Energy Services Market in the EU: NEEAP and EED Implementation

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Introduction

- The JRC regularly publishes information about the ESCO markets since 2005.
- The JRC ESCO market status reports are published every 3 years to provide a snapshot of the key developments of the national and the EU markets.
- The ESCO report collect information about the market features and structures, barriers, policy background, financing opportunities and future expectations.
- The reports also summarize the findings at a European level, collect common barriers and success factors, and compare and contrast the national markets.
- Last report completed in 2013. The present paper is based on the assessment of the 2014 NEEAP and 2015 ESCO questionnaire.

Energy Efficiency Directive

- The ESD stressed the importance of managing end-user demand for energy with cost-effective measures, in particular relying on the energy services markets, and by setting improvement targets.

- The provisions of the ESD were strengthened with the introduction of the EED in 2012, which set explicit requirements to promote the market of energy services through its Article 18.

- The EED provides definitions for energy performance contracting, energy services and energy service providers and calls for Member States to take concrete actions:

EED Art. 18 requirements for MSs

- Disseminate information on available energy service contracts and clauses as well as financial measures supporting energy efficiency service projects;
- Publish EPC model contracts and list of available energy service providers;
- Encourage the development of quality labels;
- Disseminate information on best practices for EPCs;
- Provide a qualitative review of the current and future development of the market;
- Identify and publicise contact points for final customers;
- Consider putting in place an independent mechanism for handling complaints and disputes;
- Enable independent market intermediaries.

Other EED articles relevant for ESCOs

- Article 5, calling for renovation of 3% of the national central government building stocks, can, inter-alia, promote the use of energy services in the public sector.
- Article 7 enables additional actors such as ESCOs to contribute towards meeting the end-use target imposed on the energy companies.
- Article 8 imposing mandatory energy audits for large companies offers a boost for the uptake of energy consultations, a key segment of the energy services market.
- Article 19 calls for MSs to evaluate and, if necessary, take appropriate measures to remove regulatory and non-regulatory barriers to energy efficiency in particular in relation to EPC in the public sector with regards to public purchasing, annual budgeting and accounting.
- Article 20 on the establishment of an Energy Efficiency National Fund may also include dedicated streams of financing to support the uptake energy services projects.

Terms and definitions

- The **ESD** describes an ***ESCO*** as natural or legal person that delivers *energy services and/or other energy efficiency improvement measures* in a user's facility or premises, and accepts some degree of financial risk in so doing.

- The **EED** defines the ***energy service providers*** as any natural or legal persons delivering energy services and/or other energy efficiency improvement measures.

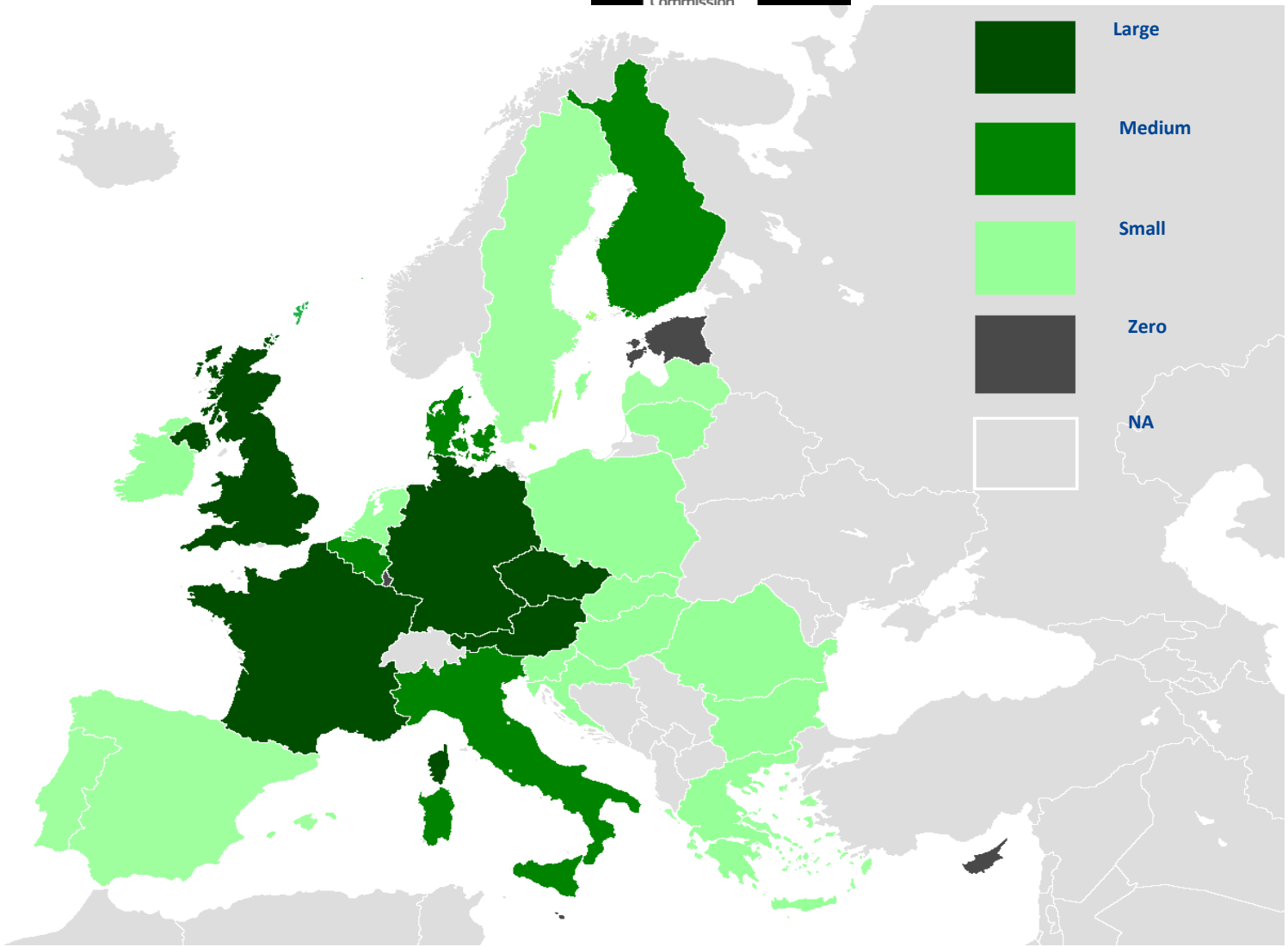
- ***Energy Services*** **(ESD, EED)**: The physical benefit, utility or good derived from a combination of *energy with energy efficient technology* and/or with action, which may include the operations, maintenance and control necessary to deliver the service, which is delivered on the basis of a contract and in normal circumstances has proven *to lead to verifiable and measurable or estimable energy efficiency improvement and/or primary energy savings.*

