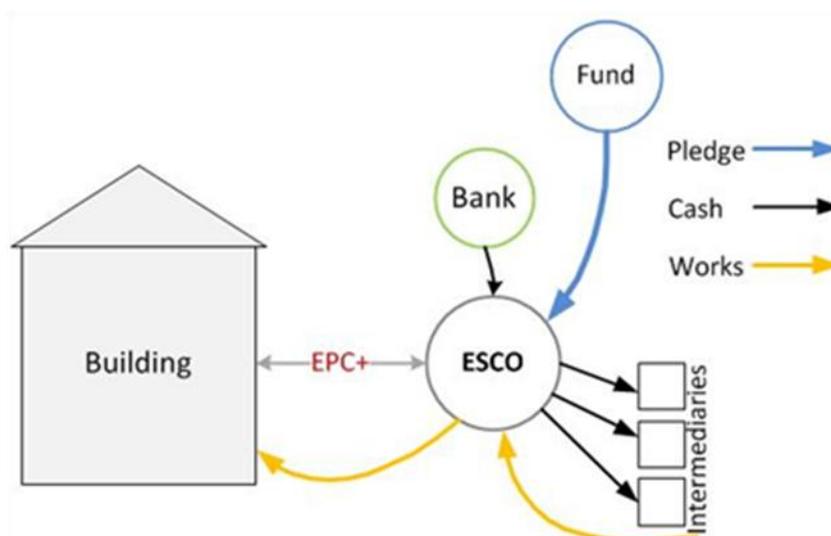


Figure 8.1. Basic scheme for a forfeiting fund for EPC

After the first heating season or after remedies in case where targets were not met, the Fund and the ESCO enter into an Assignment agreement, while the ESCO respects its maintenance/service agreement with the Building (See Figure 8.2).

This is a transfer of future receivables from one party (cessionary – an ESCO) to another (buyer – the Fund). The original creditor (the ESCO) cedes its claims and the new creditor (the Fund) gains the right to claim future receivables from the debtor (the client). The ESCO sells future receivables to the Fund in return for a discounted payment.

In the forfeiting transaction the ESCO assigns - via an Assignment Agreement - future receivables (e.g. the building owners utility payments) from the Building Renovation and Energy Service Agreement to the Fund together with pledge of assets. The end-user pays directly to the Fund (less guarantee and maintenance fees).

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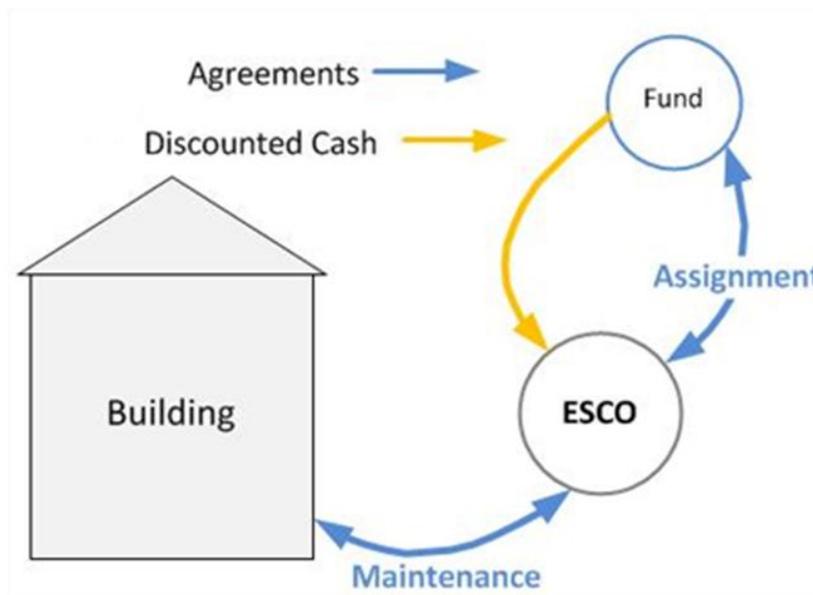


Figure 8.2. Assignment agreement between the ESCO and the Fund

This allows the ESCO to either repay the Bank for the Working Capital it received to execute the project, or to invest in a new project.

The building owners, the ESCO and the lender also sign a “Notice and Acknowledgment of Assignment” where the end user acknowledges the terms of the Assignment Agreement. The ESCO performs maintenance and service of the system and the end user pays fixed monthly payment for this service under a separate Guarantee and Maintenance Agreement. The fee will be sufficient to ensure that the ESCO has a significant stake in the long term success of the contract.

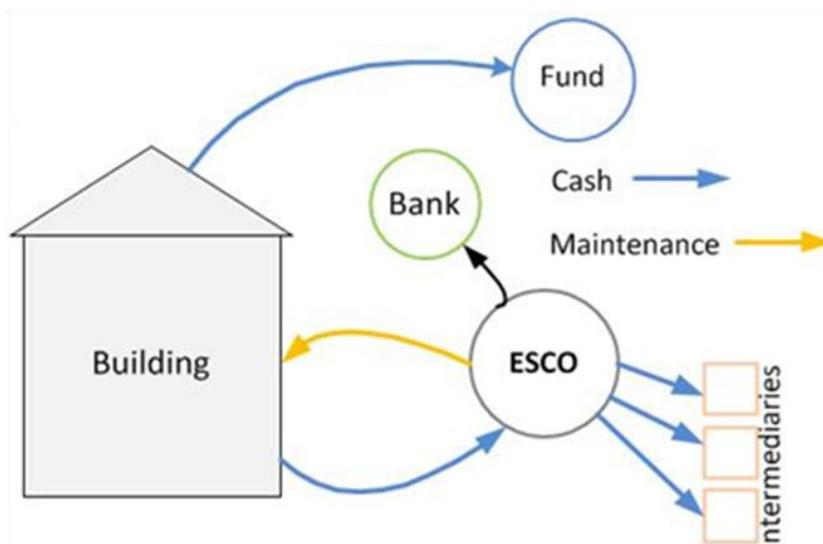


Figure 8.3. Payment flow during the execution of the EPC

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Then the payments would be made according to the scheme in Figure 8.3 until the conclusion of the contract. These contracts would then be grouped and bonds could be issued against them once a successful track record could be demonstrated and in a final step, these contracts could be transformed into securities for sale to institutional investors such as pension funds. The scheme has been reviewed by experts in several financial institutions such as Swedbank in Latvia, DIGH in the Netherlands and the EBRD.

To facilitate access to finance the following path are as well important:

- Guarantee programmes that expand access to debt, thereby lowering the cost of financing;
- Special purpose credit lines or revolving funds to mitigate liquidity constraints in the banking sector and/or provide long-term credits to finance institutions;
- Expanding partnerships between financing sources and utilities, city agencies, and ESCOs, which have longstanding relationships with customers, to rapidly identify EE opportunities.

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