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Energy Performance Contracts in the public sector

Expert areas:
EA 8 Energy Services and ESCOs
EA 13 Finance
EA 14 Information and training

Working Document 2.2

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1 Abbreviations

Table 1: Country codes for the Member States

Country code	Member State
AT	Austria
BE	Belgium
BG	Bulgaria
CY	Cyprus
CZ	Czech Republic
DE	Germany
DK	Denmark
EE	Estonia
EL	Greece
ES	Spain
FI	Finland
FR	France
HR	Croatia
HU	Hungary
IE	Ireland
IT	Italy
LT	Lithuania
LU	Luxembourg
LV	Latvia
MT	Malta
NL	Netherlands
NO	Norway
PL	Poland
PT	Portugal
RO	Romania
SE	Sweden
SI	Slovenia
SK	Slovakia
UK	United Kingdom

Table 2: Miscellaneous abbreviations

Abbreviation	Full text
CA EED2	Concerted Action 2 supporting implementation of the Energy Efficiency Directive 2012/27/EU
COM	European Commission
EE	Energy efficiency
EED	Energy Efficiency Directive
EPC	Energy Performance Contract
MS	Member State (including Norway in this report)
WG	Working Group
NCP	National Contact Point for the EED

2 Introduction

According to EED Art. 18 MS shall support the energy services market. One area that is mentioned specifically is that MS shall support the public sector in taking up energy service offers, in particular for building refurbishment. The purpose of this working document is to give insights into how this requirement is being met. The working document is based on a questionnaire sent to MS in January 2018.

2.1 Background

Some parts of Article 18 have already been discussed in CA EED such as list of energy service providers, quality label, handling of complaints (CA EED WG 5.7) and model contract and guidelines for energy performance contracts in the public sector (CA EED WG 2.5/5.5). One of the main conclusions of these discussions was that awareness amongst all the parties and stakeholders involved is one of the key triggers for the uptake of Energy Performance Contracts (EPC). It was concluded that targeted support/information programmes are needed.

A major challenge for public authorities has been the EUROSTAT accounting rules for EPC (on- or off-balance sheet). In 2017, Eurostat published a new guidance note for EPC accounting. The guidance note is expected to increase the possibilities for public bodies to use EPC contracts, by including and clarifying the circumstance in which these contracts can be recorded off government balance sheets. A “practitioners guide” that builds on and explains the guidance note is currently being developed jointly by Eurostat and the EIB and will be presented at the PM.

According to past and on-going EU-projects (e.g. "Transparense"/ European Code of Conduct for EPC; "Streetlight-EPC"; "2020 Together"; "ENPC Intrans", "MARTE", “L-CIF”, “GuarantEE”), the barriers to EPC mainly evolve from a lack of trust, complexity of risks and benefits of EPCs, debt accounting issues, difficult procurement processes, incompatibility of EPC with structural/ national funds and lack of regulation and clear guidelines at MS level. The projects however also show that innovative approaches to overcome these barriers do exist. For example, the use of the Code of Conduct shared with stakeholders at national and European level can provide necessary information and give more confidence to the client (e.g. client tailored provisions can be added to the contract) and at the same time is a way to disseminate information on EPC and act as a marketing tool for the ESCO. Under other projects, like MARTE for example, funds were established combining and linking regional funding with ESCO financing.

The development of supporting documents and templates for ESCOs was raised by NCP’s at the NCP meeting during the PM in Sofia in October 2017 as a relevant topic for CA EED. In particular there seems to be a need for sector-specific methodological documents for EPC.

2.2 Objective

This working group will focus on ways to increase the use of EPC in the public sector. At the Plenary meeting, the objective is to:

- discuss how the identified barriers related to the uptake of EPC:s in the public sector can be overcome.
- present the new Eurostat guidance note for EPC accounting and discuss to what extent this can help overcome some of the obstacles and promote the uptake of EPC:s in the public sector.
- identify and share good practices for awareness raising and information strategies related to EPC:s.

The main focus of this working group is on Art 18.1 d which states that “Member States shall promote the energy services market and access for SMEs to this market by: … *supporting the public sector in taking up energy service offers, in particular for building refurbishment, by:*
(i) providing model contracts for energy performance contracting which include at least the items listed in Annex XIII;
(ii) providing information on best practices for energy performance contracting, including, if available, cost- benefit analysis using a life-cycle approach;

And 18.2 b which states that “*Member States shall support the proper functioning of the energy services market, where appropriate, by:...*

(b) taking, if necessary, measures to remove the regulatory and non-regulatory barriers that impede the uptake of energy performance contracting and other energy efficiency service models for the identification and/or implementation of energy saving measures;”

3 Conclusions and recommendations

The answers to the questionnaire shows that EPCs are only used to a limited extent in the public sector in EU MS. EPC's are mainly used for the refurbishment of municipal and governmental buildings and for streetlighting.

Less than half of EU MS benefit from a common point of contact gathering all needed information such as an observatory. As regards standardised documents, such as model contracts, a majority of MS have these.

MS are generally aware of the updated Eurostat guidelines but most MS have not yet decided how to change/adapt standardised documents such as model contracts for EPC following the revised guidance note.

Various means are used to tackle the main barriers to EPCs implementation but few of them seem to tackle the methodological and skills issues. The JRC has listed the barriers for EPC in the public sector in each MS in table 10 in this report *http://publications.jrc.ec.europa.eu/repository/bitstream/JRC106625/kjna28602enn.pdf* .
In addition to these barriers, MS raised the following examples of barriers:

- Political decision-makers are often unaware of the advantages of a continuous energy management and of the fact that an ESCO would implement it. (DE)
- Projects are often too small to reach a critical volume to be worth becoming an EPC-project. (AT)

Despite the relatively limited use of EPC in the public sector, a majority of MS have good examples to share and a selection of these will be presented at the PM in Vienna in March 2018.. In preparation for the discussion at the PM, a few preliminary recommendations are presented below.

It is important to build trust between the energy service provider and the public authority, and a mutual understanding is important. EPCs are complex and require knowledge from both parts. Especially for smaller public authorities, such as small municipalities, there can be a lack of knowledge as regards EPC.

A recommendation that can be given to MS is to follow the example of those MS who have introduced some kind of EPC facilitation, where the example of DE should be stressed but also other examples are available such as NL. Also, a recommendation is to establish some kind of EPC observatory, where DE and FR can serve as examples.

To overcome the barrier mentioned above, when projects are too small to be worth becoming EPC-projects, the use of aggregators could be an option.

In many cases, energy savings is only one of the benefits of an EPC. Reduced maintenance costs and increased comfort of buildings are side benefits that can be achieved through an EPC. These additional benefits should be made visible to the project owners.

The procurement process of an EPC is cumbersome and steps should be taken to facilitate and streamline this process, i.e through standard contracts. Most MS have standard contracts and a recommendation is to make sure that they are up to date, for instance in relation to the updated Eurostat guidelines.

At the same time, the focus should not only be on the procurement as such. It is recommended that the energy service providers pay enough attention to the development of the project as such, and the needs of the public authority.

4 Questionnaire results

A questionnaire was sent to MS in January 2017 and the following 25 MS replied to the questionnaire: AT, BG, CY, CZ, DE, EE, EL, ES, FI, FR, HU, IE, IT, LT, LV, MT, NL, NO, PL, PT, RO, SE, SI, SK, UK.

The objective of the questionnaire was to collect information related to the implementation of article 18 on Energy Performance Contracts in the public sector. The answers to the questionnaire are presented below.

For the convenience of the reader, this chapter gives a general overview of the answers in combination with a selection of additional explanations from individual Member States. For a complete overview of the individual Member State responses to the questionnaire please see the respective section in the Appendix.

4.1 The use of Energy Performance Contracts (EPCs)

Question 1: To what extent does the public sector use Energy Performance Contracts in your country?

Answer: **A little!** 19 MS indicated that EPCs are used a little in the public sector. Only in 4 MS: CZ, SI, UK and FR is EPC being used a lot in the public sector. MT and CY don't use EPC at all in the public sector. See graph below.

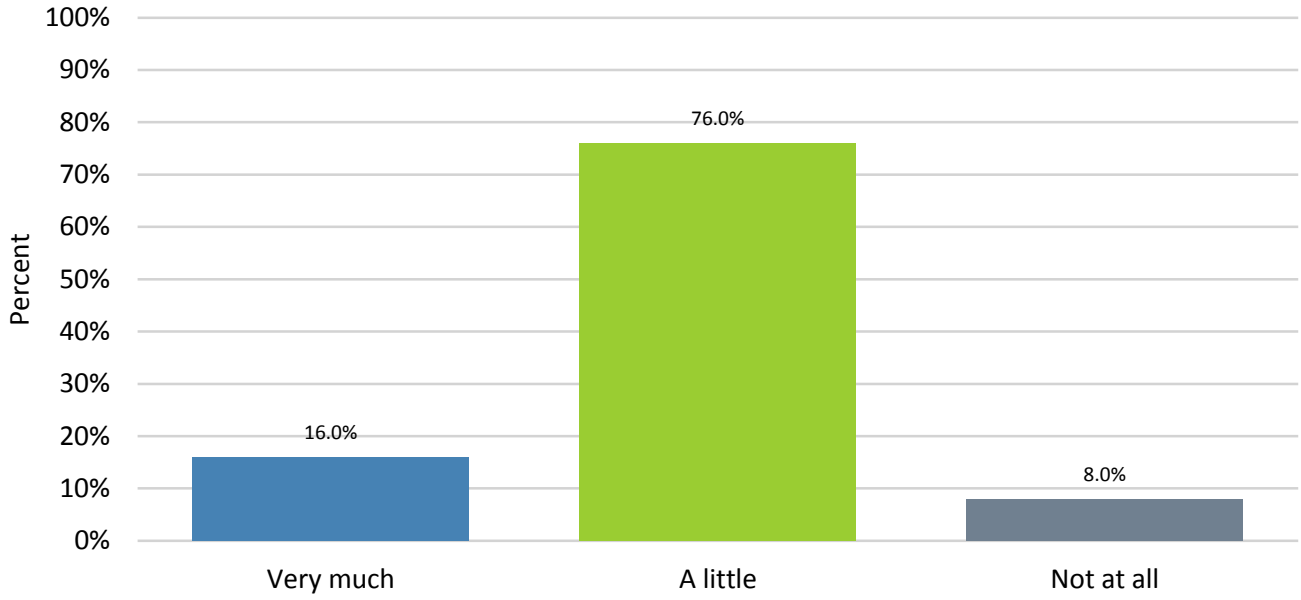

Figure 1. Answers to question "To what extent does the public sector use Energy Performance Contracts in your country?"

Question 2: For which areas are EPCs in the public sector used in your MS?

Answer: **various**. EPCs are used in the public sector to implement energy efficiency projects in many different areas but the most popular projects are related to the refurbishment of municipal and governmental buildings (87,7%) and schools (66,7%) as well as investments on energy efficient street lighting (70,8%). See detailed graph below.

