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Supporting the EPC Public Procurement IN Going-beyond

WP 4 –Transferring

4.5.2:

MED EPC Policy recommendation

August 2019

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Description
<p>This report is the deliverable of task 4.5.2 “MED EPC Policy Recommendation”. The following report starts from the documentation collected and the interviews undertaken in each country, and summarizes a set of policy recommendations that can be applied at EU, National, Regional and Local (either municipal and inter-municipal) levels.</p>

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1 Introduction

In line with the main aims of the Transferring Phase (WP4), the MED EPC Policy recommendation report highlights the findings of the Policy Engagement activity (4.5.1), in which the policy makers were involved to debate on the challenges of the transition to a low-carbon economy through the implementation of EPC in public buildings. The STEPPING's partners engaged local and national policy and decision makers, inform them of the overall strategy and content of the project, discussed about the existing regulations, technical and financial barriers of EPC, and finally proposed possible regulation actions to support a wider adoption of the EPC contracts.

The consultation with the policy makers and stakeholders involved in the EPC contracts was a key activity that helped to understand which are the challenges in the different EPC countries and markets and to come up with possible actions to improve the EPC contracts from a regulatory point of view and facilitate the EPC public procurement processes in the public sector. In particular, each STEPPING partner organized meetings with local policy makers and experts and collected opinions on regulations trends and suggestions on policy recommendations in relation to EPC schemes. The topics dealt in the meetings concerned the existing regulation barriers and challenges, financial schemes and support measures, ESCOs and other policy concerned topics.

The following report starts from the documentation collected and the interviews undertaken in each country, and summarizes a set of policy recommendations that can be applied at EU, National, Regional and Local (either municipal and inter-municipal) levels. The report highlights the EPC state of the art in the different countries, the key barriers and challenges and the opportunities to improve and support the adoption of the EPC contracts in the MED regions.

The objective of the Policy Recommendation is to identify the gaps in existing policy instruments and defining key elements that could be introduced in future or revised legislations and tools in order to facilitate the implementation of EPC in MED area. The recommendations will be diffused at local, MED and EU level. The report is subdivided according to each country's contribution and findings following an open-ended questionnaire and a brief set of conclusions. These sections of the report are entitled "Regional Visions" as they entail the different regional/national approaches on EPC.

As a result of this report and the consultation with the different stakeholders, a list of possible recommendations in support of EPC in the MED area is being proposed to be diffused at local, MED and EU level. The recommendations are based on the outcomes of discussions and activities carried out by each country involving the target stakeholders.

2 Stakeholders / Policy makers addressed

As part of the activities of the transferring phase, a set of interviews have been carried out by the project partners to investigate and propose policy recommendations at local, national and EU level. The engagement of the decision makers and professionals were done in different meetings, some in occasion of local seminars, training events, forums other in informal or official interviews.

The interviews were organised with open-ended replies to a questionnaire that collected information on the state of the art of EPC in each country, highlight the main constraints in the application of EPC contracts and suggest its potentiality and improvement.

The experts and policy-makers engaged were:

Country	Place	Stakeholder/Policy maker	Contact person
ITALY	Torino	Fenice/Edison (ESCO)	Riccardo Ghidella
	Cuneo	Fondazione Cassa di Risparmio di Cuneo (Bank Foundation)	Andrea Alfieri
	Torino	GSE	Stabile Annafederica, Garofalo Francesca, Bovara Alberto
	Rome	Ministry of Economic Development ENEA FIRE Metropolitan City of Rome Association Italian Banks EASME – European Agency for Small and Medium Enterprises GSE	Different persons
	Pinerolo	Comune di Pinerolo (Municipality)	Christian Bachstadt Malan Camusso
	Borgomanero	Comune di Borgomanero (Municipality) Comune di Ghemme (Municipality) Comune di Omegna (Municipality)	Elisa Lucia Zanetta
			Franco Gioria
			Roberto Polo
	Modena	Italian Federation of Energy Managers	Daniele Forni
	Modena	Craftsmen organization	Giorgio Falanelli
	Torino	Sercity (ESCO)	Giuseppe Manzi
	Modena	Association of Municipalities	Alessandro Rossi
	Torino	Auraenergy (ESCO)	Mirella Dagna
	Milano	Fondazione Cariplo (Bank Foundation)	Federico Beffa
	Rome	Ministry of Economic Development ENEA FIRE Metropolitan City of Rome Association Italian Banks EASME – European Agency for Small and Medium Enterprises GSE	Different persons
Torino	Municipalities and Professionals	Several persons	
	Institutions		
	Regional Council	J. Girardot	

FRANCE		ADEME (National Environment Agency) – regional level	H. Hamadou
		ADEME (National Environment Agency) – National level	F. Rosenstein/Hakim Hamadou
		DREAL (Regional State representation)	S. Bauregard
		CEREMA (National technical Center for public authorities), Stepping project observer – responsible for the French National EPC Observatory	V. Billon / A. Bibet Chevalier / P. Lebreton
		ESCO's	
		Eolya	L. Grimaud
		Idex	Y. Stepien
		FFB (Regional Federation of Building sector enterprises)	M. Odent
		SPIE	F. Julien
		Engie-Cofely	C. Rebillard
		OPERENE : Directeur	Nicolas PETIT
		SPL OSER (Public regional ESCO)	P. Truchy
		Public local authorities	
		ESDED (Syndicat de l'énergie (energy distribution operator) of Drôme province)	B. Blanchard
		SIEL (Syndicat de l'énergie (energy distribution operator) of Loire province)	JY. Knecht
		SPL OSER (Public regional ESCO)	P. Truchy
		Nord Isère Durable (Gathering of 25 municipalities) – Pilot territory for Stepping project	S. Delmas
		Annemasse municipality	P. Pelissier
		Financial sector	
		Caisse Dépôts et Consignations	P. Allerme
	Banque populaire	JP. Druz	
	Crédit Agricole	S. Descaillot	
SPAIN		ANESE (Asociación Española de Empresas de Suministros Energéticos)	
	Granada	APEGR (Agencia Provincial de la Energía de Granada)	
	Cadiz	APEC (Agencia Provincial de la Energía de Cádiz)	
PORTUGAL	Portalegre	Municipality of Loures	Iolanda Sousa
		Municipal Energy and Environment Agency of Loures	Susana Gomes Entretede
		ENGIE	Paulo Salgado
		ENGIE	Catarina Abrantes
		Municipality of Olhão Municipality of Olhão	Fernando Martins Nelson Gago
		AREANATEjo	Diamantino Conceição
		Municipality of Portalegre	Luis Carvalho