- ***Energy Performance Contracting*** **(EED)**: 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

ESCO market size and maturity (1)

- The size of the EU energy services market is not known. The Economist Special Report Energy and Technology 2015 stated that the European ESCOs were a €41 billion industry in 2014, a figure which is much higher than the corresponding figures of America and China at $6.5 billion and $12 billion, respectively.
- The JRC 2013 report found that Germany, France, Austria, the Czech Republic and the UK currently have the most active markets.
- Italy, Belgium, Finaland and Denmark (and to a lesser extent Spain) were found to have medium-size markets.
- ESCO markets of Estonia, Malta, Cyprus, and Luxembourg were found as non-existent.
- All other MSs markets were identified as small.

ESCO market size and maturity (2)



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ESCO market size and maturity (3)

- Information on the current and expected trends were also included in the 2014 in the NEEAPs.
- In **Germany**, a rapid growth of the energy contracting market has been observed in recent years (with corresponding annual rates of 8-14%) and positive future expectations stress the importance of energy service contracting an a means of tapping into the energy efficiency potential through market mechanisms.
- The **Belgian** market is at a growing stage. In the Netherlands a rise in the EPC, mainly due to increasing public sector awareness and activity,is expected.
- In the **Czech Republic**, future expectations outline the provision of 30-50 EPC-based projects based on guaranteed savings (currently at 10-15 projects per year).
- In **Spain**, an analysis based on a sample of 36 energy service companies showed that the business volume in this activity grew by just over 10% in 2012, a rate that has been maintained in 2013 despite the economic crisis.
- Energy performance contracting has experienced a surge over the last few years in **France**, with national regulations creating favourable conditions.

ESCO market size and maturity (4)

- **Austria** has reported a slight decline in the EPC but the potential of energy contracting remains significant.

- In **Poland**, the volume of ESCO projects in the public administration sectors has decreased in recent years, despite the sector being one of the most important segments of the ESCO market in the country.

- **Sweden** has reported a significant increase in the volume of energy services procured in the public sector in the period 2006-2011 with an average SEK 40 million procured every year. However, less than 10 EPCs have been noted in recent years, despite the total number being in the order of hundred since 2000.

- **UK** considers that its current market is only at emerging stage, the nation-wide implementation of the Greater London Authority RE:FIT programme has been a driving force for the development of the market. Through this programme, contracts totalling GBP 27 million have been completed, with an estimated GBP 51 million in the pipeline and a further GBP 25 million by the end of 2014/2015.