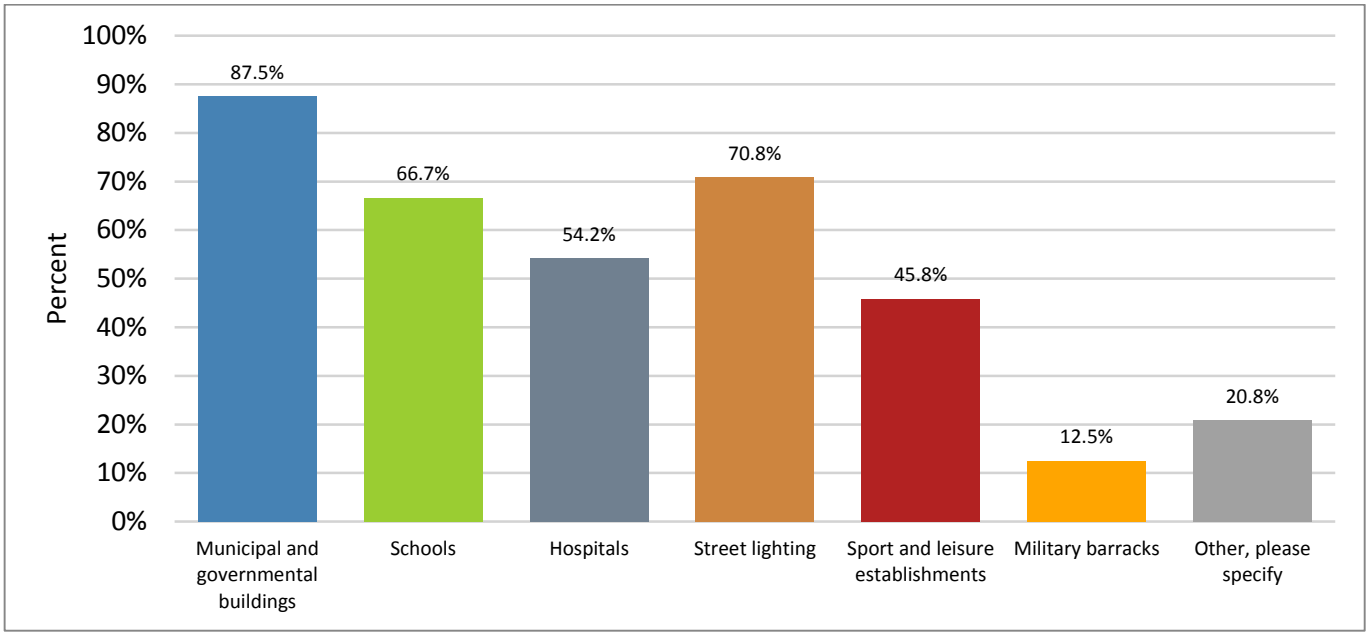

Figure 2. Answers to question "For which areas are EPCs in the public sector used in your MS? (multiple choice option)"

In the category "other" MS mentioned kindergartens, elderly facilities and care institutions as well as residential buildings owned by public institutions.

4.2 Standard documents and Eurostat guidelines

Question 3: Are there any official standardised documents related to the EPC (standard contract, tender procedures)?

Answer: **Yes!** 72% of all respondents confirmed the existence of some standardised documents related to the EPC. See graph below.

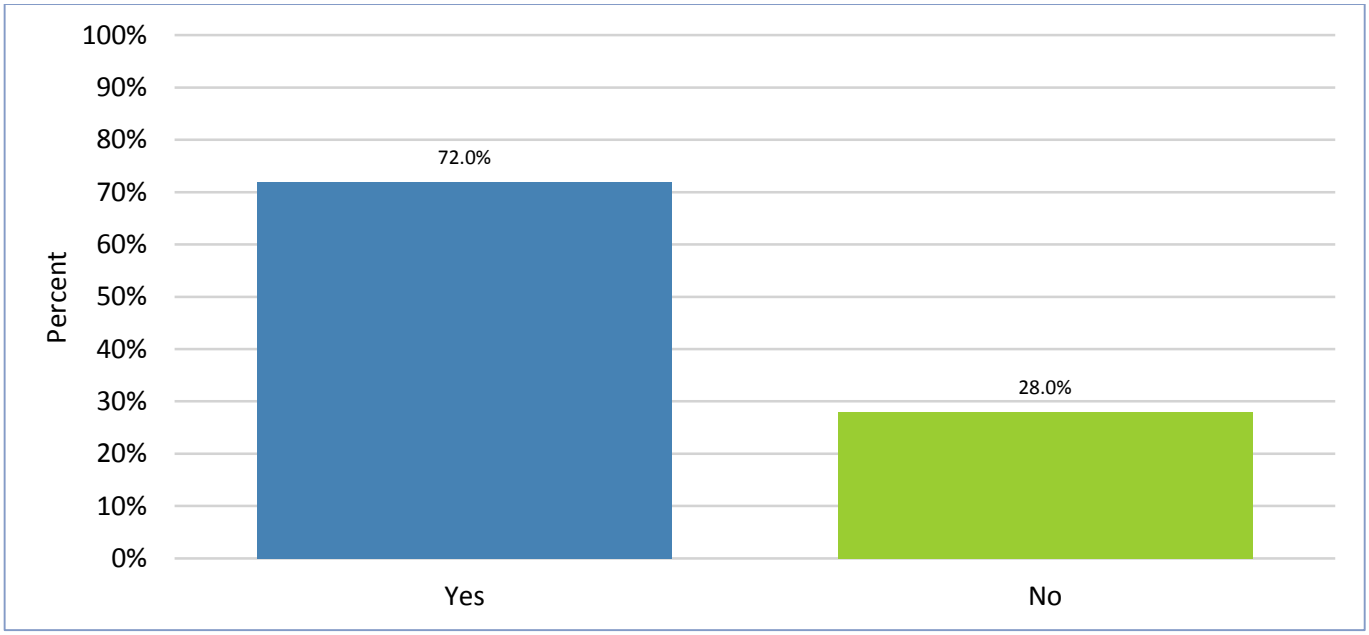

Figure 3. Answers to question "Are there any official standardised documents related to the EPC (standard contract, tender procedures)?"

One example is DE were the German energy agency (dena) has developed a model contract that is used in many EPC projects. Some German regions also offer model contracts and have published guidelines to assist local administrations in getting EPC projects approved by higher-level authorities.

Question 4: Are you aware of the updated Eurostat guidelines for EPC accounting?

Answer: **Yes!** More than 90% of all participants is aware of updated Eurostat guidelines on EPC. Only CZ and NO were not aware of the updated guidelines. See graph below.

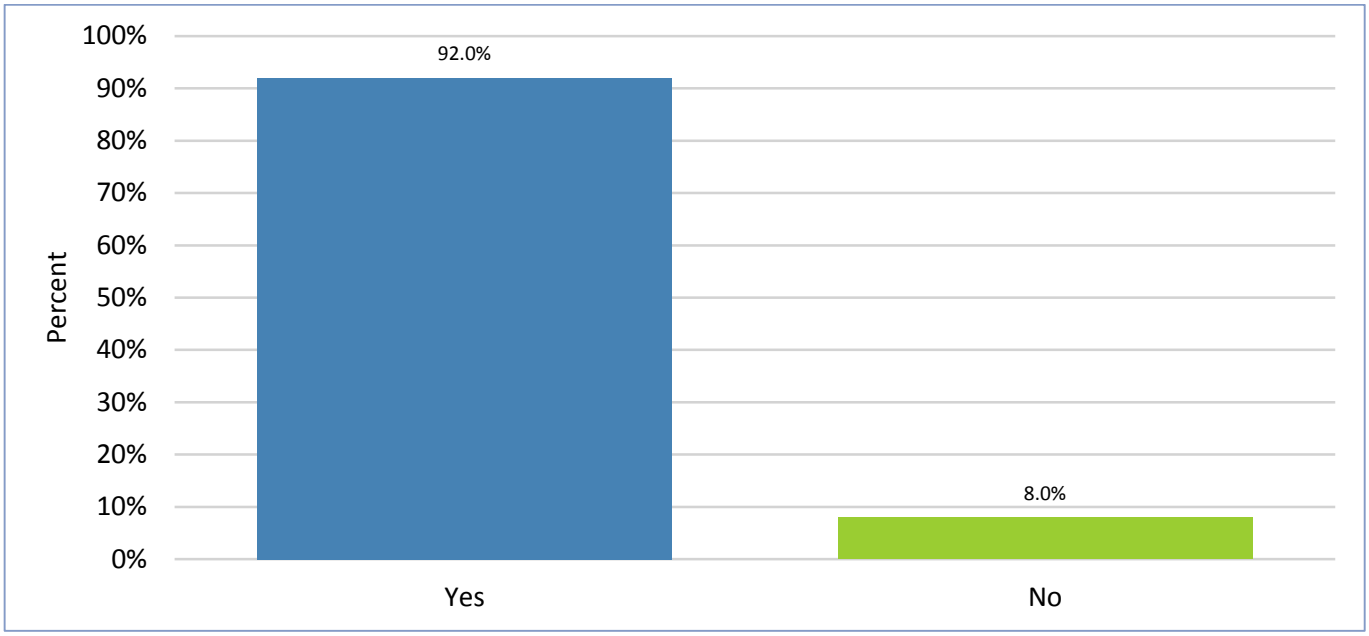

Figure 4. Answers to question "Are you aware of the updated Eurostat guidelines for EPC accounting?"

However, it is too early to say what steps MS will take to change or adapt standardised documents following the revised guidance note. Most MS have not yet decided on the next step. According to IT the EUROSTAT's revised guidance notes have been facilitating part of the budget recording crucial issues, but some conflicts with the national legislative system are still there and under discussion at domestic level. UK expressed a worry about uncertainties around the updated Eurostat guidance meaning that they are waiting for confirmation that they will not be amended before planning to change any approaches or adapt documents.

IE answered that when Eurostat issue further clarification on the guidelines, the national form of contract will be revised so projects where appropriate can avail of 'off balance sheet' status. An initial review has been conducted of the current contract against the current guidelines.

4.3 Ways to overcome barriers for EPCs

Question 5 – Are you taking steps to remove barriers for EPC? (see examples of identified barriers in each MS in the JRC report)

Answer: **Yes!** Most countries seem to take steps to remove barriers for EPC. Only two MS (HU and MT) among 25 estimates that its country is not taking steps to remove barriers. HU mentioned that a lack of focus and expert coordination of government on promotion of energy efficiency through innovative financial solutions is the reason why steps to remove the barriers are not taken. For MT no additional explanation was given to this specific question but in other replies in the questionnaire MT informed that the EPC market in the public sector is non-existent in MT mainly due to the low energy consumption of the public buildings and the low return on investment for energy savings measures in these buildings.

The examples of Germany (where ESCOs play an important role in the energy efficiency policy), Poland, Sweden and the Netherlands must be stressed:

In Germany there is a federal supporting program for EPC consultancy which addresses the perceived complexity for public administration, a working group in the "Energiewendeplattform" which tries to address legal barriers for EPC, and a working group offering intensive dialogue between the federal government and regional authorities on EPC ("Bund-Länder-Dialog Contracting"). In addition a study on legal barriers for EPC by the Federal Energy Efficiency Center (analysis of model contracts addresses the barrier of perceived complexity), an annual market survey on the energy service market which includes the monitoring of EPC in public sector.

In Poland, many actions are implemented to tackle the issue of insufficient promotion of ESCO activities and especially EPC. A specific guide for the public sector regarding energy efficiency financing has been published on the website of Ministry of Energy. This guide contains guidelines, a model of essential provisions of the contract for

improving energy efficiency, as well as a list of ESCO companies operating on the Polish and European market. In addition, it should be pointed out that there are many organizations, associations, institutions that provide information and advisory services as part of their tasks in the promotion of issues related to proper management and energy management, including issues related to development of the energy services market.

According to the Swedish Energy Agency, the main barrier for new EPC projects in Sweden is the distrust of the EPC business model[1] from the potential purchasing party in the public sector. In order to face this issue the agency has planned to set up a project with energy efficiency companies' industry organization and municipalities in eastern central Sweden. This project will aim to give operational advices in procurement situations for energy services and, in corporation between the participants from the public sector and energy service providers develop new services. Within the project, municipalities and regions will contribute with their challenges, their prerequisites and other project participants contribute with their solutions.

The Netherlands seems to benefit from various means to promote EPC: cooperation with ESCO-network, seminars organization, publication of guidelines for EPCs implementation and tendering, online tool such as the PreCheck tool developed by RVO in for the GuarantEE project, infographic, regular publication of whitepapers and articles sharrng best practices (5th in 2018) and trainings and webinars.

In addition to the examples given above, many MS mention information campaigns and information to stakeholders as ways of removing barriers for EPC. CY mentioned that model procurement documents and model contracts especially for public sector should be prepared at EU level and be adapted to all MS. Successful real procurement documents and EPC agreement for public sector should be communicated to all MS. Spain mentioned that the updated Eurostat guidelines will remove the main barrier and they are considering possible financial instruments to be developed using Structural Funds for low-carbon economy to provide support to ESCO.