		Municipality of Marvão	Victor Frutuoso
SLOVENIA		Local Energy Agency of Gorenjska, Kranj	
		Jožef Stefan Institute	
		Energy Efficiency Centre, Ljubljana	
		Municipalities of Bohinj	
		Municipalities of Tržič	
MALTA		BICC Chairman (Building Industry Consultative Council).	Dott. Charles Buhagiar
		Procurement section of the Foundation for Tomorrow's Schools.	Eng. Simon Scicluna, Arch. Joseph Attard
		Gozo Business Chamber, Chief Executive Officer and Policy advisor	Mr Daniel Borg
		Chamber of Engineers Malta	Eng. Norman Zammit
		University of Malta	Eng Simon Borg
		Ministry of Transport, Infrastructure and Capital Projects, Malta	Roberta Vella
		Malta Water and Energy Agency	Charles Buttigieg
		Ministry for Education and Employment	Arch. Joel Fenech
		Department of Environmental Design, Faculty for the Built Environment, University of Malta	Prof. Vincent Buhagiar
		Chief Officer – Bank of Valletta- Consumer Finance Centre	Edward Grech

GREECE	Athens	Ministry of Environment & Energy, General Directorate of Energy	Vicky Sita
		Ministry of Environment & Energy, 1 st Personnel Structure of Partnership Agreement	Ioanna Nikou
		Ministry of Environment & Energy, Department of Energy Efficiency	George Souris

	Ministry of Development & Investments	Georgia Panagiotopoulou
	Centre for Renewable Energy Sources & Savings	Vasilis Kiliadis
	Centre for Renewable Energy Sources & Savings	Minas Iatridis
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	Central Union Of Municipalities of Greece, Department of Documentation, Informatics and Development of Local Authorities	Martha Giannakopoulou
	Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH - GIZ	Yannis Vougiouklakis
	School Buildings Organisation S.A., General Directorate of Projects	Theodoros Kyriazopoulos
	School Buildings Organisation S.A., General Directorate of Projects	Ioannis Charonitis
	Department of Studies	Jacob Alavanos
	Hellenic Agency for Local Development & Local Government S.A.	Panagiotis Voulellis
	Aluminium Association of Greece	Elli Ganakou
	Managing Authority of Regional Operational Programme Southern Aegean	Kantia Printezi

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3 Regional visions/Lesson learnt

3.1 State of the art and maturity of EPC market in PP countries

State of the art of EPC in Italy

- EPC has been clearly set in the National legislative framework with the Decree 102/2014, which defines the minimum requirements to be included in energy performance contracts signed with the government (and the private sector is also requested to set these requirements). Since then, EPC are recognized as an option on the market and several projects have been implemented. Nevertheless, real EPC projects are still limited in number, whereas energy service contracts or hybrid forms of service Contracts with EPC peculiarities are widespread in the public sector. There is, thus, still a potential market development for the future.
- ESCO market still in the hands of bigger players. At present there are many ESCOs but most of them has just tried to be there, even though without any experience. Certification (11352) is no more so relevant in order to select a good ESCO. That's why you also need to investigate their CV/real experience.
- Several EPC examples exists in public buildings and street lightning. There are different approaches and models, according to tendering procedure applied. Some of them have been successful and additional ones are on the way to be launched in the coming months/years. Some approaches are labelled as EPC, but at the end, not all of them can be considered like that.
- The public sector, buildings and street lighting, is the sector where most of EPC contracts are implemented. Nowadays, also private buildings (condominium) are approached with such contract proposal. Similar contracts would be helpful also for transports and sustainable mobility projects, which are not explored so far.
- Renovation and O/M are always combined together, as it must be.
- **Level of maturity of the EPC market:** The ESCO market in Italy is still considered to be

among the biggest and most developed ones in Europe. Despite of that, only a limited number of companies have the technical and financial capabilities to provide and sustain a long-term EPC contract. In any case, Italy has seen a growth in the number of EPC in the last decade and mostly in recent years. This was mainly due to Project Development Assistance services put in place thanks to Elena and Horizon 2020 Programs and to a favourable incentive scheme (mainly “conto termico”) where ESCO could have direct access to. Recently the possibility for ESCO to have access to the tax deductions as a credit transfer from the private sector will likely push the EPC market further on in the residential building sector. In street light sector EPC is quite well widespread.

State of the art of EPC in France

EPC concept was included in the two last French environmental laws: Grenelle Law in 2012 and Energy Transition Law in 2016. The public procurement was adapted to facilitate EPC.

The French Public procurement law gives three possibilities:

- 1) Three separated tenders for design, building (with different lots/subdivisions) and operation, which are the most used procurement method.
 - 2) Global tenders including design + building + operation: only possible with EPC but the financing is not included. Mostly the competitive dialogue is used for these EPC tenders.
 - 3) PPP including design + building + operation + financing: only possible for investments over 2M€ and a demonstration that the financial balance is in favor of the public authority compared to separate tenders.
- Operation and maintenance contracts are mostly maintenance or supply and maintenance ones. Part of them includes profit sharing but not much. Energy supply with guarantee contracts called Services EPC exist with very low investment.
 - Feedback shows that the work and O&M quality are better in EPC because of the risk sharing inside the ESCO consortium.
 - **Level of maturity of the EPC market:** in France, EPCs are quite well-developed on public lighting and on building renovation (250 public EPCs in the national observatory database). An EPC market exists with packaged offers since 10 years and is growing each year. EPCs are mostly dedicated to heating systems and services but, in Auvergne Rhône-Alpes, a significant part of them (25%) include also global renovation EPCs. This specificity is due to the regional public ESCO SPL OSER that is responsible of 15 contracts and to the energy advisory service of the Loire “Syndicat d’énergies” (Energy distribution operator) that is responsible for six of them.