ESCO market size and maturity (5)

	Investment volume	Number of projects		Investment volume	Number of projects
AT		15-20 EPCs in 2014 (370 in 2014-2020); 30-35 ESCs in 2014 (505 in 2014-2020)	IE		
BE	€1.5 million for EPCs (currently)		IT	€3.5-4 billion per annum is the total turnover of ESCOs (members of ASSISTAL)	
BG			LT		
CY		2 EPCs in 2014	LU		
CZ	€10 million yearly	10-15 EPCs yearly (200 projects over 20 year span)	LV		
DE	€1.6-2 billion market volume for entire contracting market (2010)	Around 200 (mostly ESCs)	MT	No investments	Energy contracting is not currently practiced
DK			NL		
EE			PL	PLN 40-100 million turnover (2011)	
EL			PT		
ES	Around €1 billion yearly		RO		
FI			SE	SEK 40 million (underestimate) yearly	10 EPCs in recent years
FR	€189 million (2013)	143 EPCs	SI	Poorly developed market	
HR			SK		
HU			UK	GBP 180 million	

Actors, contracts and sectors (1)

- Only **11 Member States** (AT, CY, CZ, DK, FI, GR, LU, NL, PL, SP and the UK) have provided information about lists of energy service providers, while HR, SE and SK stated that they have plans to do so.

- **Germany** is the leader with 500+ ESCOs. At the same time, there are large differences between these contractors in terms of offered services, company size and scale of undertaken projects, with only 25% of the German ESCOs having energy service contracting as their main business activity.

- **Spain** has reported a large number of energy service providers. There are in total 968 registered ESCOs in Spain, a number which has been on the rise since 2010, mainly due to the active promotion and support of this business model in the market. It should be noted that these are likely to fall under the more generic energy efficiency services (i.e. energy service providers) rather the strict definition of ESCOs (specialising in energy performance contracts).

Actors, contracts and sectors (2)

- The 41 active contractors in Austria can be categorised as general firms focusing on energy services (13), energy supply companies (9), technical building system firms (10), engineering offices/planners (5) and consultancy firms (2).

- In Belgium the number of ESCOs has remained stable (at around 10-15) over the last few years. A distinct feature of the Belgian market is that four ESCOs are public.

- In Bulgaria, 5 ESCOs are registered with the Sustainable Energy Development Agency (SEDA, 2015), while in Cyprus there are now 8 ESCO companies officially registered on the responsible ministry's website.

- Greece, Lithuania, Luxembourg have only a few ESCOs currently on the market as ESCOs and EPC-based projects are a relatively new concept.

Actors, contracts and sectors (3)

- About two thirds of the German contractors are SMEs with fewer than 250 employees.
- The vast majority of Spanish ESCOs fall under the SME profile (93%).
- In Italy, 95% of the enterprises are SMEs.
- A large share of SMEs is also observed in the registries of ESCOs in Greece and Cyprus.
- Only in Belgium there is a more balanced share with 6 large companies (sister companies of large international companies) and 5-7 SMEs.

Actors, contracts and sectors (4)

- In **Germany** 86% of all contracting agreements in 2012 were for energy supply contracting, 9% for energy saving contracting (EPC), 2% for financing contracting and 3% for management contracting (VfW, 2013).

- In **Austria**, both forms of energy contracting have been popular, with both types of contracts gaining significant momentum in the early 2000s. This was followed by a slight decline, which began later in the case of energy supply contracts.

- In **Lithuania** and several other Central-Eastern European countries, "chauffage" contracts are more popular.

Actors, contracts and sectors (5)

- ESCOs have been the most active in the **buildings sector**, and in particular in commercial and the public buildings. Nearly all ESCOs target energy contracting offerings to **large customers**, partly explained by the large transaction costs of energy performance contracts.

- Among non-residential customers, ESCOs have had most success in **public and institutional sector** such as federal, state and local government facilities, schools, universities/colleges and hospitals. Street lighting is also common.

- There are only a few countries where there is a significant ESCO market for **commercial buildings**, including Italy, Netherlands, Germany, Spain; UK while in a few underdeveloped ESCO markets, it happens that among the few projects, offices and other commercial buildings receive a small share, too, i.e. in Hungary, Ireland, Estonia

Types of ESCO firms

	ESCOs	Energy advisors*	Other ES suppliers		ESCOs	Energy advisors	Other ES suppliers
AT	41	388	71	**IE**			
BE	10-15			**IT**	390		
BG	5			**LT**	"A few"		
CY	8	47		**LU**	"A dozen"		
CZ	15			**LV**			
DE	500	14000		**MT**	0		
DK			512	**NL**	41		
EE	"A few"			**PL**	28/88		
EL	28			**PT**			
ES	968 ESPs			**RO**	20	100	
FI	6			**SE**			
FR				**SI**	4-6		
HR	10			**SK**			
HU	7	10		**UK**	13 under RE:FIT scheme		