In addition to the barriers already identified in the JRC report, MS raised the following examples of barriers:

- Political decision-makers are often unaware of the advantages of a continuous energy management and of the fact that an ESCO would implement it. (DE)
- Projects are often too small to reach a critical volume to be worth becoming an EPC-project. (AT)

4.4 Monitoring and facilitators

Question 6 Is there a national observatory body/unit on EPC in your country (e.g. selected department in one of the ministries)?

The following 9 MS have their own Observatory: AT, CZ, DE, FR, NL, PT, RO, SI, UK (2 MS don't know: LV and FI). Several of the observatories are established at a department of the ministry (CZ, SI, UK).

[1] Cyprus suggests common models of contracts at the EU level especially for public sector implementation.

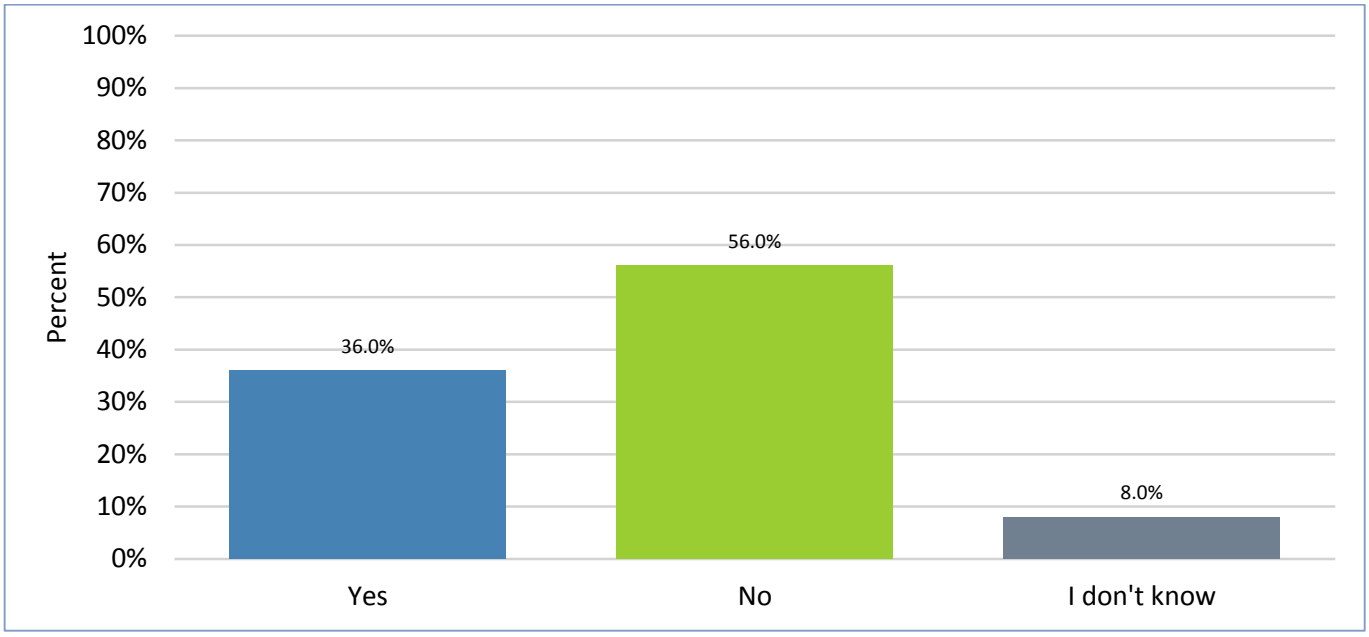

Figure 5. Answers to question "Is there a national observatory body/unit on EPC in your country?"

Since March 2009, Germany has an energy services market observatory led by the Federal Energy Efficiency Center from the Federal Office for Economic Affairs and Export Control (BAFA). In addition, the German Energy Agency (DENA), which assists the Federal Government in the energy transition, organizes an intensive dialogue between the federal government and regional authorities on EPC ("Bund-Länder-Dialog Contracting") and supports them in creating regional EPC competence centers.

In France, there is a national observatory since 2017 which gathers EPC (mainly public - 86%) centralized through a common interface dedicated to the publication of public call for tenders. There is not a dedicated web interface to access to raw data but a report gathering main results was published in June 2017[2] by ADEME (the public agency for energy & environment), CEREMA (the public technical center for study & expertise on risks, environment, A update of this report was published in November 2017 : www.ademe.fr/sites/default/files/assets/documents/ocpe-novembre-2017.pdf.

Question 7 Have you heard about the EPC check initiative? (http://epccheck.eu)

At least 8 of 25 MS have heard about the EPC check initiative thanks to e-mail notification, information about the EPC check tool (including link to it) published on the SEDA's website (http://seea.government.bg/bg/akcenti/57-sabitiq-category/9921-online-instrument-za-dogoworite-s-garantiran-rezultat), the Concerted Action forum on "Energy Services" (3 answers), experience sharing from participants in the project (CODEMA in Dublin) and newsletters from the GuarantEE project.

NB: RVO (NL) was naturally aware of this initiative because it has developed this online tool for the guarantEE project which has been translated and implemented in 14 EU MS.

Question 8 Do you have EPC market facilitators operating in your MS? (http://eesi2020.eu/wp-content/uploads/2014/11/EESI2020_EPC_Facilitators_Guideline.pdf)

15 MS among 25 respondents (i.e. 60%) estimate having EPC market facilitators in their country (8% do not know!). Among them, there are federal and regional energy agencies (DE, SI, FR), co-administrators for the European Code of Conduct for Energy Performance Contracts (ARPEE, member of EFIEES and ESCOROM). In France, companies federations publish surveys, practical guides and organize events & training to share good practices (see for example events organized by the technical association for energy & environment, ATEE - http://atee.fr/dossiers/contrat-de-performance-énergétique). In UK in particular, the Department for Business, Energy and Industrial Strategy of BEIS is currently carrying out research into the energy services market in order to identify best practices and ideas to ease the market growth.

[2] https://www.ademe.fr/sites/default/files/assets/documents/presentation-ocpe.pdf

NB: a dedicated state owned company, called NEG Zrt, was set up in 2015-2016 to provide energy efficiency services to public sector institutions, offices, authorities (HU)

4.5 Best practices

Question 9 – Do you have good examples of EPC in the public sector in your country?

18 MS of 25 (around 70%) have good examples of EPC in the public sector in their country. Only EE, PT, LV, RO, CY, EL, LT and MT do not have such examples.

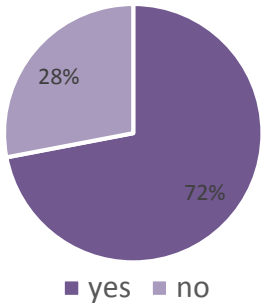

Figure 1 Do you have good examples of EPC in the public sector in your country?

Spain highlighted the following examples:

1) Renovation of public lighting (Soto del Real, Madrid).

2) Duero-Douro Project for the renovation of public lighting of 155 small municipalities in the border area of Spain and Portugal.

3) Cuzco. Pilot Project for the renovation of buildings owned by the State General Administration (Ministry of Economy, Industry and Competitiveness and Ministry of Energy, Tourism and Digital Agenda).

Hungary mentioned Raab Sol Energy Efficient Building, Climate Protection and Housing Demonstration Project in the City of Győr, that aims modernizing few hundreds of panel buildings. Financing is provided by local government of Győr, by Housing Association and EnergoSys Ltd. (ESCO company). Project started in 2011 and still goes on in 2017.

Norway mentioned Skien Municipality (public buildings, schools. etc. Financed by equity and Kommunalbanken. Green interest. Appr. 3-5 years payback time) and Kongsberg Municipality (public buildings, schools. etc. Financed by equity and Kommunalbanken. Green interest. Appr. 3-5 years payback time)

The Netherlands gave the following examples: National Government Agency (Rijksvastgoedbedrijf): Van Gogh Museum in Amsterdam, Tax Offices in Apeldoorn, Rotterdam: 9 swimming pools, Kunsthal, Roteb buildings, Enschede: 100 local government buildings, 2 EPCs for 10 years

The Czech Republic mentioned the EE project of the Institute for the Care of Mother and Child (Prague) launched in 2003 with a MCZK 20.8 (~k€820) investment to guarantee MCZK 2.6 (~ k€100) yearly savings; and the project from the National Theatre (Prague) launched in 2007 to guarantee MCZK 12.3 (k€ 485) of yearly savings with an global investment of MCZK 89.7 (~M€ 3.5).

In Poland, many actions are implemented to tackle the issue of insufficient promotion of ESCO activities and especially EPC. A specific guide for the public sector regarding energy efficiency financing was has been published on the website of Ministry of Energy. This guide contains guidelines, a model of essential provisions of the contract for improving energy efficiency, as well as a list of ESCO companies operating on the Polish and European market. In addition, it should be pointed out that there are many organizations, associations, institutions that provide information and advisory services as part of their tasks in the promotion of issues related to proper management and energy management, including issues related to development of the energy services market.

The Irish examples are also worth to be stressed because some of them target the retrofitting of leisure centres allowing 35% of energy saving thanks to the maintenance and operation elements. In addition, a mental hospital (St John of Gods) has benefitted from new boilers, windows, BMS, lighting, and dedicated maintenance and operation support.

The Swedish EPC project aiming at reducing the energy consumption and energy costs, as well as at streamlining and reducing the cost of operation and maintenance work of the municipality of Söderhamn and a public housing company (Faxeholmen AB's), is also very interesting because on one hand, it allows long-term positive financial benefit; and on the other hand, it creates local jobs for local entrepreneurs.

Last but not least, the French agency for environment and energy management, ADEME, has released different returns on experience regarding public EPC implemented in the ex-Rhône-Alpes, Centre & Alsace regions. See the Annex for more details.

Question 10 How has the requirement in EED Article 18 to support the uptake of EPC in the public sector by providing information of best practices of EPC been met? Do you have lessons learnt to share?

Several MS refer to best practices being published at the websites of Agencies.

In Finland, Motiva provides guidance and shares information about EPC for both public and private sector. This includes also best practices. For example, last year Motiva organized a supplier-buyer seminar for public and private sector on EPC. EPC companies participated the event too. The goal was to share good practices and develop the dialogue between these parties.

In Ireland SEAI and Dept of Energy developed the National Energy Services Framework in 2013 approx. It included an EPC Handbook, EPC standard form of contract and procurement guides and templates. It provided EPC technical assistance grants and support programme for projects undertaken energy contracting. It included discussions and stakeholder meetings with the ESCO market
It included development of an Energy Efficiency Fund, seeded with capital by government.

In Spain energy services are promoted through many means:

- **legislative measures** (see the Royal Decree-Law 6/2010)
- **communication activities** (promotional activities and training plans including the publication of the names of energy services providers, sponsoring of working groups involving associations of energy service companies)
- **legal support** by publishing procurement models
- **economic measures** such as BIOMCASA II (program for the development of thermal biomass in buildings), GEOTCASA (financing of geothermal facilities in buildings to qualified companies), SOLCASA (financing of solar thermal installations in buildings to qualified companies), GIT (financing of large thermal installations powered by renewable sources in building), and support from the JESSICA Holding Fund and the Aid Programme to Improve the Energy Efficiency of Existing Residential Buildings.

In addition, some countries such as Italy collect "best practices" through pilot projects such as the EU funded project "PUBLENEF" (http://publenef-project.eu) whose objective is to assist MS in implementing effective and efficient sustainable energy policies. The city of Catania experimented in particular the implementation of EPCs for buildings.

5 EU-projects related to EPC

Several EU-funded projects related to Energy Performance Contracts are on-going. Below is a brief description of a few projects that have been highlighted by MS or EASME as relevant for this topic.

5.1 ENPC Intrans

Short description:

The EnPC-INTRANS project is supported by the EU programme Horizon 2020 and involves partners from Croatia, Germany, Greece, Latvia, Romania, Serbia, Slovakia, Slovenia and Ukraine. The objective of the project is to provide experts and stakeholders in these countries with information and know-how on how to apply energy performance contracting (EPC) in public buildings.

During the project a number of awareness building, information and training events in all 9 partner countries was organized including: 1 Training of Trainers, 15 Training Seminars and 27 Webinars. The project's partners organized 9 road show events, one in each of the Partner countries. A total of 897 experts and stakeholders used this opportunity to meet and to Exchange Information, concepts and experience.