The Auvergne Rhône-Alpes Region is the best French region with 30% of the public EPCs in France. With regards to the ESCOs, EPC market offers of national ESCOs has still the potentiality to grow.

For now, in France and especially in Auvergne Rhône-Alpes, the context is good for big municipalities with technical and administrative services, big building pool and a good investment capacity. EPCs' offer is also good for big projects by national ESCOs well organized. The situation is different for small municipalities/small projects and SMEs and this is what we think must be improved.

The challenges are now to increase EPC demand in small municipalities with EPC facilitator services and to allow more SME's to participate in the market with more and more sourcing activities.

State of the art of EPC in Greece

- Law 4342/2015 transposes Directive 2012/27/EE in the Greek legislative framework. The Law establishes the institutional framework for the provision of energy services, introduces the requirement to establish an ESCO Registry for the registration of ESCOs providing energy services and other measures to improve energy efficiency and provides a detailed description of the issues relating to the EPC.
- Currently EPC is gradually implemented in energy efficiency street lighting projects.
- With regards to buildings, some contracts have been signed in the private sector and especially for large building blocks usually with significant and extended HVAC and/or CHP systems.
- Service EPC is a suitable EPC model for specific projects related to the enhancement of the buildings' operation taking into account late initiatives by the Ministry to enhance the role of Public Buildings Energy Managers who are responsible to monitor and operate the energy systems of the buildings.
- **Level of maturity of the EPC market:** Since 2013 the two main EPC models promoted in Greece are: shared savings and guaranteed performance. However the EPC scheme, especially what concerns energy efficiency projects in public buildings, is practically not applied in Greece. Except for a very limited number of pilot projects deployed in the framework of EU funded projects, no real life projects have been implemented in Greece using EPC and the ESCO market at a nascent stage. There is limited experience in the market with a very limited number of companies being able to demonstrate EPC experience. Currently on the updated ESCO Registry 3 ESCOs appear to have realized a project (private sector) through EPC and 5

more have running contract; 80 more companies have registered with no experience but with the intention to offer energy services through EPC and are grouped under a specific category B.

A new project to retrofit the headquarters of the National Radio and Television public company combining subsidies with EPC has been announced recently (24/5/2019). The Ministry wants this project to function as a pilot that will produce knowledge and trigger more investments in public buildings energy retrofit with third party financing.

State of the art of EPC in Spain

- The regulations that transpose the EED (2012/27/EU) in Spain are:
 - Real Decreto Ley 6/2010, de 9 de abril, de medidas para el impulso de la recuperación económica y el empleo.
 - Ley 2/2011, de 4 de marzo, de Economía Sostenible
- The shared savings model, that is where the ESCO finances the investment, is the model that is mostly adopted and that best fits the Spanish scenario.
- With regards “Renovation and O&M” the shared repayments contracts are the most interesting for the final customer, since they avoid having to make an initial financial outlay.
- Sectors that most benefits from EPC scheme are the industrial sector, large service companies and tourist sector.
- **Level of maturity of EPC market:** The two main EPC models promoted in Spain are: shared savings and guaranteed performance, but most organisms and energy agencies think the first option is the one that would work properly. However the EPC scheme, especially what concerns energy efficiency projects in public buildings, is practically not applied in Spain. Except for a very limited number of projects that are financed with public funds (subsidies). Only EPCs on public lighting are being implemented at this moment.

State of the art of EPC in Portugal

- In Portugal, the transposition of European legislation on the elaboration of EPC began in 2009 and over the years has been duly adapted and has gradually been implemented in private projects and, more recently, in small projects implemented by the municipalities. Main policies that regulates the EPC contracts are as follow:
 - Decree-Law no. 319/2009, of 3 November, transposes Directive n. 2006/32/EC of the European Parliament and of the Council of 5 April on energy end-use efficiency and

energy services and repealing Directive 93/76/EC and lays down the conditions for the development and promotion of a market for energy services and for the development of other measures to improve energy efficiency for final consumers.

- Resolution of the Council of Ministers no. 2/2011, that among other things designate LEM (Local Energy manager) in all services and bodies of the direct and indirect administration of the State, as well as public companies, universities, public business entities, public foundations, public or private associations with mostly public capital.
- Decree-Law n. 29/2011, of February 28, establishes a legal framework applicable to the execution of energy efficiency management contracts to be concluded between the services and bodies of the direct, indirect and autonomous Public Administration and energy service companies.
- Regulatory office n. 15/2012 establishes the Qualification System of Energy Services Companies - ESCO, with the definition of levels of qualification according to technical and financial capacity of the company.
- **Level of maturity of EPC market:** in Portugal the level of maturity of EPC market is rather advanced. The EPC are diffused and adopted, in particular with the following main options:
 - “Key in hand” service – ESCO provides all the services needed to implement an energy efficiency project at the customer's premises, from the initial energy audit to the long-term monitoring and Measurement and Verification (M&V) of project-related savings.
 - Comprehensive measures – The ESCO presents a comprehensive set of measures to meet the needs of a particular customer, and may include measures of energy efficiency, renewable energy, distributed generation, reduction of water and material consumption, among other sustainable measures.
 - Project financing– The ESCO can provide, for long-term projects, a financial solution provided by a third party company, usually in the form of a bank loan.
 - Project with guaranteed savings – The ESCO provides a guarantee that the savings produced by the project will be sufficient to cover the cost of financing the project during its useful life.
 - Typical contract key characteristics:
 - Contract duration: usually from 4 to 10 years;
 - Savings on energy consumption: between 15 to 50%;
 - Investment volumes: between 50 thousand and 5 million Euros.

