

# The JRC ESCOs Report 2018

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**The European Commission's  
science and knowledge service  
Joint Research Centre**



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# JRC ESCOs reports

The JRC produced reports in 2005, 2007, 2010, 2013, 2016, 2017 (EPC in public buildings), and 2018 (draft)

- European Commission, DG Joint Research Centre (EC DG JRC). 2005. European Energy Service Companies Status Report 2005. Authors: Bertoldi, P. and Rezessy, S. Ispra, Italy: EC DG JRC. [Download here](#)
- European Commission, DG Joint Research Centre (EC DG JRC). 2007. Latest Development of Energy Service Service Companies across Europe. A European ESCO Update. Authors: Bertoldi, P., Boza-Kiss B. and Rezessy, S. Ispra, Italy: EC DG JRC. [Download here](#)
- European Commission, DG Joint Research Centre (EC DG JRC). 2010. Energy Service Companies Market in Europe. Status Report 2010. Authors: Marino A., Bertoldi, P. and Rezessy, S. Ispra, Italy: EC DG JRC. [Download here](#)
- European Commission, DG Joint Research Centre (EC DG JRC). 2014. The European ESCO Market Report 2013, Authors: BERTOLDI Paolo, KISS Benigna, PANEV Strahil, LABANCA Nicola
- European Commission, DG Joint Research Centre (EC DG JRC). 2017. Energy Service Companies in the EU: Status review and recommendations for further market development with a focus on Energy Performance Contracting, Authors: BOZA-KISS Benigna, BERTOLDI Paolo, ECONOMIDOU Marina

# JRC ESCOs reports

- The JRC reports are based on survey (questionnaire): ESCOs, experts (e.g H2020 projects, National Energy Agencies), other
- Complemented by: national reports, when available, H2020 projects (e.g. Qualitee – good but not covering all MSs), published papers.
- In 2018 much more difficult to collect info: too many surveys.
- Major problem: lack of clear definitions (EU legislation): Energy Service, ESCO (here the main confusion), EPC

# Overall market development

<b>AT</b>	Stable	<b>IT</b>	Increasing fast
<b>BE</b>	Increasing fast	<b>LV</b>	Increasing slowly
<b>BG</b>	Stable	<b>LT</b>	Increasing slowly
<b>CR</b>	Increasing fast	<b>LU</b>	No market
<b>CY</b>	No market (kick-off now?)	<b>MT</b>	No market
<b>CZ</b>	Stable	<b>NL</b>	Increasing slowly
<b>DK</b>	Increasing fast	<b>PL</b>	Increasing slowly
<b>EE</b>	Stable	<b>PT</b>	Increasing slowly
<b>FI</b>	Increasing slowly	<b>RO</b>	Increasing slowly
<b>FR</b>	Increasing slowly	<b>SK</b>	Increasing slowly
<b>DE</b>	Increasing slowly	<b>SI</b>	Increasing rapidly
<b>GR</b>	Stable	<b>ES</b>	Increasing slowly
<b>HU</b>	Increasing slowly	<b>SE</b>	Decreasing rapidly
<b>IE</b>	Increasing slowly	<b>UK</b>	Increasing slowly

# Size of the ESCO markets in the EU (1)

	first ESCO	Number of companies	ESCO market size (EUR)
AT	1995	400 (ES); 27 (EES); 36 (ESC)	30-40 million
BE	1990	13	20-30 million
BG	1995	12	Less than 10 million
CR	2003	8-15	20 million (ES); 14 million (ESCO)
CY	2016	22	0
CZ	1993	15	9-15 million
DK	ca. 2010	4	70 million
EE	1986	4	5 million
FI	2000	15	6.5 million
FR	1800's /1937	45	13.5 billion (ES); 40-60 million (EPC)
DE	1990-1995	560 (ES); 138 (EPC)	9 billion (ES); 7.7 billion (EPC)
GR	ca. 2003	86 (3 providing EPC)	NA
HU	1990s	10 (5 EPC)	NA
IE		25	20 million