More than 230 publications on the project and on the essentials of EPC in public buildings were triggered by the partners in local, regional, national and European media. These publications ensured a high level of visibility for the project and conveyed the partners' messages on EPC in public buildings to a wide audience of Europeans.

All developed training materials (including examples of model EPC contract) are available for free download in 10 different languages on the project's website.

Project partners: GIZ – Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH (Germany); KEA – Klimaschutz- und Energieagentur Baden-Württemberg (Germany); EIHP – Energy Institute Hrvoje Požar (Croatia); e-code – Education for continuous development (Slovakia); CRES – Centre for Renewable Energy Sources and Saving (Greece); KSSENA – Energy Agency of Savinjska, Šaleška and Koroška Region (Slovenia); AE3R – Energy Efficiency and Renewable Energy Agency Ploiesti-Prahova (Romania); SCTM – Standing Conference of Towns and Municipalities (Serbia); FIATU – Finance & Technology Ukraine (Ukraine); ZREA – Zemgale Regional Energy Agency (Latvia).

Website: https://www.enpc-intrans.eu/

5.2 GuarantEE

Short description:

GuarantEE is ongoing project supported by the EU programme Horizon 2020. The objective of the project is to develop innovative business and financing models for performance-based ESCO projects. For rented facilities, the aim is to develop and test solutions adequately sharing costs and benefits between user, building owner and ESCO (triple-win approach). EPC contract variants providing enhanced flexibility will be developed (especially to address private sector buildings owners.

Market stakeholders will be intensively involved in the analysis of current barriers and the definition of adequate contractual solutions.The innovative energy service models are to be tested in pilot projects, in which the building owners will receive support from experienced EPC facilitators.

Part of the project is creating a database with best practice EPC examples. The database provides a single point of access to high quality European EPC projects, including information on investment levels, energy cost savings guaranteed and measures implemented.

Results of the GuarantEE project will be published through various media and presented at conferences and events addressing the energy and building sectors including European Energy Service Award (EESA).

Project partners: Berliner Energieagentur (DE); Grazer Energieagentur (AT); Norsk Enok og Energi AS (NO); City of Dublin Energy management Agency (IE); Factor 4 (BE); Institut Catala d'Energia (ES); TUD Business Consulting SRL (RO); Energeticke Centrum Bratislava (SVK); Public Investmemt Development Agency (LT); Enviros (CZE); Institut Jozef Stefan (SVN); Miniterie van Economische Zaken (NL); Tecnologie, l'Energia e lo Sviluppo Economico Sostenible (IT); Sem Energies Posit'if (FR).

Website: http://guarantee-project.eu/

5.3 L-CIF

Short description:

Mobilising Local Energy Investments in Greater Cambridge and Greater Peterborough UK - Low Carbon Hub (MLEI L-CIF) was project funded by Intelligent Energy Europe. The objective of the project was to set up a long term finance model/fund which aligns private and public sector investment to support low carbon infrastructure investment; set up appropriate delivery mechanisms and to deliver an investment programme of around €17m into renewable energy and energy efficiency projects. To achieve planned aim the IEE funded Technical Assistance was provided to a consortium of 5 public authorities under the lead of Cambridgeshire County Council (CCoC).

Instead of deploying the standard EPC model, the project developed an off-balance sheet solution for public schools. This resulted from academies being unable to borrow money to invest in energy efficiency measures as this would add debt onto Central Government's loan book. To solve this problem, the Council developed an innovative Managed Service Arrangement (MSA) to provide energy performance contracting services for academies in the format of an operating lease. The Managed Service Agreement is a development of an off-balance sheet solution for academy schools (owned by central government) for energy performance contracting.

Project partners: Cambridgeshire County Council; Peterborough City Council; Cambridge City Council; South Cambridgeshire District Council; Huntingdonshire District Council

Websites: http://www.cambridgeshire.gov.uk/MLEI/
https://www.mlei.co.uk/

5.4 MARTE

Short description:

The MARTE project was developed with co-funding provided by the Intelligent Energy Europe – IEE programme, under the MLEI PDA (Mobilising Local Energy Investments - Project Development Assistance) section. The general objective of the project was to promote local investment into energy efficiency in the healthcare sector, by means of innovative financial strategies and mechanisms (especially ESCO model). Like other European projects of this type, it was launched locally, involving 5 healthcare facilities located in the Italian Marche region as well as specialized energy agency and technical university.

The main objectives of MARTE project were:

- To define a common methodology for the buildings energy audit addressed to the Energy Performance Contracts- EPC call for tender development in the healthcare sector;
- To evaluate the energy performances in health sector buildings when planning the retrofit interventions;
- To create a standard model for EPC contract development in health care buildings;
- To develop and implement energy efficiency projects for 5 healthcare buildings divided in two groups: policlinics/nursery homes and acute hospitals;
- To promote the creation of an Energy Fund with structural funds;
- To increase the competence of decision makers in EPC among the public sector;
- To replicate the project approach and methodology in other sectors and in the Local Authorities (Provinces and Municipalities);

The project gave the impetus for the setting up of the EMF-Energy and Mobility Fund, a revolving loan fund coming within the Regional Operational Programme of the European Regional Development Fund-ROP Marche ERDF 2014-2020, and to promote contracts on the Energy Performance Contract (EPC) model, mobilising around 12 million euros
of investment for improving the energy efficiency of three hospitals and two polyclinics-nursing homes.

Project partners: The Energy Agency “Agenzia per l’Energia e lo Sviluppo Sostenibile” (AESS), The Marche Polytechnic University (UNIVPM), the hospitals of Urbino, Pergola and San Benedetto del Tronto and the Polyclinics with Nursing homes at Petritoli and Sant’Elpidio a Mare.

Websites: http://www.marteproject.eu/en/

5.5 Streetlight-EPC

Short description:

The project "STREETLIGHT-EPC" was financed by Intelligent Energy Europe. Main aim of the project was to create demand and supply for EPC projects in 9 regions by setting up regional EPC facilitation services. These services provide comprehensive support to municipalities (operators of street lighting) and to SMEs as potential ESCOs. Over the course of the Streetlight-EPC project:

- 63 projects were realised (47 with EPC), triggering an investment of 29 million Euro and annual savings of 28,000 MWh as well as over 3.5 million Euros in electricity and maintenance costs.
- 12 new ESCOs have implemented projects, 8 more companies have started offering EPC services
- project partners worked actively towards improving the framework conditions for EPC in their respective countries to allow the instrument to fully play its role in achieving energy efficiency targets.

In addition, as a one of significant project’s outcomes a number of reports were published including documents on setting up regional EPC facilitation services, financing or supporting real-life procurement processes. All documents can be found on project’s website.

The project team included 9 regional agencies/organisations, which provided the EPC facilitation services, 9 municipalities and a European network.

The project ran from on 1 April 2014 until 31 March 2017. The facilitation services are being continued by the regional partners.

Project partners: OÖ Energiesparverband (ESV) – Austria, Regionalna Energetska Agencija Sjeverozapadne Hrvatske (REGEA) – Croatia, Energy Centre České Budějovice (ECCB) - Czech Republic, Bałtycka Agencja Poszanowania Energii (BAPE) – Poland, The Carlow Kilkenny Energy Agency (CKEA) – Ireland, Energikontor Sydost (ESS) – Sweden, Energetska Agencija za Podravje (ENERGAP) – Slovenia, Centar za Energetska Efikasnost na Makedonija (MACEF) – Macedonia, Escan – Spain.

Website: http://www.streetlight-epc.eu/

5.6 Transparense

Short description:

The Transparense project started in April 2013 and was completed in September 2015. The project brought together 20 European partners and was financed by Intelligent Energy Europe Programme of the European Union with co-funding from the project partners.

The goal of the Transparense project was to help increase the transparency and trustworthiness of Energy Performance Contracting (EPC) markets throughout Europe. With its twenty partners covering both mature and emerging EPC markets, the project tried to exploit its potential to transfer the know-how across Europe, support EPC markets in Europe and thereby achieve substantial energy efficiency improvement.

The European Code of Conduct for EPC launched by Transparense in 2014 defines the basic values and principles that are considered fundamental for the successful preparation and implementation of EPC projects. It went through two-year stakeholder process to make sure market players accept their principles. The Code of Conduct was

developed in co-operation with the European associations of EPC providers - the European Association of Energy Service Companies (eu.ESCO) and the European Federation of Intelligent Energy Efficiency Services (EFIEES). While the Transparense project was completed in September 2015, the two European associations continue in administering and maintaining the European Code of Conduct for EPC and related activities as it is in line with their goals in supporting the European EPC markets.

The main role of the Code of Conduct is to bring confidence to the EPC market in Europe and compliance with the Code of Conduct serves as a minimum guarantee of the quality of EPC projects implemented. The Code has vast potential to support EPC market development, which can be exploited, for example as discussion guideline between client and EPC provider, guidance for preparation of tender dossiers and contracts, marketing tool and foundation for EPC quality assurance scheme.

The Code of Conduct has been tested in 37 pilot projects which at the same time contributed to the promotion of good practice principles both on the side of ESCOs and clients.

The European Code of Conduct for EPC as well as a large number of related documents (including Energy Performance Contracting Manual and Report on Quality Certification for EPC services) can be found on project's website.

Project partners: SEVEn, The Energy Efficiency Center - Czech Republic, e7 Energie Markt Analyse GmbH – Austria, Factor4 – Belgium, Black Sea Energy Research Center (BSERC) – Bulgaria, ECNet, Energy Consulting Network – Denmark, BEA, Berliner Energieagentur GmbH – Germany, REACM, Anatoliki Development Agency of Eastern Thessaloniki's Local Authorities S.A – Greece, GDI, GreenDependent Institute Nonprofit Ltd – Hungary, DTTN, Trentino Technological Cluster S.c.ar.l. – Italy, Ekodoma – Latvia, LEI, Lithuanian Energy Institute – Lithuania, ECN, Energy research Centre of the Netherlands – Netherlands, NEE, Norsk Enøk og Energi AS – Norway, KAPE, The Polish National Energy Conservation Agency – Poland, ISR-UC, ISR - University of Coimbra – Portugal, ECB, Energy Centre Bratislava – Slovakia, IJS, Jozef Stefan Institute – Slovenia, ESCAN, Escan s.l. – Spain, IVL, IVL Swedish Environmental Research Institute Ltd. – Sweden, EEVS Insight Ltd – United Kingdom.

Website: http://www.transparense.eu/eu

5.7 2020Together

Short description:

The 2020Together European Project: EPC Contracts for Local Authorities

The 2020Together project – TOrino is GEtting THERe was financed by the IEE, Intelligent Energy for Europe / Mobilizing Local Energy Investments - MLEI program. Main purpose of the project was to respond to the needs of municipalities to overcome economic-financial concerns at local level and start energy refurbishment of public assets: buildings and street lighting.

In this project a wide territory - the Metropolitan City of Torino acted as coordinator and contracting authority. Actions taken by small and medium-sized municipalities were grouped in a single call for tender to form that critical mass required to become appealing for bidders and realize economies of scale.

Innovative measures envisaged in the project: underwriting of Energy Performance Contracts (EPC) and implementation of new forms of financial partnership between local administrations and private investors –ESCO.

Project partners: Piedmont Region, City of Torino, Metropolitan City of Torino, Environment Park, 11 municipalities.

Website: https://ec.europa.eu/energy/intelligent/projects/en/projects/2020together

5.8 PUBLENEF

Short description:

PUBLENEF aims to assist Member States in implementing effective and efficient sustainable energy policies (with the focus on energy efficiency) and empower them to make use of the best practices and policy processes implemented in other Member States at the national, regional and/or local level.

Regarding EPC in particular, the project has contributed to diffuse the application of EPCs for buildings in Italy and to facilitate the fulfilment of energy efficiency requirements set by the EED with a pilot application in the Municipality of Catania. It underlined the needs for administrative procedures simplification, financial tools to support energy efficiency, appropriate means to disseminate information & train people, and the necessity to improve decision making process, and foster cooperation with the involved stakeholders.