State of the art of EPC in Malta

- EED (2012/27/EU) is transposed in Malta by the regulations L.N. 196 of 2014. These regulations establish a framework as part of the common framework of measures for the promotion of energy efficiency within the European Union in order to ensure the achievement of the 2020 20% headline target on energy efficiency. Furthermore the NEEAP (National Energy Efficiency Action Plan) of 2017 highlights the revised targets for the nearly zero-energy building.
- Recently Malta has published a draft for the National and Energy Climate Plan (NECP). This notes a number of relevant policies and measures that are planned to be achieved by 2030, including a first long-term renovation strategy by 10 March 2020.
- The results of the policy-makers engagement shows that EPC can be adopted in the country, backed by specific legislation and that the sectors that most can benefit from EPC schemes are the public sector (including schools, administration buildings, hospitals and universities) and private and commercial sectors (especially the touristic sector).
- Currently there are financial schemes in force for the energy refurbishment of buildings such as, Eco-loans, Government grants for installation of insulation and double glazing, PV installation through Feed-in-tariff, historical building restoration. In addition, public buildings and social housing can benefit from projects directly funded through the ERDF funds available.
- **Level of maturity of EPC market:** EPC contracts are, so far, not adopted in the Maltese islands due to number of reasons. A public consultation on Energy Performance Contracting policy was held in February 2017. Respondents highlighted that although EPC can be suitable for Malta, its take up is restricted due to limited savings. On the other hand, ESCO providers find it difficult to accumulate a sufficiently large portfolio of interventions to build a suitable business case. Following the consultation, no further steps towards the drafting of a specific local policy on EPC were made.

With regards to the possible Maltese business model, the guaranteed sharing model could be applied for the public sector, while off-balance sheet models would be preferred by consumers and companies. However these models carry disadvantages for the ESCO because in the first case, the risk is all on the company provider while in the other case, the ESCO could not have the financial capability to do the investment, unless they limit the interventions to solely minor operational interventions which could be covered with the ESCO own funds.

State of the art of EPC in Slovenia

- Pursuant to Article 348 of the Energy Act (EZ-1) transposing energy performance contracting (EPC) relevant Article 4 / Building Renovation of the Energy Efficiency Directive (Directive 2012/27/EU), the Long-Term Strategy for Mobilising Investments in the Renovation of the National Building Stock of Public and Private Residential and Commercial Buildings¹ (Strategy) has been adopted in October 2015.
- The second relevant energy efficiency (EE) policy document transposing the EPC relevant Article 18 (Energy Services) and Article 19 (Other measures to promote energy efficiency) of the Directive 2012/27/EU is the National Energy Efficiency Action Plan 2014-2020³ (NEEAP).
- The majority of EPC projects in Slovenia from a contractual perspective are projects in which the ESCO offers financing and provides a savings guarantee (accepts financial and performance risks). Prevailing on-balance sheet financing option is used as a mixture of third party financing and ESCOs equity financing.
- The public sector remains the most important client group for EPC with very ambitious targets in the range of more than EUR 50 million of investments per year until 2023 to be supported through the OP ECP scheme and ELENA assistance.
- There is no reliable data on “proper” ESCOs and in-depth energy services market analysis in terms of energy efficiency. Almost 660 companies in Slovenia are dealing with supply of electricity, gas and steam and more than 160 energy distributors or retail energy sales companies are identified as obligated parties in the framework of energy savings obligation scheme.
- **Level of maturity of EPC market:** in Slovenia EPC contracts are currently adopted and the key parameters of mostly public sector EPC projects implemented between 2012 and 2014 are the following: average guaranteed savings (25%); average investment (821.000,00 EUR); average contract duration (13 years).

Recently the first integrated EPC plus + energy supply contracting (ESC) model with combined (grant + equity + debt) financing of deep energy renovation of the public building was developed. Within this model, the service of the ESCO was extended to comprehensive structural measures on the building envelope. It is estimated that this type of combined financing is going to be used in the framework of the OP ECP Cohesion funding, as targeted EPC projects are the public buildings deep energy renovation projects.

Despite constantly available large variety of public support schemes for energy efficiency (grants and soft loans) EPC market in Slovenia is still underdeveloped as the result of poor

design in terms of EPC support. Furthermore, in the new Cohesion financial perspective 2014-2020 the foreseen grant funding level is not high enough to bring the payback period of targeted buildings deep renovation anywhere close to 10-15 years, which is the normal duration of EPC projects in the public sector. The value of investments in the 2024–2030 period is estimated to be EUR 3,137 billion, giving a total for 2016–2030 of EUR 6,304 billion: 10.3% for buildings in the public sector. These investments represent potential to further increase the EPC market volume.

3.2 Main barriers & Challenges

a) Policy

- Generally, there is a lack of a standard reference procedure that can guide Public Administrations throughout the process. That is, not only it is necessary that there is a standard specification, but also that Public Administrations need to know that an audit must first be done, which must be requested in the specifications, what levels of services can be requested from the ESCO, etc.
- EPC tender procedure is quite complicate and small municipalities are not able to access to it alone. They need to be assisted.
- Bureaucratic administration and complicated tendering procedures hinder the EPC application in the public sector
- In Greece the new regulatory framework for public services, procurement and works law 4412/2016 makes civil servants reluctant to run tenders, since the law places emphasis on the lowest price and not on means to ensure the quality, effectiveness and efficiency of the service provided by the market.
- The delayed introduction of the new Energy Performance Building Directive in some of the PP countries has resulted in the late deployment of projects and the capacity of building the market.
- Defragmentation in the Government offices leads to a difficulty in the management of EPC tenders and EPC contracts requirements from the public authorities side.
- Lack of guidelines and clear policy indications: for instance EPC can be jeopardized by scarce information, knowledge, human resources, organizational tools needed for EPC energy renovation of buildings under complex requirements of public private partnership and combining different financing sources.