## Size of the ESCO markets in the EU (2)

	first ESCO	Number of companies	ESCO market size (EUR)
<b>IT</b>	early 1980s	1500 (ES); 340 (ESCO)	2 billion
<b>LV</b>	2001	60 (ES); 3-6 (ESCOs)	2-3 million
<b>LT</b>	1998	NA	NA
<b>LU</b>	1990s	NA	NA
<b>MT</b>	not yet	NA	NA
<b>NL</b>	mid 2000	57 (EPC): 28 public, 27 private	90-150 million
<b>PL</b>	1995	25 (ES), 20 (EPC)	na
<b>PT</b>	n/a	12-15	50-100 million
<b>RO</b>	1996	7-13	47 million
<b>SK</b>	1995	20-50 (ES), 8 (EPC)	NA
<b>SI</b>	2001	10 (4 EPC providers)	25 million (EPC in public sector only)
<b>ES</b>	n/a	70	1-1.5 billion
<b>SE</b>	1978	~20	3.79 (Public sector) million
<b>UK</b>	1966	136 (EES); 62 (ESCOs);	108.3 million

# Key barriers (1)

## ***Lack of trust from the (potential) client***

inhomogeneous ESCO offers in the market, lack of competition, lack of experience of clients, ESCOs and financial institutions, absence of credible and visible reference cases with a clear client focus, unclear definitions and failed contracts, and unstandardized measurements and verifications

- **Austria, Belgium, Estonia, Finland, France, Hungary, Lithuania, Poland, Portugal, Slovakia, Slovenia, Sweden and UK**

## ***Information and awareness***

Absence of best practice examples and their positive impact, lack of knowledge among potential clients regarding the economic potential of energy savings continues to impede the uptake of energy contracting projects, lack of knowledge and awareness

- **Austria, Estonia, Lithuania, Spain and Sweden.**

## ***Inexperience of actors***

Lack of technical knowledge, handling of technical risks, lack of experience in procurement

- **Austria, Lithuania, Greece and Ireland.**

# Key barriers (2)

## ***Ambiguities in the legislative framework***

Remaining lack of regulation on the ESCO services (infrastructure vs. service), on-balance sheet vs. off-balance sheet solutions

- **Bulgaria, Estonia, Latvia, Lithuania, the Netherlands, Poland and Romania.**

Lack of financial support or incompatibility with the existing support schemes (competition)

- **Bulgaria, Croatia, Greece, Ireland, Italy and Latvia.**

Unclarity on application of new Eurostat rules was identified as a barrier:

- **Belgium.**

## ***Market and external***

High transaction costs due to small size of projects

- **Estonia, Finland, France, Germany, the Netherlands, Portugal.**

# Selected drivers

- 3% of public building renovation (EED Art. 5) in combination with Energy Efficiency Fund: Lithuania, Cyprus, Bulgaria, Croatia, Italy
- Grants (e.g. EIB ELENA, Energy Efficiency Fund): Croatia, Czech Republic, Germany
- ESCO associations play an important role (as facilitators or market intermediaries): Belgium, Czech Republic and
- Information instruments (such as information campaigns, best practice examples): Czech Republic, Denmark
- Role of municipalities: in Denmark, for example, many municipalities have made use the energy services to promote energy efficiency and energy savings, primarily in connection with the energy optimization of the municipalities' existing buildings.
- White certificates: Italy, Poland. In Italy, as example, the significant revenue increase for the ESCO market is due to the legislative reform that took place in 2012 concerning white certificates when extra savings started being attributed as a premium for large energy efficiency projects implemented at industrial sites.
- Procurement framework: Spain, UK. In the UK, for example, the market for energy performance contracts is most developed in the public sector, in part driven by procurement frameworks for energy performance contracts.