Project partners: JIN Climate and Sustainability, the Center for Renewable Energy Sources and Saving (CRESS), the Polish National Energy Conservation Agency (KAPE), the Research Centre for Energy, Environment and Technology (CIEMAT), the Centre for Monitoring Business Activities in the Energy Sector and Investments (CEI), the Association of Bulgarian Energy Agencies (ABEA), OÖ Energiesparverband (OÖ ESV), the Italian National Agency for New Technologies, Energy, and Sustainable Economic Development (ENEA), the Institute for the promotion of innovation technologies, the European Federation of Agencies and Regions for Energy and the Environment (FEDARENE), Energy Cities, the Tipperary Energy Agency (TEA), ARENE Île-de-France, and the Local Energy Agency Bucharest (AEEPM)

Website: http://publenef-project.eu

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May 2015

Appendix: Complete overview answers MS Questionnaire Q1-Q10

Question 1: To what extent does the public sector use Energy Performance Contracts in your country?

Very much: CZ, SI, UK, FR

A little: BG, LT, EL, ES, DE, IT, SK, RO, HU, PL, LV, FI, IE, SE, PT, EENL, AT, NO

Not at all: CY, MT

Additional comments from MS who answered "Very much" or "A little"
BG: The EPC market in Bulgaria is still under development and there are not enough ESCO companies operating on it.

LT: We have only one ESCO contract in public buildings

EL: One EPC project has been completed in public building (upgrade of the lighting system in CRES' offices). Moreover, several tenders have been launched for street lighting from specific municipalities.

ES: Mainly, for projects for the renovation of public lighting, promoted by Local Entities or municipalities.

DE: The use of Energy Performance Contracts in the public sector varies between different regions (Länder).

IT: The limited extent is in general due to: 1) current legislative uncertainty, whose reasons relay on the implementation process of the new public procurement system, whose executive decrees are still under draft and 2) not yet exhaustive knowledge of the EPC as a contractual instrument

CZ: EPC has been used since 1994 in many public institutions.

RO: According to the JRC Report regarding the market for EPCs and identified barriers and the information published by ANRE Reports, the ESCO market, and in particular the EPC sector is stagnant in Romania. The most major barriers in Romania to EPC in the public sector at the moment are the ESA 2010 rule on public debt and the electronic system for public acquisitions (SEAP) that is not yet adapted for complex contracts as EPC

SI: In this programming period more than 60% of total floor area of public buildings is retrofitted using EPC+ model.

HU: EPC is not a widely known and trusted option for local stakeholders, local governments, especially due to information barriers.

PL: Although the Polish ESCO market has a significant potential, it still remains at the initial stage of its development. The number of its players – both ESCOs and clients – is rather small.
Only a few (up to 10 - 20) EPC – related projects have been undertaken since 2013, although the spread has slightly increased . This include both public and private sector projects.

In the public sector public buildings, schools, educational sites, public hospitals, and street lighting projects have taken place.

Moreover, it is worth noting that the Polish ESCO market still operates to a large extent as a market that is created by ESCO companies rather than as a response to spontaneous demand voiced by clients. This requires significant involvement of ESCOs and other institutions that support this market through information, education and awareness-raising activities.

LV: There are only few examples of EPC in public sector

IE: Some EPC experience and growing interest. Public bodies and government has renewed interest in the concept but marketplace prospects are still developing.

SE: There is today only a few ongoing EPC projects on the Swedish market. In reality, there are no new projects coming out on the market. There are several identified reasons affecting why the EPC market have decreased to in principle none. EPC projects are perceived to be complicated, in the public sector, and not applicable with public procurement procedures. It is also perceived that the ESCOS:s achieve disproportionate profits in the EPC projects.

PT: The legislation behind the Eco.AP programme (Energy Efficiency Program in Public Administration) launched the basis to establish EPC contracts, since it created a structure for new public contracting scheme, defined the architecture of the process and the contract template to be followed by all public institutions. Expectations were very high related to the Eco.AP programme, but these were not yet met so the programme is being redesigned. Until now we just have a few pilot projects and some contracts on street lighting similar to EPCs.

EE: It is not a dominant method to carry out building refurbishment projects in Estonia, but there are some examples of this activity.

UK: The use of EPCs is increasing with a number of successful completed energy efficiency projects in public sector organisations and more projects planned for future implementation. EPCs have been carried out across wide range of public buildings and different sectors including local authorities, the NHS, schools, further education and universities
France: The Observatory of EPC launched in May 2016 by Ademe, CSTB and CEREMA, shows a huge progression of the number of public EPC. Since 2007, 116 public EPC dealing with works on systems, 89 coupling investment on building and systems, and 24 EPC focusing on systems optimization & operation were launched in France.

NL: NL is a so-called emerging market; it might be interesting for municipalities / local governments to outsource EE by EPCs, but this market is slowly developing. There are a lot of barriers.

AT: In the programme “federal buildings contracting” more than 600 public buildings are organised in a number of pools in several EPC contracts

NO: Appr. 50 (of totally 430) municipalities till now.

Additional comments from MS who answered “Not at all”

CY: There have been two procurement calls but they did not end up to an agreement. Currently we are examining the reasons behind. There are no clear procedures . There is a need to clarify issues regarding the procurement process, the documents and terms.

MT: EPC is not used at all in the public sector. As an initial exercise to explore the possibility of energy performance contracting in the public sector, the Government approached an international energy service
firm to analyse the energy consumption of three public buildings.

The exercise started in February 2016, after documental and technical data was gathered in order to define the significant energy loads for each site. The building energy loads were monitored for a 4-month period covering the summer season, which translates in peak demand mainly due to air-conditioning usage. At the end of the monitoring period, assumptions used in the energy models were validated and any corrections applied to the savings and proposals estimates.

Once the analysis part of the audit was completed, several energy saving proposals were investigated by preliminary calculation of potential: energy, CO2 emissions and economic savings. The preliminary implementation costs were also estimated and the potential issues of each proposal were noted in order to define a qualitative priority ranking for energy conservation measures in each site.

As expected due to the low energy consumption of the Maltese public buildings, the return on investment for the majority of the proposed energy saving measures was quite low. Consequently, in some cases the payback time exceeded the expected building or improvement lifetime.

Question 2: For which areas are EPCs in the public sector used in your MS? (multiple choice option)

Municipal and governmental buildings	**87,5%**

Schools	**66,7%**
Hospitals	54,2%
Street lighting	**70,8%**
Sport and leisure establishments	45,8%
Military barracks	12,5%
Other, please specify	20,8%

The following specifications were given for the category “other”:

RO: Kindergartens

HU: Panel houses (residential blocks of pre-fabricated buildings), generally with the involvement of local governments. There are few examples for all categories above, not many. More on private property buildings (office buildings).

FR: Residential buildings owned by public institutions (26%)

NL: Street lightning: well developed market for EPCs. For all other buildings The Netherlands are an emerging market; EPCs are mostly for 1 building, and a combination of EE and maintenance. Sometimes also financing.

NO: Kindergardens, elderly facilities and care institutions

Question 3: Are there any official standardised documents related to the EPC (standard contract, tender procedures)?

Yes: BG, LT, EL, ES, DE, IT, SK, CZ, RO, SI, FI, IE, PT, UK, FR, NL, AT, NO

No: CY, HU, PL, LV, SE, EE, MT

Additional comments from those who answered “Yes”

BG: There is no official standard model EPC. For municipal and state administration there is special Ordinance under EE Act which regulates the rules for contracting ESCO services.

LT: There is typical documents for ESCOs: public procurement requirements, treaty with ESCO, quality requirements and so on

EL: Two indicative model contracts (one for guaranteed savings model and one for shared savings model, which are not focused public sector) have been published by the Ministry of Environment and Energy, which are not focused on the public sector. No yet any official tender procedure for EPC has been issued in public sector.

ES: A procurement model for energy services on public buildings is avaible at IDAE website.

They have also been published the documents for contracting energy services of public lighting in a city near Madrid; this city was selected as a pilot project to demonstrate the viability of EPC for the renovation and maintenance of public lighting."

DE: The German energy agency (dena) has developed a model contract that is used in many EPC projects. Some regions also offer model contracts and have published guidelines to assist local administrations in getting EPC projects approved by higher-level authorities.

IT: ENEA, as the national agency for EE, has set up ad hoc “guidelines”, upon request of our competent Ministry and in compliance with the EED implementing legislative decree, nr 102/2014. Such guidelines have not been officially published but, with the endorsement of the Ministry, are the specific content of communication/information initiatives (wshops, ad hoc meetings, etc.) currently undergoing by ENEA with the main national stakeholders.

SK: The content of contract with public sector is set by energy efficiency law. Standard contracts are published at the web page of energy agency as well as on assotiation of energy services providers standardised contracts, tendering procedures, code of conduct etc.

RO: In Romania was launched a tender public procurement procedure to contract energy efficiency services for public buildings in 2015 for two cities: Galati and Craiova. The project serves as pilot program of the European Bank for Reconstruction and Development (EBRD), funded by the Global Environment Facility (GEF). The EBRD program aimed to rehabilitate a number of public buildings matching the financing with energy performance contracting by ESCOs. The public buildings related to EBRD program are kindergartens, schools and hospitals. EBRD provides free technical assistance to municipalities to prepare energy efficiency projects in public buildings. However, due to legislative constraints, the EBRD Program was not implemented.

SI: The following documentation is standardised: EPC+ contract, following the revised EUROSTAT guidance note; call to promoters, tender documentation, concession act.

FI: There is an ESCO procurement manual for municipalities and Market Dialogue Guide to help municipalities and companies to do an ESCO procurement (available only in Finnish
http://www.motivanhankintapalvelu.fi/tietopankki/energiansaastopalvelut/hankintaohjeet.html

IE: National form of EPC contract, procurement templates and guidance.
Technical assistance grants to support EPC project development.
EPC manual
The Health sector is developing a strategic relationship with a UK EPC facilitator which will hopefully see a train of health related EPC project developing."

PT: "Under the Eco.AP programme were published standard specifications for procedures for formation of energy efficiency management contracts,
In addition, a qualification framework for ESCOs has been introduced with the Eco.AP."

UK: The Standard Assessment Procedure (SAP) is the methodology used by the Government to assess and compare the energy and environmental performance of dwellings. Its purpose is to provide accurate and reliable assessments of dwelling energy performances that are needed to underpin energy and environmental policy initiatives. It helps to underpin EPCs and a number of other initiatives.

FR: The MAPPP (the mission supporting the implementation of public/private partnership contracts) has published a model of partnership contract including refurbishment works (model available on the website of the Ministry for Economy http://www.economie.gouv.fr/files/directions_services/ppp/cpe_clausier_type.pdf).

Some models of contracts specific to the variety of services (services, works & services, offers including design, development, operation/maintenance & supervision) have been released on the website of the Ministry for the ecological transition and solidarity including models targeting local authorities subject to the Public Procurement Contracts Code
See the bottom of the following webpage to download these models www.ecologique-solidaire.gouv.fr/energie-dans-batiments"

NL:

- Guideline for EPCs
- Guideline for Tendering
- EPC Menu online tool for EPCs
- EPC PreCheck tool
- Infographic on EPCs
- 4 whitepapers with best practices (5th in 2018)

AT: Model contracts for EPC are available on the website of the ministry in charge:
https://www.bmdw.gv.at/EnergieUndBergbau/Energieeffizienz/Documents/Einsparcontracting_Mustervertrag-mit%20Kommentaren_final_Ausdruck.pdf

NO: Norwegian Standard NS 6430

Question 4: Are you aware of the updated Eurostat guidelines for EPC accounting?

Yes: BG, LT, EL, ES, DE, IT, CY, SK, RO, SI, HU, PL, LV, FI, IE, SE, PT, EE, UK, FR, NL, AT, MT

No: CZ, NO

Those who answered "yes" also had the following question: Are there plans in your MS to change/adapt standardised documents such as model contracts for EPC following the revised guidance note?

BG: Not by now. Eventually there will be a revision of the Ordinance for EPC contracting from municipal and state administrations after the transposition of the new EE Directive.