- In some countries like Slovenia the EPC in public sector is performed in the framework of the Public Private Partnership Act and in line with Public Procurement Act, both introducing high level of complexity into the EPC implementation process and consequently increasing costs and time requirements.
- A legally binding national EPC procurement guideline is needed in almost all the PP countries to clarifying procedures in depth and step by step procedures.
- A clear policy that introduces ESCOs “own know-how” and legal commitments how to avoid grey areas.
- There is a general need to reach higher energy cost baseline as a prerequisite to improve feasibility of EPC projects subject to high transactional cost, by for instance pooling of smaller buildings energy renovation projects with poor energy efficiency indicators.

b) Financing

- Lack of confidence towards ESCO, especially by banks. Besides, ESCO are often too technical/engineering and with any commercial (meant as capability to sell product) skill. This affects the success of financing project by banks.
- In Italy there are 2 different situations: big players (such as multi-utilities but which have a marginal business on EPC and which do not have financing problems) and small SME/ESCOs for which financing is a real challenge. There’s also an issue with reliability of certification schemes. Nowadays it is given to everyone.
- The French law separates PPP which includes financing (if > 2 M€) and EPC which only includes energy performance guarantee and not the financing. Therefore, third party financing is only possible for big projects.
- Deficiencies and regulatory gaps in accounting & financial rules.
- Limited capacity to manage financial support mechanisms, such as: grants, soft loans, credit facilities associated with EPC projects.
- In the Portuguese scenario, it may be difficult to use the savings in operating costs to finance the implementation of energy efficiency technologies (partial investment repayments) due to some bureaucratic issues and municipal internal budget analysis, either because of the lack of knowledge of how the EPC schemes are analysed and dealt with by the municipal departments themselves – lack of experience.
- There may be difficulties in accounting for goods acquired under an EPC. For example, if the

EPC provides the installation, by the ESCO, of a biomass boiler in a public swimming pool, this equipment is owned by the ESCO until the end of the contract. After that, the responsibility should pass to the municipality and this process, sometimes, could be very difficult.

- While overall renovation has a high profile, all public funds should include energy renovation as a key area to be addressed.
- EE measures on the envelope are usually not part of the standard EPC due to long payback periods, sometimes the contractual arrangement on financing was developed combining Cohesion grant financing obtained by the public client and ESCO financing.
- If the obligated parties i.e. energy distributors or retail energy sales companies have the capacity to manage grant financing and make them available to ESCOs for financing EPC projects, this translates to a significant uptake of the EPC market.
- On the other hand, when energy distributors or ESCOs companies have to provide their own capital to achieve energy savings, the range of support to EPC projects drops significantly.
- The absence of tailored bank products in countries like Greece and Malta.
- Lack of trust and transparency of the actors involved in financing.
- The lack of guarantees and equity, the shortage of specific capacity to deal with the complexity of EPC projects and the small level of investments (which makes the handling of an EPC based product less profitable) are blocking factors for financial actors.

c) Market

- An effort has to be done to involve local SMEs in the EPC market. In Italy, the ESCO market still in the hands of bigger players and so there is a need to reach critic size of the investment program. In France ESCOs are mostly concentrated on technical and energy aspects and not on architecture or usage. Architects and engineers prefer to work for local authorities than to work for ESCOs.
- In countries like France, Malta and Greece SMEs are not familiar with public procurement, technical risk, financial risk or group with other SME to answer a global offer. Moreover SME are more interested in implementation projects rather than in O&M and are not able to be competitive with current energy supply prices.
- In France, Malta and Greece the low energy price leads to very long payback time for global building renovation including envelope. More so, the need for heating in the Mediterranean lasts for a shorter period of time and interventions in the building shell do not result in

significant energy savings. Only heating systems renovation can expect a payback time under 10 years and can then be interested for private investors.

- There is a clear need for energy managers in the final customers, professionals who are integrated into the technical, financial and contracting that comes with the EPC.
- The preparation of an EPC public tender is technically demanding and entails professional advice therefore it can be more expensive than a standard procedure.
- Small ESCOs companies often don't have access to credit or lack the right skilled personnel to enter in the market.
- Lack of skilled personnel should be tackled with adequate professional training, pilot projects, learning platforms and initiatives for the market.
- The predominantly small national ESCOs with limited own equity financing sources operating in the PP countries EPC market can face financing problems as assets and liabilities placed on ESCOs balance sheets significantly limit their creditworthiness and range of their activities.
- The lack of credible verification and measurement tools/methods and the complexity of the EPC concept/processes.

d) EPC set up

- There are difficulties in bundling municipalities together and in keeping their interest vivid during the process, which can last for more than one year.
- The wide-spread of assessment by a third party according to existing protocol such as ICP Europe would speed up EPC set up processes also in the industrial and street lighting sectors.
- Small EPC projects (< 500k€) are often not interesting for ESCOs, they need to be pooled.
- In Countries like Greece, Spain and Malta no ESCO has implemented an EPC project in public buildings yet, despite the fact that the necessary legislative framework is in place
- In countries with less maturity of the market there is a scarcity of flagship projects or even bad experience of pilot projects that are not proceeding to tendering and are creating a negative impression around EPCs and ESCOs.
- Main focus of EPC is often on energy production and supply rather than on demand for energy and energy efficiency due to long payback period of EE measures.
- In small municipalities it is difficult to evaluate all the maintenance work regularly, and separate them from possible incidents, where many times the technical data is only in the heads of the

people in charge.

- The building operator who pays the costs associated with energy consumption is often not the owner of the building/facility – this was only "borrowed" by the owner to another entity that is only responsible for its use and exploitation. Thus, the EPC implementation must be approved by the owner (PA). This could be a challenge taking into account the energy efficiency measures that could be necessary to implement (e.g. windows replacement, installation of thermal insulation, and others) that need to make significant changes to the building.