# Implementation of Art. 18 related to ESCOs (1)

country	Disseminating info on available energy service contracts which provide guaranteed energy savings	Disseminating info on financial instruments to support EE service projects	Encouraging the development of quality labels for ESCOs or their services	Providing model contracts for EPC	Providing information on best practices energy performance contracting	Providing information about the current and future development of the energy services market	Remove the regulatory and non-regulatory barriers that impede the uptake of EPC and other ESCO services	Enabling independent market intermediaries (e.g. EPC or procurement facilitators, one-stop shops) to play a role in stimulating market development
Austria	(+)		+	+	+	(+)		
Belgium	+	+	(+)	(+)	+			+
Bulgaria	+	+						
Croatia	(+)	(+)	+	(+)	(+)	+	(+)	+
Cyprus	(+)	(+)		+			(+)	+
Czech Republic	+	+		+	+	(+)		+
Finland	(+)	(+)	+	(+)	(+)	(+)	(+)	(+)
France	+	(+)		+	+	(+)	(+)	(+)
Germany	+	+	(+)	+	(+)	+	(+)	+
Greece	(+)	(+)	(+)	+	(+)	(+)	(+)	(+)
Hungary								
Ireland	(+)	(+)		(+)	(+)	(+)	(+)	(+)
Italy	(+)	(+)		(+)	(+)		(+)	
Netherlands	+	+		(+)	+	(+)		+
Poland	+	(+)			(+)	+		
Portugal		(+)	(+)	(+)				
Romania	+	(+)			(+)	(+)		
Slovenia	+	+	(+)	+	+	(+)	+	(+)
Spain	+	(+)	+	+	+	(+)	+	(+)
Sweden	(+)		(+)	(+)	(+)	(+)	(+)	(+)
United Kingdom	(+)	(+)		+	(+)	(+)		+

+ = implemented successfully

(+) = implemented with questions on success

Note: no data for all MSS

# Implementation of Art. 18 related to ESCOs (2)

- Implementation is very patchy. There are large number of provisions that are not (yet) transferred in MSs;
- Almost all MS have evaluated at least one provision as successful, except for Greece, Croatia, Hungary, Ireland, Italy;
- Information provision is typically done bottom-up, mostly by the ESCOs themselves, or by intermediaries where these exists. Furthermore, international projects are common to organise such activities and trainings;
- Information dissemination is reported as successful in Austria\*, Belgium, Czech Republic, France, Germany, the Netherlands, Poland, Slovenia, Spain.
- For example, a successful EPC dissemination project was reported in Flemish Brabant;
- In Austria information dissemination is not done at national level, but by intermediaries and companies. \* Respondents in Austria report very different experience, probably due to different territorial successes
- Dissemination by companies is very common, especially in small and emerging markets (Hungary, Croatia, Portugal, etc.)