LT: It is more related in our country with the budget limits of municipalities

EL: The published model contracts are not focused on the public sector. On the other hand in some cases, it is taken into account in the new contracts of municipalities for street lighting projects with EPC

ES: No, up till now. It may not be necessary to modify the previous standardised documents.

IT: Yes, there are but with some constraints. Actually, the EUROSTAT's revised guidance notes have been surely facilitating part of the budget recording crucial issues, but some conflicts with the national legislative system are still there and under discussion at domestic level.

SK: Yes, we are waiting for methodology prepared by Eurostat. The deadline for Slovak methodology is 30.4.2018.

RO: The EUROSTAT Guidance Note from 19 September 2017 regarding the recording of energy performance contracts in government accounts was published on the ANRE website and presented to the relevant stakeholders during conferences and presentations.

SI: The standardised documentation already follows the revised guidance note.

HU: No such intension is known.

PL: The issue is still under consideration. The Ministry of Energy does not directly participate in the work on this Eurostat guidance note.

LV: The responsible authorities are aware of the guidelines, but there are no obligations to use them.

IE: Yes, once the Eurostat issue further clarification on the guidelines, the national form of contract will be revised so projects where appropriate can avail of 'off balance sheet' status. An initial review has been conducted of the current contract against the current guidelines.

SE: Lack of financing measures has never been an issue for the Swedish municipalities. For large investments, all municipalities have good conditions to get cost efficient loans. We believe that there is limited use of these guidelines.

PT: Don't know yet.

EE: We will certainly investigate that, as this is closely related to target to renovate 3% of the building stock occupied by the central government institutions.

UK: Uncertainties around the updated Eurostat guidance mean that we are waiting for confirmation that they will not be amended before planning to change any approaches or adapt documents.

FR: I assume that models that will be impacted by this change will be updated.

NL: This Eurostat guideline is not (yet) widely implemented, just communication via guarantEE project.

Q5 Are you taking steps to remove barriers for EPC? (see examples of identified barriers in each MS in the JRC report, table 10).

Yes: BG, LT, EL, ES, DE, IT, CY, SK, CZ, RO, SI, PL, LV, FI, IE, SE, PT, EE, UK, FR, NL, AT, NO

No: HU, MT

HU answered that they are not taking steps to remove the barriers and gave the following explanation: No focus and expert coordination of government on promotion of energy efficiency through innovative financial solutions.

Those MS who answered "yes" were asked to describe which actions are taken:

BG: Information campaigns

LT: Simplified public procurement requirements, adopted typical ESCOs documentation.

EL: Discussions between stakeholders, the Ministry of Economy and Construction and representatives from the Ministry of Environment and Energy, who deal with EPC issues, have been arranged and are underway in order to overcome the identified barriers.

ES: The updated Eurostat guidelines will remove the main barrier. Possible financial instruments to be developed using Structural Funds for low-carbon economy to provide support to ESCO.

DE: Federal support programme for EPC consultancy addresses the perceived complexity for public administration

- Working group in the "Energiewendeplattform" tries to address legal barriers for EPC
- Study on legal barriers for EPC by the Federal Energy Efficiency Center (analysis of model contracts addresses the barrier of perceived complexity)
- EPC public sector included into the annual market survey on the energy service market
- Working group offering intensive dialogue between the federal government and regional authorities on EPC ("Bund-Länder-Dialog Contracting")"

IT: A "standard contract" (contratto tipo) is proposed in the frame of the above mentioned guidelines set up by ENEA. The latters, including the standard contract, are the content of information/communication initiatives recommended by the Ministry and undertaken by ENEA with the aim to inform and receive feed-back from the wide range of national stakeholders involved

CY: Performed two studies and are taking short training

SK: Increased focus on public sector and proper and quick implementation of the new Eurostat guidelines.

CZ: Wider promotial in the media, cooperation between the government and expter energy services associations, voluntary agreement with the Association of energy services providers, change of the national legislation

RO: Within the framework of the "Transparense – Increasing Transparency of Energy Service Markets" project co-funded by the Intelligent Energy Europe Programme of the European Union were issued the procedures for the European Code of Conduct for Energy Performance Contracting that defined the basic values and principles that are considered fundamental for the successful preparation and implementation of Energy Performance Contracting (EPC) projects in the European Union and EFTA countries. After the lifetime of the project, as of September 2015, this document is under the joint responsibility of eu.esco (European Association of Energy Service Companies) and EFIEES (European Federation of Intelligent Energy Efficiency Services). The Code is a voluntary commitment by eligible signatories and is not legally binding.

SI: All above mentioned documentation was made to overcome/ remove barriers. We also raise awareness of all public partners about the advantages of EPC+ model (presentations, meetings…).

PL: "Regarding the issue of insufficient promotion of ESCO activities, in Poland, various types of activities are carried out for the dissemination of contracts for energy efficiency improvement. As part of such activities, a guide for the public sector regarding energy efficiency financing was developed and made available on the Ministry of Energy website. The guide contains guidelines for the public sector, a model of essential provisions of the contract for improving energy efficiency, as well as a list of ESCO companies operating on the Polish and European market.

Regarding the issue of stimulating the development of the energy services market in Poland, it should be pointed out that there are many organizations, associations, institutions that provide information and advisory services as part of their tasks in the promotion of issues related to proper management and energy management, including issues related to development of the energy services market. Such organizations include in particular: National

Energy Conservation Agency - ""KAPE"", National Energy Conservation Agency - ""NAPE"", Foundation for Energy Efficiency - ""FEWE"", regional energy agencies (eg Baltic Energy Conservation Agency - ""BAPE"") , which runs a national contact point in the area of promoting energy efficiency contracts in street lighting, Regional Energy Conservation Agency in Toruń - ""RAPE"", Masovian Energy Agency - ""MAE"" Podkarpackie Energy Agency - ""PAE"", Lublin Enterprise Support Agency, Institute for Sustainable Development and other industry organizations eg. Tauron Dystrybucja S.A., Siemens Sp. z o. o. or Termoexpert Sp. z o.o."

LV: Development of amendments of legislation regarding public procurement and tendering procedures of energy services. Long term information campaign on energy efficiency benefits and financial instruments for building renovation – multifamily and industrial.

FI: Recently we have had few successful EPC projects in the public sector. It is vital that we have also good experiences to share these experiences for wider audience as this helps to see the benefits of EPC projects. Steps are also taken to enhance dialogue between EPC companies and public sector actors.

IE: Reviewing the current EPC documentation and supports. Updated the National form of contract. Supporting public bodies understand their project potential and determine where and when to use EPC. This requires embedding good energy management practices and securing resources in larger organisation or for a group of organisations .Supporting a public sector steering committee (established under the Public Sector Energy Efficiency Strategy) to determine the strategic opportunities for EPC, and possible government benefits. This involves several government departments, national finance expertise, the national central government buildings unit and SEAI. Possibly look at procurement frameworks or procurement supports. Re-engage with the marketplace on the concept and general awareness promotion of the concept."

SE: The main reason for the weak market to establish new EPC projects in Sweden have been identified as mainly a distrust of the EPC business model from the potential purchasing party in the public sector. The Swedish Energy agency is planning to set up a project together with EEF, energy efficiency companies industry organization, and a number om municipalities in eastern central Sweden. The project will focus to give advice in concrete procurement situations for energy services and, in corporation between the participants from the public sector and energy service providers develop new services. We want to create a collaboration network for knowledge dissemination and exchange of experiences. Within the project, municipalities and regions will contribute to their challenges, their prerequisites and other project participants contribute with their solutions. The project is being carried out in eastern central Sweden but the hope is to spread lessons to all of Sweden."

PT: The Eco.AP programme (Energy Efficiency Program in Public Administration) is being redefined in order to make it work.

EE: We work actively to simplify public procurement procedures and contracts. The government is also working to ensure availability of funding, but this does not take into account the energy efficiency aspects. The projects funded from the state budget should have wider benefits than energy efficiency only.

UK: Programmes such as Re:fit and the existence of the Salix revolving interest free loan fund are helping more organisations to implement energy efficiency measures in the UK public and education sectors.

FR: According to the JRC report, the common key barriers to the development of EPC in the public sector in France are :

1. Complexity of certain markets or contracts, which results in a lack of understanding, thus lack of trust;

2. The short-term return on investment

3. Clarifications on the conditions of energy performance guarantees are also required to support the uptake of EPCs on the market

4. The central barrier is still that the current Procurement law prohibits channeled energy costs savings (i.e. costs savings cannot be used to repay the investments).

The first barrier is overcome thanks to models of contracts released by public bodies (see answer to Q3).

The second identified barrier (which must contain a mistake: long-term ROI instead of short-term ROI !) is partly overcome thanks guides published by private & public key players clarifying the ways to implement an EPC, and especially means to maximize ROI.

The third point is partly overcome thanks to guides mentioned previously. Nevertheless, it is important to warn stakeholders on the responsibility of contract holders when they elaborate a contract (lack of commitment on energy savings, wrong estimation of the reference situation, poor data quality).

NB: we do not understand the fourth point underlined by the JRC because the French regulation was changed to allow public contracts for global performances improvement including operation, maintenance or design services aiming at improving energy efficiency."

NL: "Support building owners and facility managers, as well as EPC Facilitators and ESCo's

Informing our ministries and umbrella organisations such as the VNG (umbrella for local governments)

Cooperate with ESCO-network, a cooperation of 40 ESCos

Organize events and seminars

Develop instruments such as:

-Guideline for EPCs

-Guideline for Tendering

-EPC Menu online tool for EPCs

-EPC PreCheck tool (RVO in NL developed this tool for the guarantee project)

-Infographic on EPCs

4 whitepapers with best practices (5th in 2018)

Research / report on barriers for EPCs in NL

Articles on best practices

Articles in magazines for publicity and knowledge sharing

Database with best practices

EPC facilitators network NL and international

EPC facilitators trainings and webinars"

AT: a) Information for stakeholders via websites; DECA: www.deca.at , WKO: https://www.wko.at/service/umwelt-energie/Energie-Contracting.html, BMDW: https://www.bmdw.gv.at/Tourismus/energieeinsparungen/Seiten/Bundescontracting.aspx

BIG: http://www.big.at/ueber-uns/nachhaltigkeit/energieeffizienz-umweltschutz/contracting/

b) workshops and events for stakeholders to discuss liquidity problems."

NO: Information about the EPC concept to public and private buildings, EPC-facilitators and ESCOs. Including seminars, stories and films about running EPC-projects. Support schemes to increase use of energy performance contracts in both public and private sector.

MS were also asked if they had identified other barriers compared to the JRC report and answered the following:

DE: Political decision-makers are often unaware of the advantages of a continuous energy management and of the fact that an ESCO would implement it.

CY: Model procurement documents and model contracts especially for public sector should be prepared at EU level, and be adapted to all MS. Real procurement documents and EPC agreement for public sector should be communicated to all MS.

AT: Projects are often too small to reach a critical volume to be worth becoming an EPC-project.

Question 6 Is there a national observatory body/unit on EPC in your country (e.g. selected department in one of the ministries)?

Yes: DE, CZ, RO, SI, PT, UK, FR, NL, AT

No: BG, LT, EL, ES, IT, CY, SK, HU, PL, IE, SE, EE, NO, MT

I don't know: LV, FI

Those MS who answered yes gave the following description of the observatory:

DE:
FEEC
The Federal Energy Efficiency Center at the Federal Office for Economic Affairs and Export Control (BAFA)
Website: http://www.bfee-online.de
Scope: the Federal Energy Efficiency Center is inter alia responsible for the monitoring and assessment of the energy services market and for developing proposals that support market development.
Starting date: March 2009

DENA:
German Energy Agency (dena)
Website: http://www.dena.de
Scope: The German Energy Agency (dena) has the task of assisting the Federal Government in the energy transition. As an important part of this mandate, it organises the intensive dialogue between the federal government and regional authorities on EPC ("Bund-Länder-Dialog Contracting") and supports them in creating regional EPC competence centres.