Other barriers:

- Lack of reliable historical consumption data and dynamic access to information regarding consumption (no large-scale deployment of smart meters in buildings).
- Lack of knowledge and expertise in the public sector.
- Long-term commitment by municipalities is compromised due to elections.
- Uncertainty in case of change of building use.
- Low awareness level of energy efficiency among civil servants and buildings users which can affect the efficiency of the applied measures.
- Professionals must be trained so that they can develop and implement monitoring and reporting of EPC and have standard protocols that are generally accepted and known.
- Lack of professionals in the public offices that can validate the offers through EPC schemes and outsourcing this services sometimes is not a preferred option.
- Only a limited range of external consulting is provided by few local energy agencies and sometimes by ESCOs, slowing down the market development and legally jeopardizing some EPC projects and their economic efficiency respectively.
- There is a need to build knowledge and capacity among building owners, occupiers and managers in order to drive demand for energy efficiency improvements.
- Due to lack of specific knowledge and scarce human resources available in the sector, there is a permanent need for competent advice in terms of legislation and regulation.

4 Policy recommendations

4.1 How to improve EPC at national/local level

a) Italy

- Territorial coordinators (such as Energy Agencies, Regional Authorities, etc...) could set **Project Development Assistance** services based on the one-stop shop concept in order to support small and medium municipalities with technical, administrative and legal support. This could be done by supporting the creation of such structures with dedicated funds or projects submitted at EU level for financing. Besides that, Bank Foundations can play a key role on this approach supporting the creation of services as such;
- Support energy audit campaigns finalized to create EPC projects pipelines;
- The **promotion of the standardization of procedures** and approaches in order to upscale the implementation of EPC at local level, is also recognized by ESCOs and contracting authorities, as a key step that could boost and ease the tasks related to EPC implementation. The drafting of guidelines for EPC, tender documents templates, proposal for harmonized assessment criteria, etc... can go in the foreseen direction;
- As far as the measurement and verification process is concerned, FIRE in 2016 translated the IPMVP protocol at Italian level. it has started to be introduced in several tenders and this is positive as it is the result of an EU technical norm that has been adopted. Skilled person on M&V should be contracted for the verification measurement of the EPC performance;
- In order to more greatly involved, the financing institutions should rely on internal skilled technicians able to assess energy efficiency projects. in Italy on average the small banks – typically more linked to the territory – are more responsive to financing EE projects. Hopefully the newly born energy efficiency fund will further stimulate the EPC market.
- Added values provided by such projects should be highlighted for instance in:
 - standardizing way of working and procedures
 - up-scaling energy transition through the preparation and implementation of aggregated projects
 - facilitating the cooperation and decision process
 - networking, exchange of experience.
- Another key finding was the need of increasing the knowledge of Public Authorities about EPC opportunities. The lack of knowledge about EPC in the Public Sector was another key issue highlighted. It can be recovered with specific information campaigns, regional trainings

sessions, peer learning and networking activities. In particular, the sharing of experience among pairs or between public authorities with different level of expertise was recommended as a way to fill the gap of knowledge and share best practices. Such practices are also seen as an added value to increase the quality of the ESCO market. The organization of roundtables with different stakeholders and dialogue with market players can be very useful to analyze and assess the different stakes on the ground.

b) France

- **Develop EPC facilitator:** for example SPL OSER, local energy agencies or “Syndicat d’énergies” (energy distribution operators). This facilitation is needed for big municipalities more for technical aspects and needed for technical, financial and contracting skills for small municipalities. EPC facilitation is easily paid for big projects (1 to 2% of the budget) but not for small ones and for the gathering of small ones (5 to 7 % of the budget).

- **Ensure the M&V during the contract duration**

Annual verification process and skills are needed on municipal side and within the duration of a project, EPC’s managers in the municipalities are often changing. To ensure the results all over the contract duration we need to develop :

- EPC management training sessions
- External assistance services

- **Ensure the results in case of investment payed by public authority**

Without ESCO financing and in case of big investment paid by the public authority (>90% of French EPCs), the EPC benefit is mostly linked to the work and not to the O&M. Then, after the payment of the work, the ESCO is less motivated.

- A first solution could be to introduce investment reserve in the contracts to motivate the ESCO all over the contract and this is not allowed so far.
- Another solution could be to make it possible for public authorities to pay not all investment after the end of the work but annually the part of investment based on accounting depreciation.

- **Adapt public subsidies.** Financing institutions are interested in EPC because it brings them more security but for them dealing with pools of small projects is complicated and they prefer big projects. We have to facilitate project pooling and to establish a simple organization to facilitate administrative task of financing institutions.

- **Give access to third party financing** to small projects or pool of small projects (500 k€ to 2 M€) without using the PPP French law. Stepping project has showed that sharing the risk between municipalities is not possible. Even in a pooling project, each municipality is responsible for its own project and investment. Then pooling has no influence on the financial aspects of the project. The only way is the third party financing but it is only possible in France with a hard PPP procedure and only for projects > 2 M€.
- A way would be to change the law to open third party financing to small projects (500 k€ to 2 M€) and without using the PPP French law.
- Another way would be to authorize big public authorities like gathering of municipalities, province or region to invest for municipalities. This part is also useful for contracting projects for small municipalities.
- Improve EPC offer through:
 - Inform the market as soon as possible (Sourcing)
 - Give enough time to SMEs to organize gathering
 - Prefer geographical building concentration
 - Limit financial risk
 - Do not ask for energy supply inside the EPC contract
 - Organize assistance/training for SMEs for public procurement answer and for gathering organization.

c) Greece

- **Clear rules and stable regulatory framework with a long-term perspective.** National standards and clear procedures should be in place while an ESCO registry could be mandatory with appropriate validation procedures; additional tax incentives for entities adopting EPC approach; EE measures as a basic criterion to co-funded investments in the private sector.
- **Build trust among the different actors:** Standardization practices and certification protocols should be created and adopted in the EPC market; pilot projects to test the standardisation and benchmarking framework; transparent and credible processes of assessing EPC providers, including certification of competence and compliance; information and training on the EPC procedures, models, benefits and risks, as well as for technical issues.
- **Adequate access to financing and alternative support mechanisms:** Public financing instruments should compensate part of the risk, while financial Institutions should be actively involved in offering specialised products and financing in favourable conditions and lower

guarantees.