# Implementation of Art. 18 related to ESCOs (3)

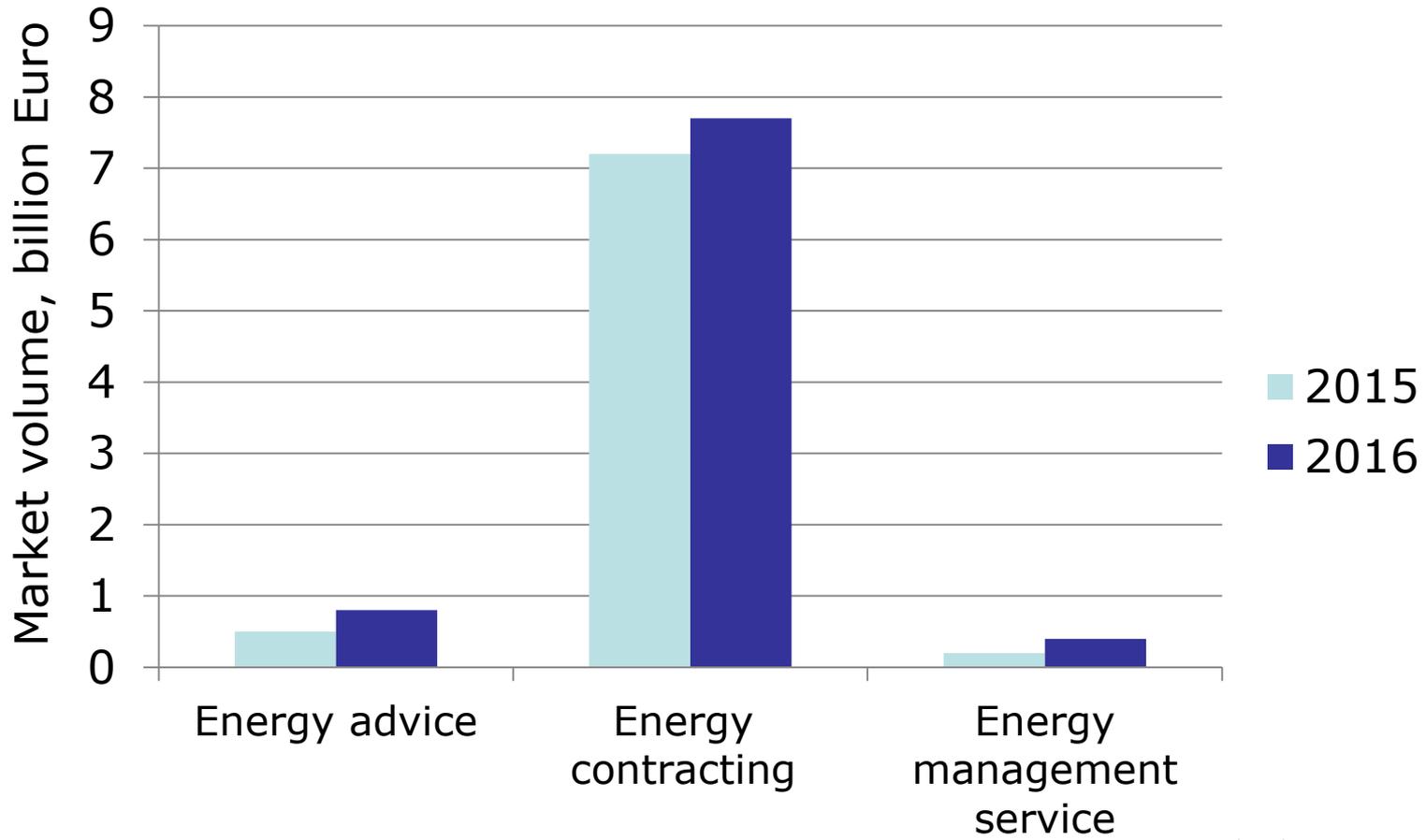
- Information on financial instruments is successful in Bulgaria, Belgium, Czech Republic, Germany, the Netherlands, Slovenia.
- Information on best practices is successful is Austria, Belgium, Czech Republic, France, the Netherlands, Spain and Slovenia.
- Provision of information about current ESCO market and future expectations is considered successful by market actors in Croatia, Germany and Poland.

# Implementation of Art. 18 related to ESCOs (4)

- Successful quality labels are available in Austria, Czech Republic, Finland, and Spain.
  - Usually developed markets focus on quality schemes in order to further develop or “clean” the markets.
  - Plans on this are reported by a number of MSs.
  - The Code of Conduct is available and signed in over 20 MSs, which can be considered as a predecessor of a quality scheme.
- Model contracts that are successful are published in Austria, Cyprus, Czech Republic, France, Germany, Greece, Slovenia, Spain and the UK.
  - Recent activity in developed markets has been focused on this development, as well as MSs with emerging markets, such as Cyprus and Greece also considered model contracts among their priorities.
  - Model contracts in Austria were publicly funded.
- Regulatory barriers have been successfully removed in Slovenia and Spain.
- Intermediaries are successfully enabled in Belgium, Croatia, Cyprus, Czech Republic, Germany, the Netherlands, and the UK.
  - The role of the project facilitator is not fully recognised or officially supported in Ireland.