CZ: Ministry of Industry of Trade

RO: The Energy Efficiency Department from ANRE published on the website the National List of EPC Code Signatories co-administrated together for Romania by ARPEE (member of EFIEES) and ESCOROM (member ally of eu.ESCO), starting on the 23rd November 2015.
http://www.anre.ro/ro/eficienta-energetica/informatii-de-interes-public/lista-companiilor-de-servicii-energetice

SI: Project Unit – Office for Energy-Saving Building Renovations at Ministry of Infrastructure and Ministry of Finance, which has the overview over all PPP contracts.

PT: It was set up a supervisory committee for the management of the energy efficiency contracts in 2013, under the Eco.AP programme, but due to the lack of EPCs, it isn't really working yet.

UK: The Department of Housing, Communities & Local Government acts as the national body for EPCs.

FR: Yes, it gathers mainly public EPC (86%) centralized through a common interface dedicated to the publication of public call for tenders. There is not a dedicated web interface to access to data but a report gathering main results was published in June 2017 by ADEME (the public agency for energy & environment), CEREMA (the public technical center for study & expertise on risks, environment, mobility & planning) and CSTB (the public technical & scientific center for building) to officialise the launch of the observatory:
https://www.ademe.fr/sites/default/files/assets/documents/presentation-ocpe.pdf
www.ademe.fr/sites/default/files/assets/documents/ocpe-novembre-2017.pdf (updated from November 2017)

NL: Yes/No
RVO is observing the market a bit. There is a chapter on EPCs in the monitoring report of 2016 on Energy savings in the built environment.

AT: The National Energy Efficiency Monitoring Agency undertakes market studies in the field of energy services.

IE and MT don't have an observatory but gave the following additional information:
IE: No, there is no one body tasked with overseeing EPCs. Each sector or public body implements EPCs individually. However, there is a unit under the National Management Treasury Agency called New Era which provides finance support to large scale projects. They can assess the financial implications of EPC only. They work mostly with larger projects. A recent example is a business case for a €250m street lighting retrofit project. In the end, it was decided not to go EPC and do the project out of its own capital budgets for various reasons.
There are isolated pockets of EPC expertise. SEAI the national energy authority developed the national form of contract and has grants for technical assistance for EPC projects. It in theory has sight of EPC projects through applications for various grant programmes. But it does not approve or review all EPC contracts, and does so only in the context of suitability for grant programmes. 5 years ago SEAI provided deeper EPC review and assessment supports for those developing EPC contracts. But the demand/projects never materialised. However, the templates and assessment stages are still relevant if and when the market for EPC grows. There is a new technical support unit in SEAI that will re vitalise SEAIs EPC supports, documentation and may provide an assessment/oversight function.

MT: In Malta there is no specific national body with EPC as its main task. Currently in line with the EED requirements the Energy and Water Agency has taken the initiative to analyse the potential of EPCs in Malta. In February 2017, a public consultation on Energy Performance Contracting39 was launched by the Agency. The Public Consultation document explained what is meant by Energy Performance Contracting, the European Code of Conduct for Energy Performance Contracting and provides information on the International Performance Measures and Verification Protocols.
Summary of the feedback can be accessed from: https://energywateragency.gov.mt/en/Documents/Feedback%20-%20EPC.pdf

Question 7 Have you heard about the EPC check initiative? (http://epccheck.eu)

Yes: BG, DE, CZ, SI, IE, FR, NL, NO

No: LT, EL, ES, IT, CY, SK, RO, HU, PL, LV, FI, SE, PT, EE, UK, AT, MT

Those MS who answered yes indicated that they had heard about the initiative from the following sources:

BG: E-mail notification. Information about the epccheck tool (including link to it) is published on SEDA Web site on the following link: http://seea.government.bg/bg/akcenti/57-sabitiq-category/9921-online-instrument-za-dogoworite-s-garantiran-rezultat.
The information about the tool was published August 2017.

DE: CA Forum "Energy Services"

CZ: From national stakeholders active in the area. Yes, sharing with other relevant stakeholders.

SI: CA EED 2

IE: One of the participants in the project, CODEMA in Dublin, share information on the programme with other public bodies and on SEAIs public sector networking platform Energy Link.

FR: Thanks to the forum of the Concerted action on EED. This information has been shared with my colleagues.

NL: We (RVO in NL) developed this online tool for the guarantEE project; it has been translated and implemented in 14 EU MSs.

NO: Newsletter from the guarantee-project

Question 8 Do you have EPC market facilitators operating in your MS?

Yes: DE, CZ, RO, SI, LV, FI, IE, SE, PT, EE, UK, FR, NL, AT, NO

No: BG, EL, ES, IT, CY, HU, PL, MT

Don't know: LT, SK

Comments:

DE: Federal and regional energy agencies, Project facilitators (listed for the funding programme for EPC consultancy)

IT: Answered no, however, in the frame of the EU project "Guarantee", the partners, including ENEA, have been carrying on activities to select and train market facilitators.

RO: ARPEE (member of EFIEES) and ESCOROM as co-administrators for the European Code of Conduct for Energy Performance Contracts

SI: Project Unit – Office for Energy-Saving Building Renovations at Ministry of Infrastructure; Energy Agencies; Institute “Jožef Stefan”.

HU: A new, state owned company was set up in 2015-2016, called NEG Zrt., which is supposed to be an ESCO providing energy efficiency services to public sector institutions, offices, authorities, etc.

FI: Motiva Oy supports municipalities, companies and energy serving companies in EPC projects.

IE: CODEMA under the Guarantee project. Carbon Energy Fund in the UK now have an Irish brand and ESCO framework established. No national approved scheme.

SE: EPC facilitators in Sweden mainly support the public procurement procedure of EPC project

PT: ADENE, the energy agency, under a program contract signed with DGEG, has been widely disseminating the program in order to leverage the development of energy efficiency projects in the public sector, namely through several meetings and direct contacts with various entities.

EE: Our EPC market facilitators (foundation KredEx; State Real Estate Ltd, RKAS) have many other roles and they work with EPC issues on a project basis. However, they have published several useful reports and contributed public events in this regard.

UK: The Department for Business, Energy and Industrial Strategy is currently carrying out research into the UK Energy Services Market with the intention of identifying best practice and ideas on the best way to continue to grow the market.

FR: There are many types of EPC market facilitators in France:
- At the public level, ministries, public agencies such ADEME & local key players publish information on the EPC regulation & models of contract (see answer to Q3)
- At the private level: companies federations publish surveys, practical guides and organize events & training to share good practices (see for example events organized by the technical association for energy & environment, ATEE - http://atee.fr/dossiers/contrat-de-performance-énergétique).

AT: DECA (Dienstleister Energieeffizienz und Contracting Austria)

NO: Less than 10 today.

Question 9 – Do you have good examples of EPC in the public sector in your country?

Yes: BG, ES, DE, IT, SK, CZ, SI, HU, PL, FI, IE, SE, UK, FR, NL, AT, NO

No: LT, EL, CY, RO, LV, PT, EE, MT

The following examples were mentioned:

BG: 1) Street lighting project with 1381 lamps in Sapareva bania Municipality in the region of Kustendil (Bulgaria) - Duration of the contract: 7 years; Total Investment: 226,584 €; Guaranteed savings: 70%
2) Administrative building of the Central Office of Sofia agricultural academy – Bulgaria - Duration of the contract: 5 years; Total Investment: 222,269 €; Guaranteed savings: 28%

ES: 1) Renovation of public lighting (Soto del Real, Madrid).
2) Duero-Douro Project for the renovation of public lighting of 155 small municipalities in the border area of Spain

and Portugal.
3) Cuzco. Pilot Project for the renovation of buildings owned by the State General Administration (Ministry of Economy, Industry and Competitiveness and Ministry of Energy, Tourism and Digital Agenda).

DE:1) Federal Foreign Office
Contract period: 10 years, energy costs: 1.9 Mio. € per year, guaranteed savings: 604,000 € per year (31.1 %), investment: 3 Mio. €, assumed CO2-reductions: 1,780 t per year (22.6 %), construction cost subsidy: 1.2 Mio. €, measures in the area of refrigeration technology, lightning and heating

2)Federal Employment Agency
Contract period: 9 years, energy costs: 235,000 € per year, guaranteed savings: 35,000 € per year (14.9 %), investment: 222,000 €, assumed CO2-reductions: 148 t per year (12 %), measures in the area of heating, air conditioning, lightning and sanitary technology

Municipality Zimmern o. R.
Contract period: 15 years, energy costs: 102,000 € per year, guaranteed savings: 71,778 € per year, investment: 1.5 Mio. €, assumed CO2-reductions: 193 t per year, construction cost subsidy: 312,000 €, measures in the area of air conditioning, heat recovery, water heating and installation of an combined heat and power plant

Further examples can be found here (available in German):
https://www.kompetenzzentrum-contracting.de/anwendung/dena-praxisdatenbank-contracting/?tx_rsmpageadds_listprojects%5BchangeFilter%5D=87&tx_rsmpageadds_listprojects%5BsearchWord%5D=&tx_rsmpageadds_listprojects%5Bcontroller%5D=ListProjects&cHash=d642cfebcb84ba4aa2520252ef0c27f1#c12599

IT: There are few examples but neither coordinated nor harmonized among each other . As they don't reflect the guidelines and the consistent approved reference terms, it is not the case to present them at the CA EED PM.

SK: Best energy efficiency projects http://www.apes-sk.eu/vitazne-projekty/

CZ: 1) Institute for the Care of Mother and Child (Prague) - year 2003, Investment 20 878 975 CZK, guaranteed yearly savings 2 600 000 CZK.
2) National Theater (Prague) - year 2007, Investment 89 772 445 CZK, guaranteed yearly savings 12 300 000 CZK.

SI: Demonstration/ pilot project: CŠOD (EUR 1,5 mi.; 15 years' payback time; ESCO, Cohesion Fund);
Project of the Municipality of Novo mesto;
Project of the Municipality of Hrastnik.

HU: Raab Sol Energy Efficient Building, Climate Protection and Housing Demonstration Project in the City of Győr, that aims modernizing few hundreds of panel buildings. Financing is provided by local government of Győr, by XXX Housing Association and EnergoSys Ltd. (ESCO company). Project started in 2011 and still goes on in 2017. EnergoSys, Cotech Ltd, or MN6 Ltd (ESCOs) have some references in the public sectror.

PL: There are report of some successful stories but they are not detailed enough to be able to answer all above mentioned questions. The EPC dealt mainly with street lighting and public buildings. They were performed at local level; their outcomes are measured in energy units mainly.

Recent years, examples of projects based on ESCO agreements most often concern thermal modernization of buildings. One of the examples of projects implemented in the ESCO program in this respect is the project in the Karczew commune, in 2013. As part of this project, a comprehensive thermo-modernization of public utility buildings was implemented. The private partner is Siemens Sp. z o.o. The value of the investment is PLN 12 million. The duration of the contract is 16 years. Planned savings: 50% in heat and 20% in electricity. The own contribution of the private partner is funds from the NFEPWM from the GIS program in the amount of 20% of investment costs. The amount of the private partner's remuneration will depend on the savings achieved. The contract was signed in 11 months from the date of the announcement.

In addition to thermo-modernization of buildings, the most commonly implemented type of ESCO project in the public sector is the modernization of public lighting.
One such example is the EPC project of street lighting modernization in the Trzebielino commune realized in 2012. ENERGA Oświetlenie has carried out a project consisting in comprehensive modernization of street lighting. 354 lighting fixtures were replaced, including 218 mercury ones. The power demand due to the implementation was reduced from 56 kW to 29 kW, and the cost of lighting decreased from 93.5 thousand. PLN to 41.7 thousand PLN,

or 55%. The commune has received modernized lighting along with maintenance services.
Another example could be Tauron Dystrybucja S.A., which like ENERGA changed the street lightening eg. in Częstochowa.