- **ESIF and EPC mixed funding:** Combining subsidized from Structural Funds with third party financing through EPC can enhance the performance of the financial indicators of the projects and allow the wider deployment of energy efficiency projects in public buildings.
- **Targeted capacity-building:** Tailor-made training sessions and capacity building activities should be designed for central government policy-makers, municipality staff, financing sector and the market to build understanding on EPC basics;
- **Combined skills of ESCOs personnel:** Delivering energy services through EPC requires a combination of technical and non-technical skills which are not easily acquired. ESCOs that actually want to play an active role in the EPC market, beyond tradition energy contracts and procurement, need to boost the capacity of their personnel.
- **Multilateral facilitation by cooperative banks:** Due to their proximity to customers and mode of operation cooperative banks may be more flexible in offering non-financial services (consulting). This holds true for the housing, as well as the commercial and public building sector.
- **Simplified processes and standards:** these will help banks understand and better manage EPC projects.
- **ESCOs cooperation with energy providers:** this could help attract investors, helping projects mature at the same time. In Greece there is limited experience in the market with a very limited number of companies being able to demonstrate EPC experience. Currently on the updated ESCO Registry 3 ESCOS appear to have realized a project (private sector) through EPC and 5 more have running contract; 80 more companies have registered with no experience but with the intention to offer energy services through EPC and are grouped under a specific category B.
- **An EPC registry** is in place in Greece and managed by the Ministry for Environment and Energy. Recently the Ministry announced it will come forward with proposals to make it more robust. This is in line with views expressed by ESCOs, who support the establishment of transparent and credible processes of assessing EPC providers, including certification of competence and compliance. In addition, in Article 11 of the recent updated the law for ESCOs a Code of Conduct is included prompting the compliance of ESCOs with a set of prerequisites when offering energy services. However, the Code is currently more like a set of recommendations and has no binding role yet for ESCOs.
- **EPC facilitator:** An EPC facilitator can play an important role during the contract phase,

provided that they have the necessary technical training and communication skills. Particularly on islands, where the lack of coordination between different layers of government and stakeholders inability to deliver EPC projects thus far, and looking at successful case studies from abroad, points to the needs. More so, for the realization of EPC projects on islands, where must be involved in the recognition, selection and support of project implementation.

- **Good knowledge of the local level** (municipality/market): Propose more mature pilot projects to test the standardisation and benchmarking framework.
- **One-stop-shops:** Stakeholders should contribute to the simplification and standardization of procedures through the development of databases and the creation of platforms of standard documents / protocols for the award of EPC, investment plans, legal documents, key performance indicators and other relevant information. One-stop-shop (OSS) services can also provide technical, financial and legal support around various issues relating to the renovation of the building stock.

d) Spain

- Public funding shall focus on non-refundable grants only on technologies that really need support and allocate a large part of the aid to a soft financing program where there is a good return on investment.
- A guarantee fund could also be created with public money that ensures the work of the parties involved in case of breach of contract.
- The ESCO market is currently in expansion and can improve significantly in order to overcome barriers, such as the lack of knowledge about the advantages for the final customers.
- Financing it is also an opportunity and shall be exploited more since there are currently many financial entities interested in financing energy efficiency projects.
- It would be necessary that the responsible person appointed by Contracting Authority (i.e. EPC facilitator) receives an adequate training about the ESCO model in order to know it deeply, and be conversant on the three basic pillars that support an EPC (technical, financial and contracting). For this reason there are some specific training courses that could fit.
- EPC providers are signatories of an EPC Code in Spain, but it would be interesting if they did it through national associations and that all the agents also participate in the regulation of standards and protocols regarding EPC model.

- Only some financial institutions are involved in the financing of EPC contracts since there are specialized investment funds. In general, financial institutions could have the intention or are potentially interested in the market, but only a few of them know in depth the EPC model, due to this model is something quite recent in our country.
- Training and advise and support of Public Administrations to increase the knowledge about the EPC model.
- Create more trust and confidence in the EPC business model.
- Create transparent methods of measurement and verification of savings.
- Promote standardized financial products for EPC.

e) Portugal

- EPCs are a good way to implement measures to improve energy efficiency in buildings.
- There is a huge advantage in implementing EPC in the private sector, given the ease of streamlining the entire process. However, in the public sector, there are some difficulties and fears in implementing an EPC, either because of the lack of knowledge of how the departments responsible are analysed and dealt with by the municipal departments themselves.
- The bureaucratic issues and issues related to the ESCO selection process could be simpler and thus make the process faster by taking into account the needs of municipalities.
- Nevertheless, in recent months there have been in Portugal the appearance of some EPCs to be implemented by municipalities or inter-municipal communities in public lighting installations.
- These facilities are quite advantageous in terms of the high savings that can be obtained and also being a type of installation that does not require the implementation of a very detailed M & V system.
- In North Alentejo, the STEPPING Project has contributed to the dissemination of the EPC as a source of funding and some approaches have already been worked out with some municipalities in order to make small projects in public lighting.
- The service provider has the same interest as the customer in terms of the volume of economically efficient investment and the volume of energy savings, since it is this calculation that will enable the implementation of the measures and the generation of profits.

