



## D2.4 Country Report on Identified Barriers and Success Factors for EPC Project Implementation

Latvia



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### Abbreviations

EED (Energy Efficiency Directive)

EPC (Energy Performance Contracting)

ERDF (European Regional Development Fund)

ESCO (Energy Services Company)

EU (European Union)

HMC (housing management company)

NGO (Non-governmental organization)

SPV (special purpose vehicle)

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### 1 Summary

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

The report is building on the data and information gathered by two other similar projects, the ChangeBest project<sup>1</sup> and by the Jessica study “Financing energy efficiency renovations in the Latvian housing sector”<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>.

Within this report you will find the most relevant information regarding Latvian EPC market from 2011 to 2013, as well as information and definitions about EPC and the EPC providers. A survey of financial institutions and ESCOs was made in order to gain more precise information about the situation of EPC market. During these surveys respondents were asked to answer questions regarding market growth rates, development slowing obstacles and the main drivers within this sector. This report also contains information regarding the legislation that impacts the EPC industry.

### 2 Introduction

#### 2.1 Methodology

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

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

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

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<sup>1</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>2</sup>[http://ec.europa.eu/regional\\_policy/archive/funds/2007/jji/doc/pdf/jessica/20-jessica-study-latvia-en.pdf](http://ec.europa.eu/regional_policy/archive/funds/2007/jji/doc/pdf/jessica/20-jessica-study-latvia-en.pdf)

<sup>3</sup>[http://iet.jrc.ec.europa.eu/energyefficiency/sites/energyefficiency/files/escos-market-in-europe\\_status-report-2010.pdf](http://iet.jrc.ec.europa.eu/energyefficiency/sites/energyefficiency/files/escos-market-in-europe_status-report-2010.pdf)

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The survey was sent and communicated to all the major ESCOs in Latvia through phone conversations or emails. The survey was filled in by three of them.

A slightly different survey, modified for a different target audience (banks and finance houses) was also sent to the major banks and financiers in Latvia. Responses were obtained for three of them.

The Housing and Energy Conservation Bureau, which is an EPC market facilitator, was as well as interviewed.

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.

### 2.2 What is Energy Performance Contracting

Energy performance contracting (EPC) is when an energy service company (ESCO) is engaged to improve the energy efficiency of a facility, with the guaranteed energy savings paying for the capital investment required to implement improvements. Under a performance contract for energy saving, the ESCO examines a facility, evaluates the level of energy savings that could be achieved, and then offers to implement the project and guarantee those savings over an agreed term.

A typical EPC project is delivered by an Energy Service Company (ESCO) and consists of the following elements:

- **Turnkey Service** – The ESCO provides all of the services required to design and implement a comprehensive project at the customer facility, from the initial energy audit through long-term Measurement and Verification (M&V) of project savings.
- **Comprehensive Measures** – The ESCO tailors a comprehensive set of measures to fit the needs of a particular facility, include energy efficiency and in addition, can include renewables, distributed generation and water conservation.
- **Project financing** – The ESCO arranges for long-term project financing that is provided by a third-party financing company, typically in the form of a bank loan.
- **Project Savings Guarantee** – The ESCO provides a guarantee that the savings produced by the project will be sufficient to cover the cost of project financing for the life of the 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.

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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.

The methodology of Energy Performance Contracting differs from traditional contracting, which is invariably price-driven. Performance contracting is results-driven: ensuring quality of performance. ESCOs search for efficiencies and performance reliability to deliver contractual guarantees.

### 2.3 Definition of EPC and EPC provider

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<sup>4</sup> (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;”.

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<sup>5</sup>. This is in line with the EED, as in its Annex XIII, guaranteed savings<sup>6</sup> 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 follows:

“ **‘EPC provider**’ means a natural or legal person who delivers energy services in the form of Energy Performance Contracting (EPC) in a final customer’s facility or premises”

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<sup>4</sup> Directive 2012/27/EU of the European Parliament and of the Council on energy efficiency, amending Directives 2009/125/EC and 2010/30/EU and repealing Directives 2004/8/EC and 2006/32/EC was approved on 25 October 2012.