FI: ESCO Procurement by the City of Vantaa. More information:
https://www.motiva.fi/ajankohtaista/julkaisut/hankinnat/esco_procurement_by_the_city_of_vantaa_curiosity_and_persistency.10735.shtml

IE: 1) 3 leisure centres retrofitted in Dublin, saving over 35%. Biggest benefit was the maintenance and operation elements, meaning leisure centre staff could focus on their main services.
2) St John of Gods, mental hospital, new boilers, windows, BMS, lighting etc. Again maintenance and operation support considered as beneficial as the savings.
3) Mater hospital about to sign contract with ESCO on €10m project, which includes window replacement, CHP, lighting, BMS, monitoring etc. To be completed in 2018

SE: Municipality of Söderhamn. The purpose of the project is to reduce the municipality of Söderhamn and Faxeholmen AB's, a public housing company, energy consumption and energy costs, as well as to streamline and reduce the cost of operation and maintenance work. This will pave the way for a long-term positive financial future for both the municipality and Faxeholmen AB. The project will also create opportunities for collaboration and increased corporate benefit between the municipality, Faxeholmen and Söderhamn Nära. Another part is to try to create local jobs for local entrepreneurs through the project.

Project details:
Mixed property stock
Total property area
436 749 s q.m
Number of buildings
150
Purchaser
Municipality
Year of building constructions
1751 to 2005
Year of EPC implementation
2016-2019
Specific energy usage per sq.m. before implemented EPC measures
176 kWh/sq.m and year
Projected energy use per sq.m. after EPC measures
136 kWh / sq.m and year. Corresponds to approximately 23% energy saving
Investment cost EPC energy measures
27 million euros

UK: There are numerous examples of EPC best practice which we could put forward if that was helpful.

FR: ADEME has released different returns on experience regarding public EPC implemented in the ex-Rhône-Alpes, Centre & Alsace regions.
For example, the city of Annemasse (35 k inhabitants) has launched in June 2013 an EPC (487 k€ VAT exc.) to reduce its energy consumption thanks to optimization, investment & management of technical infrastructures & energy systems (target: 24.77% of energy savings – min. 23%).
NB: the target has been elaborated from effective consumption data from 2008 to 2011
The private company in charge of actions enabling reduction of the city's energy consumption is yearly paid by the city for operation & maintenance of infrastructures, and benefit from economies made thanks to energy saving. If the saved energy is upper to the target, the surplus of economies is shared between the city and the private company.

For more examples of EPC implemented in the ex-Rhône-Alpes region see
http://www.cpeauvergnerhonealpes.org/fr/exemples-de-cpe/fiches-de-cpe-en-auvergne-rhone-alpes.html

http://www.ademe.fr/observatoire-premiers-contrats-performance-energetique-a-grande-echelle-garantie-resultat (feedback from the first EPC signed in France by the ex-regions "Centre" and "Alsace")

In addition the national union of climatic operation & maintenance (SNEC) published every year good examples of contracts with energy saving commitment
www.snec-energie.fr/etudes-publications/enquetes/snec-2017/

NL: 1) National Government Agency (Rijksvastgoedbedrijf): Van Gogh Museum in Amsterdam, Tax Offices in Apeldoorn
2) Rotterdam: 9 swimming pools, Kunsthal, Roteb buildings
3) Enschede: 100 local government buildings, 2 EPCs for 10 years

NO: 1) Skien Municipality (public buildings, schools. etc. Financed by equity and Kommunalbanken. Green interest. Appr. 3-5 years payback time)
2) Kongsberg Municipality (public buildings, schools. etc. Financed by equity and Kommunalbanken. Green interest. Appr. 3-5 years payback time)
https://youtu.be/H25uqjoWCh4

Question 10 How has the requirement in EED Article 18 to support the uptake of EPC in the public sector by providing information of best practices of EPC been met? Do you have lessons learnt to share?

BG: Regular update of the SEDA's Web page with information concerning EPC best practices and/or other linked documents and activities. Education campaigns among state and municipal administrations on the legislation rules and procedures.

LT: We are still at the begining of using ESCOs in public buildings.

EL: Discussions between stakeholders, the Ministry of Economy and Construction and representatives from the Ministry of Environment and Energy, who deal with EPC issues, have been arranged and are underway in order to analyze various best practices and to examine their potential replication.

ES: See 4.1.6. Energy services (article 18) in 2017-2020 National Energy Efficiency Action Plan.

A) Legislative measures to promote energy services (Royal Decree-Law 6/2010); promotional activities and training plans; IDAE has sponsored working groups with various associations of energy service companies; procurement models available on the IDAE website.

B) Economic measures to support the procurement of energy services:

b.1. BIOMCASA II, GEOTCASA, SOLCASA and GIT.
b.2. JESSICA Holding Fund.
b.3. Aid Programme to Improve the Energy Efficiency of Existing Residential Buildings (the first programme was launched in late 2013 and the second one is still in force).

C) Measures to promote energy services: list of energy services providers available at IDAE website; action Plan for training energy service companies as part of the cooperation agreement between the IDAE and the School of Industrial Organisation.

DE: The FEEC offers information about available model contracts and guidelines for EPC on its homepage (http://www.bfee-online.de/BfEE/DE/Energiedienstleistungen/Contracting/Mustervertraege/mustervertraege_node.html;jsessionid=7244E1FB474B32A458643240A15F2A01.2_cid378, available in German).

The German Energy Agency (dena) provides information on all aspects of EPC on its website as the "EPC Competence Centre" (https://www.kompetenzzentrum-contracting.de). This includes model contracts, best practice examples and helpful guidelines for the administrations.

IT: To this aim and with the possibility to become "best practices", two pilot projects, on a trial basis, have been foreseen within EU project "PUBLNEF" and carried on in Catania and Castelbuono (Italy).

CY: General info on best practices of EPC in other MS are communicated to public sector.

SK: Best energy efficiency projects http://www.apes-sk.eu/vitazne-projekty/
Basics about EPC including risks or standard contracts http://www.apes-sk.eu/skola-epc-home/
EPC info on energy agency http://www.siea.sk/clanky-legislativa/c-10693/zakon-c-321-2014-z-z-energeticke-sluzby/

CZ: - Through funding of an analysis of EPC use suitability in public buildings for a particular project, from the State program for promotion of energy savings.
- List of ESCOs published on the webpage of the Ministry of Industry and Trade
- EPC contract template in the national legislation (Act 406/2000)

RO: In the context of the energy targets assumed by Romania, increasing of the energy efficiency is one of the national priorities, and ANRE promotes the constructive dialogue with all the stakeholders in the regulatory activity and the sustained dissemination of the ESCO legislation at national and European level in the energy efficiency sector. In this respect, ANRE has carried out an important activity in the field of energy efficiency regarding the implementation of the current legislation for promoting the energy efficiency and elaborating the secondary regulations, and also activities within the framework of the projects financed by the Horizon 2020 and in internal and international working groups. Also, ANRE signed cooperation agreement with ESCOROM in 2017 and drafted also a cooperation agreement with ARPEE for developing the ESCO market in Romania.

SI: We started with the EPC in the public sector (as demonstration/ pilot projects). The future events will give valuable information to set-up role-model and learn on best practices.

HU: Requirement is not met.

PL: In Poland, various types of activities are carried out for the dissemination of contracts for energy efficiency improvement. As part of such activities, a guide for the public sector regarding energy efficiency financing was developed and made available on the Ministry of Energy website. The guide contains guidelines for the public sector, a model of essential provisions of the contract for improving energy efficiency.
There are many organizations, associations, institutions that provide information and advisory services as part of their tasks in the promotion of issues related to proper management and energy management, including issues related to development of the energy services market.

LV: Latvia has experience in ESCO services in multiapartment buildings. At the end of 2017/beginning of 2018 there have been some initiatives from municipalities to use EPC, but we have no lessons to share in public sector now.

FI: Motiva provides guidance and shares information about EPC for both public and private sector. This includes also best practices.
For example, last year Motiva organized a supplier-buyer seminar for public and private sector on EPC. EPC companies participated the event too. The goal was to share good practices and develop the dialogue between these parties.

- **IE:** SEAI and Dept of Energy developed the National Energy Services Framework in 2013 approx. It included an EPC Handbook, EPC standard form of contract and procurement guides and templates. It provided EPC technical assistance grants and support programme for projects undertaken energy contracting.It included discussions and stakeholder meetings with the ESCO market
  It included development of an Energy Efficiency Fund, seeded with capital by government.
  Regularly SEAI supports EPC promotion events and supports. It works with public bodies and their EPC facilitators (I.e. CODEMA, CEF for health etc) to get EPC project delivered.
  Ultimately the marketplace for EPCs, whilst very interested at the start in 2013, did not develop as was expected. Those that were successful took 2-3 years to progress and this requires a sustained level of commitment. Competence (in facilitators, experts and in public bodies themselves) was an issue, albeit there is more access to expertise now. Basic awareness of the concept is the first hurdle. Lastly confidence is an issue, that EPC is the solution and that it's the right thing to do. There are some success stories in the market place and more coming. But they are individual examples. With easier access to facilitators and frameworks, more individual organisation projects will progress. The EPC off balance sheet ruling may encourage aggregation of individual projects but its early days on this. Clearer details on the ruling and guidance from national treasury would greatly enhance the concept.
  For the concept to thrive, it needs to be adopted more strategically i.e.
  - For example, the health sector has developed a national framework for EPC ESCO providers for acute hospitals. It has a pipeline of hospitals lined up. Governance details need to be finalised to enable it to be used for all hospitals. A similar 'sectoral' approach could be applied for where EPC is a 'no brainer' and resources/facilitators/frameworks applied to service a whole sector. An example could be leisure facilities, and 3rd level facilities.
  - The impact of the Eurostat ruling is still not fully understood. SEAI hosted a workshop on the concept in December 2017, to gauge interest and knowledge on the subject and EPC. The body who determine on/off balance sheet in Ireland presented, as did the national treasury agency who are financial experts and

advise government. Further detail is needed to understand whats needed to make an EPC contract off balance sheet. Also, its still been processed in government as to the possible benefits from a capital budgeting and government balance sheet perspective. Currently there is no clear direction/decisions on EPC or on/off balance sheet at government level
- SEAI recently hosted a public sector conference in January 2018. SEAI seeded the concept of EPC again with over 300 public bodies, and the possible benefits of off/on government balance sheet treatment for projects. Its early days but some public bodies and sectors understood the strategic benefits of aggregating projects and potentially accessing large scale finance in addition to normal capital allocations. A briefing note was prepared in advance of the conference on capital considerations. This is so public bodies understand fully how the capital allocation process works, and begin to have more indepth conversations with their finance managers. This will hopefully lead to more strategic, sectoral discussions with department or finance managers. Aside from health we are in the early stages of larger scale EPC off balance sheet type projects. Even though most energy managers say they are capital restrained, they do not a) understand or have maximised accessing existing routes of capital b) asked strategically for capital by presenting business cases for large scale projects either for their own organisation or as a sector.

- The conference had speakers from the Dept responsible for capital allocations and from the EU. They emphasised the need to analyse and process the data, determine the projects and costs/impacts needed to close the gap to targets, and then look how to deliver. EPC and 3rd party finance should be considered then as a tool or option to deliver projects where they are best suited to do so. The public sector has a lot of data through a national public sector reporting programme called M&R. So the focus in 2018 will be developing a project pipeline in pursuit of the national 33% target and the Public Sector Strategy. Most will be non EPC or a light form of energy contracting, with EPC applied where it works well.

- EPC and off balance sheet options are in the mix.

SE: The article has have limited effects since EPC projects are perceived to be complicated, in the public sector, and not applicable with public procurement procedures. It is also perceived that the ESCOS:s achieve disproportionate profits in the EPC projects.

PT: Under the Eco.AP programme, we developed a model of energy performance contract for public administration based on the role of energy service companies. ADENE widely disseminated the Eco.AP programme among the public sector, in order to help entities to implement it.

EE: This requirement is fulfilled through sharing the information about the issue in seminars, in websites.

UK: As outlined above we are currently carrying out research into the UK Energy Services Market with the intention of identifying best practice.

FR: As explained above, some guide sharing good practices & models of contracts were published by public bodies. In addition, an observatory was launched in June 2017 (see answer to Q6).
NL: We use this as an extra reason to support EPCs.
Main reasons are the need to accelerate EE in buildings because of the National Energy Agreement, the Paris Climate Agreement; the implementing of energy regulation (wet milieubeheer); and problems with indoor climate and maintenance of installations (for heating, cooling, ventilation, lightning) in buildings.

NO: The EED is currently not in the EEA-agreement, and article 18 has therefore not been implemented into national legislation.