Sectors targeted by ESCOs in MSs 2013-2014

	Industry	Public sector	Non-residential buildings	Resid. buildings		Industry	Public sector	Non-residential buildings	Resid. buildings
AT		***	*		IE		*	*	
BE	**	**			IT	***	**	**	*
BG		***			LT		*	*	**
CY		*			LU				
CZ		***	*		LV				
DE	**	***	**	*	MT				
DK	*	***	*	*	NL		***	***	
EE	*		*		PL		***		
EL					PT	***	***	**	
ES	**	***	*		RO	*	**	*	
FI	*	***	*		SE		**		
FR		***	*	*	SI	*	**		
HR	*	**			SK	*	*		
HU	**	**	**	*	UK	***	***	***	*

Policies and measures supporting the energy services market

- Several MSs have specific legislations for facilitating the development of the energy services market and other policy measures.
- A few countries have in place financial instruments promoting energy services in various sectors.
- Many countries have in place information, knowledge & advice measures to raise awareness on the benefits of the use of energy services.
- These include the development of contracting portal (e.g. Austria), various dissemination activities (e.g. Spain, Finland, Croatia, the UK) and stakeholder consultations with the banking sector (e.g. Latvia). Ireland has set up the comprehensive National Energy Services Framework, providing guidance on project development, etc. Pilot projects are also planned by some countries. These include Ireland through its Better Energy Financing scheme and Cyprus with two ongoing pilot ESCO projects in the public sector.

Policy measures related to the energy service market mentioned in (NEEAPs 2014)

	Registry of ESPs	Legislative measures	Financial Instruments	Information, knowledge & advice	Other measures (e.g. pilot schemes)
AT	✓		✓	✓	✓
BE					
BG		✓	✓		
CY	✓	✓			✓
CZ	✓	✓	✓	✓	
DE		✓			
DK	✓			✓	
EE		✓			
EL	✓	✓		✓	
ES	✓	✓	✓	✓	
FI	✓		✓	✓	
FR					
HR	p	✓	✓	✓	
HU					
IE				✓	✓
IT		✓	✓		✓
LT		✓			
LU	✓				
LV		✓		✓	
MT					
NL	✓			✓	
PL	✓	✓			
PT					
RO		✓		✓	✓
SE	p				
SI			p		
SK	p				
UK	✓			✓	

Public procurement, annual budgeting and accounting

- As energy savings are a central focus of an EPC, it is important that obstacles related to public procurement and accounting are removed to allow the public sector to engage in energy performance contracting.

- To support this, the EED has called MSs to take measures, regarding public purchasing and annual budgeting and accounting, with a view to ensure that individual public bodies are facilitated to make investments in improving energy efficiency and use long-term energy performance contracting.

- Only Austria, Spain, Sweden and the UK provided information, while Germany, Finland and the UK stated that no legislative barriers preventing the public sector from accessing ESCO services exist.

- In the UK, it was decided that guidance on the precise accounting treatment of energy efficiency projects was helpful and a toolkit to assist public organisations develop business cases for energy efficiency investments is to be now considered.

Conclusions (1)

- The ESCO market in Europe has seen an impressive development in the last 5-10 years. The number of ESCOs and ESCO projects has been on a growth path.

- Large array of policy instruments have been designed to further promote ESCOs and EPC. Policy instruments are partially based on the requirements from EU Directives, but the EU itself has also contributed with specific projects, on awareness raising, project financing, piloting, and providing financial support or guarantees.

- As a result, ESCOs have become an acknowledged and applied alternative for construction project financing, management, quality assurance and risk management in several countries.

Conclusions (2)

- The ESCO concept remains almost unknown and/or unutilized in some MSs, as a result of poor policy implementation, fear of the "new" concept, legal barriers, lack of construction projects in general.

- In the countries with a strong ESCO sector, such as Germany, Austria, the Czech Republic, France, UK (and recently in Belgium and Italy), these ESCO markets have matured significantly, and they are backed with a stable policy system, and it is possible to carry out projects in smaller scale investments, longer pay-back, or bundle buildings into a larger set.

- It gives an opportunity to do ESCO projects in the commercial buildings sector, and refurbish office-buildings, hotels, shopping malls, etc.

Conclusions (3)

- There is another tendency, in countries with less developed ESCO markets, that non-residential private buildings receive an equal or higher interest from ESCOs than the public sector. A reason for this lies with the fewer legal barriers the partners (ESCO and the client) have to overcome outside public procurement and public management.

- While ESCOs could provide a crucial share of energy renovation of public buildings and sites, as soon as the market value of this solution is apparent, they can become an important player for commercial buildings. EU and national policies should work towards moving ESCO projects to a market basis as much as possible.

Thank You for Your Attention

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