<sup>5</sup> Guarantee of energy efficiency improvement is defined by EN 15900:2010 as “commitment of the service provider to achieve a quantified energy efficiency improvement”.

<sup>6</sup> Annex XIII of the EED lists the minimum item as: „Guaranteed savings to be achieved by implementing the measures of the contract.”

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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 (for its definition see the glossary at the end of the report). Within the Transparensense texts, we use the commonly used term “ESCO” as equivalent of the energy service provider.

### 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 companies<sup>7</sup>. 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 the in 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. The remaining one respondent believes that he market has seen “*slight growth*”. One third of the 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 a third of ESCO respondents answered somewhere between 5 and 10 with another third – 2, but the final third – don’t know.

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<sup>7</sup> [http://www.changebest.eu/images/stories/deliverables/national\\_report/task2\\_1\\_latvia\\_final.pdf](http://www.changebest.eu/images/stories/deliverables/national_report/task2_1_latvia_final.pdf)

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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 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€.

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%.

## 4 Legislative framework

The Latvian legislative framework for energy efficiency in 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

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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.

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

## 5 Identified Barriers

The JRC-IE report and national report in the framework of Change Best from 2010 identified the main barrier 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.

### 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.

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### 5.1.1 General regulatory barriers

The current size of the market make 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%.

At regulatory level cross subsidies are as well as mentioned by an ESCO as a general barrier, which is distorting energy prices. District heating companies have received (and eill 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 is several municipalities, making EPC less competitive.

The Housing and Energy Conservation Bureau indicated as well as 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.

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### 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 investors. Energy efficiency projects are then 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 either directly or through the beneficiary a cash or interest subsidy. 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 (20years contracts) and that specialist funds are needed for up scaling the market.

## 6 Success factors

EPC market in the Latvia ranks among the beginner 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.

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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 homo 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.

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 (m<sup>3</sup>) 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.

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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 Latvia<sup>8</sup>. Report of Ministry of Economics of the Republic of Latvia provides the potential financial support instruments in the near future<sup>9</sup>.

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 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

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<sup>8</sup> [http://wiki.em.gov.lv/wiki/%C4%92ku\\_energoefektivit%C4%81te](http://wiki.em.gov.lv/wiki/%C4%92ku_energoefektivit%C4%81te)

<sup>9</sup> Ministry of Economics: Informatīvs ziņojums par ēku renovācijas finansēšanas risinājumiem

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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 public financing and private equity from investors. Subsidies have helped the market.

From the Transparensense survey an ESCO mentioned the importance of having specialist 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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## Definitions and glossary

Term	Definition
energy efficiency (EE)	means the ratio of output of performance, service, goods or energy, to input of energy (as defined by EED)
energy efficiency improvement	means increase in energy efficiency as a result of technological, behavioural and/or economic changes (as defined in EN 15900:2010)
energy management system	means a set of interrelated or interacting elements of a plan which sets an energy efficiency objective and a strategy to achieve that objective (as defined by EED)
energy savings	means an amount of saved energy determined by measuring and/or estimating consumption before and after implementation of an energy efficiency improvement measure, whilst ensuring normalisation for external conditions that affect energy consumption (as defined by EED)
final energy consumption	means all energy supplied to industry, transport, households, services and agriculture. It excludes deliveries to the energy transformation sector and the energy industries themselves (as defined by EED)
guarantee of energy efficiency improvement	means commitment of the service provider to achieve a quantified energy efficiency improvement (as defined in EN 15900:2010)
energy performance contracting (EPC)	means a contractual arrangement between the beneficiary and the provider of an energy efficiency improvement measure, verified and monitored during the whole term of the contract, where investments (work, supply or service) in that measure are paid for in relation to a contractually agreed level of energy efficiency improvement or other agreed energy performance criterion, such as financial savings (as defined by EED)
EPC provider	means a natural or legal person who delivers energy services in the form of Energy Performance Contracting (EPC) in a final customer's facility or premises
energy service provider /energy service company (ESCO)	means a natural or legal person who delivers energy services or other energy efficiency improvement measures in a final customer's facility or premises (as defined by EED)

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### energy service (ES)

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 (as defined by EED)