# Germany – market status

- Well-developed energy services market
- Increased slowly from 2015 to 2018
- Number of all energy consulting, energy contracting : ca. 13,000; 560 ESCOs, 138 EPC providers
  - municipal- or other energy companies: 60%
  - contracting businesses: 16%
  - energy consulting/engineering: 11%
  - manufacturing/technical facility suppliers: 3%
  - other providers (real-estate companies and facility managers, energy agencies and certifiers): 11%
- Market volume of energy services (energy advice, energy contracting and energy management services): ca. EUR 9 billion (2016)\*
- Energy supply contracting: 75%; EPCs: 25% (growth); most common contract: is EPC with shared savings
- Clients: (1) real-estate sector, (2) public sector, (3) residential



# Germany – key drivers and barriers

## Drivers:

- SMEs expect cost advantages through lower energy costs and electricity tax savings
- environmental and climate protection
- non-SMEs benefit from tax reliefs relating to electricity tax and EEG surcharge when introducing an energy management system (EEG = Renewable Energy Act)
- support programmes:
  - BAFA (Federal Office for Economic Affairs and Export Control) offers subsidies for start-ups ("Einsparzähler" programme): research co-funding for ESCOs
  - Subsidies for facilitation provided at federal level.
  - EIB ELENA funding has contributed to the development of the market.

## Barriers

- Lack of market transparency
- Opportunistic market: many small start-ups provide business models not matching with the classic energy supply and energy savings performance contracting.
- Complexity of energy conversion: requirements for the energy supply of buildings and communities are becoming more and more complex and can hardly be handled by building owners and users.

# Germany – Art. 18

- Energy Efficiency Directive (Art. 18) – positive impact on ESCO market according to 70% of respondents
- Other positive regulatory impacts: financial incentive, CoM, white certificates/EEOs, taxation rules/rebates, official certification scheme of energy service providers and procurement rules

# Germany – recommendations

- Contracting competence centres on regional or local level
- Financial support for facilitation
- Directive to use contracting in public business
- More stable regulation over time. Potential clients want stable laws for longer time
- Mandatory savings in every contract
- Tax incentives for energy-oriented building renovation (as discussed for a long time already by the federal government)

# Finland – market status

- ESCO market is small, slow increase since 2015;
- 15 ESCOs (listed on Motiva);
  - private national and private international companies;
  - wide range of ESCO service types;
  - Clients: public buildings (schools, kindergardens, universities), offices (e.g. municipalities), private commercial buildings, industry sites, processes; some multi-apartment buildings
- Promotion of energy services is largely done by Motiva
- Tekes (Finnish Funding Agency for Innovation) provides support programmes:
  - Witty City programmes (2013–2017, EUR 100 million)
  - Smart Energy (2017–2021, EUR 200 million)
- Subsidized ESCO projects in Finland: EUR 6,5 million (8 projects)

# Finland – key barriers and recommendations

## Barriers

- small size of projects and high transaction costs;
- lack of trust from the (potential) clients;
- existence of in-house technical expertise, and
- Low experience of actors.

## Recommendation by survey respondents:

- more examples of successful ESCO projects and their disseminations

# Netherlands – market status

- Well-developed energy services market
- Increased slowly from 2015 to 2018;
  - 57 EPC projects: 28 public + 27 private (in 2016);
  - 600 ESCOs
  - ESCO list on the internet: 41 suppliers;
  - EPC Code of Conduct signatories: 40
  - Typical: private national and private international;
  - Clients: (1) public buildings (hospitals, education buildings and offices), (2) commercial office buildings and hotels, (3) public lighting, (4) industry sites and processes, (5) sport accommodations
- Foreseen to grow more rapidly in the coming years;

# Netherlands – key drivers and barriers

## Drivers:

- Current and upcoming legislation on energy efficiency measures and energy performance of offices;
- Banks/financial institutions are promoting energy efficiency measures via Real Estate Finance loans
- Cost-profit ratio tendering is gaining preference;
- Promotion and information dissemination by Netherlands Enterprise Agency (NEA);
- Contract template + Awarding of Contracts Guideline + white papers

## Barriers

- Lack of knowledge in financial institutions.
- Lack of urgency to energy efficiency in buildings.
- Lack of financial schemes or small subsidies to hire EPC facilitators.

# Netherlands – recommendations

- Strict legislation including effective enforcement.
- Improve the knowledge in financial institutions.
- Increase the awareness about the urgency and importance about energy efficiency in buildings.
- Create financial schemes or small subsidies to hire EPC facilitators.

# Thank you for your attention!

## Your comments are most welcome

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