- The contract encompasses a complete service from design, implementation, operation, savings and M&V.
- Contractual savings are guaranteed in the contract.

f) Malta

- For the scheme to be adopted in Malta, the issue of the ESCO financing needs should be addressed. A potential solution is to develop a financial Special Purpose Vehicle (SPV) which would provide the ESCOs with financing and that will be tailored to ensure the profitability.
- Special Purpose Vehicle should offer attractive repayment options through low interest rates as well as circumstance-related repayments. SPV would provide off-balance sheet financing for ESCOs and their customers, offering an attractive repayment options through low interest rates. Having a higher risk tolerance than traditional financing instruments, this mechanism would achieve the required effectiveness and leverage in the local scenario.
- Certain energy interventions can be seen as risky under traditional financing instruments. SPV should have a higher risk tolerance than traditional financing mechanisms.
- EPC facilitator would help the transaction towards the EPC business model and there should be also a customer service providing customers with case by case solutions.
- Introduction of an EPC code can be also beneficial.
- Offer technical assistance services for the public sector to overcome de-fragmentation.
- Organize training, seminars and promote pilot projects that can show the successful implementation of energy retrofit projects in other countries with similar climate.
- Create a set of criteria for EPC contractors - implementation and marketing of EPC projects undertaken by the public sector. EPC contractors can have a specific public register.
- Setting up a specialized task force/committee composed of representatives from potential stakeholders in order to test specific policy measures and chose the best EPC models for Malta.
- Open public EPC bids to international EPC contractors.
- Mixed funding: private bank products as loans together with tax credits, rebates and incentives from Structural Funds in order to reduce cost on EPC.
- EPC schemes can be a guarantee that grants on energy efficient measures will attain the maximum benefits.

- Target high-energy demanding buildings, such as hospitals.
- Promote sample contracts to facilitate the uptake of EPC and use the standardization of documents, procedures and approaches.
- Need to agree on standards for monitoring and verification of savings, accepted by all parties.
- Promote training sessions and seminars to ensure that the appropriate level of skills and suitable products are available among the providers and that the calculations during M&V and energy audits tools are as accurate as possible.
- Develop an energy auditing tool (or update the present software) that is more accurate than the one available at the moment.
- Use the regional structural funds available for the energy retrofit of public buildings, thus in that case, the guarantee saving model could be the best model to be adopted.
- Moreover, operation and maintenance and M&V shall be included in the contract, as they are key elements to assess the performance and deliver benefits both to the costumers and to the energy service company.
- From a capacity-building point of view, there shall be a drive from the Government side towards promoting more awareness among users and organising training sessions for policy-makers, municipality staff, financing sector and the market to build understanding on EPC basics.
- Overcome the lack of knowledge of the builders and contractors that are not skilled on the application of certain materials and technologies. Trainings and vocational seminars should be promoted to update the skilled labours and the sector's workers.
- A public register of ESCO companies together with the training of EPC facilitators should be set up.

g) Slovenia

If the planned funds are to be activated successfully and the expected results achieved, it is important for the utilization of OP EPC funds to be supported by appropriate support measures:

- The management of projects by the buildings energy renovation projects implementation office in a way that ensures that the inflow of projects suitable for EPC is constant over the long term (constantly open call for proposals due to long decision taking processes and administrative procedures, and considering relatively narrow building season time window);

- Provisions for the rapid commencement of PPP test and EPC project design that will ensure stable demand for funds and energy performance contracting services and a stable volume of investments throughout the entire period. Rapid commencement will also help to create good practice and the transfer of knowledge to others;
- The formation of appropriate EPC facilitators support scheme in order to establish needed expert support to the public sector.
- EPC project facilitators are considered crucial condition for reaching EPC targets in the public sector. There are only three experienced EPC project facilitators, local energy agencies: LEAG – Local energy agency of Gorenjska, Kranj; EnergaP – Energy agency for Podravje, Maribor and GOLEA – Goriška lokal energy agency, Nova Gorica.
- Policy to support greater number of EPC Project Facilitators and EPC-Market Facilitators, in order to help to generate consumer demand and increase number of implemented EPC projects, knowledge of, quality, information level and trust in the EPC is lacking.
- Particular support by EPC Project Facilitators should be provided to smaller public administrations and small and medium-sized enterprises. Subsidizing of some EPC preparation costs (energy audits performed by EPC project facilitators) can speed up preparation of EPC projects pipelines in the public sector.
- Government shall support the opening at the EPC market to new (SMEs) EPC providers in the future with a guarantee programme through guarantor banks for (SMEs) providers offering EPC are performed. Despite the fact that this activity is planned in the NEEAP.
- International ESCOs are not present in Slovenia but it is expected that they will step-in into the EPC market due to its foreseen intensive growth.
- Energy efficiency investments is often financed from the European Structural and Investment Funds (ESIF) – Cohesion Fund, using financial instruments and EPC, which will enable adequate leverage factor to EU funds and public funding from the Republic of Slovenia.
- The SID Bank is presently setting up a loan programme (100 million EUR) for investments in municipalities' infrastructure, including public buildings energy renovation, energy efficient public lighting and other EE measures.
- However, the greatest regulatory risk at the moment lies with the Eurostat Guidance Note on the Impact of Energy Performance Contracts on Government Accounts (2015)¹⁴ at the European level. It is estimated that the plan to invest up to 50 million EUR per year in energy renovation of public buildings using EPC model is not eligible as total values of capital expenditure for improving energy efficiency by private entities are not going to reach at least

50% of the total value of the building after the energy efficiency renovation (“50% rule”) due to the lack of willingness of ESCOs to invest in buildings deep energy renovation, and there is absolutely no room for increased debt of the public sector.

4.2 Policy recommendations in support of EPC

In this report, each partner has drafted different conclusions and recommendations on how to improve the uptake of EPCs in their respective country. The outcomes of the discussions undertaken with stakeholders and meetings carried out with the policy experts are relevantly different as they are shaped according to the local policy framework and territory. Nonetheless there are a number of common points and ideas among the consortium on how to possibly improve the EPC contracts and improve their implementation.

It is remarkable to note that despite the geographical and policy framework differences, there are recurrent issues with EPC contracts as well as similar improvement proposals in the selected countries. Therefore a list of possible common main recommendations in support of the improvement of EPC policies in the MED area is here below proposed. The list of common recommendations is useful to underline the common grounds and priority challenges that need to be tackled at European level.

- 1. One-stop shop:** create a one-stop shop technical assistance service that can support the project development of EPC projects. This is possible having access to EU financing Programs (H2020 or Elena Programs provide such support) or implementing similar initiatives at regional and national level. This technical service can play the role of EPC facilitator to support small Municipalities in the technical, financial, awarding and contracting procedures. One of the crucial conditions for the uptake of EPC in the public sector could be the establishment of a, so-called, EPC facilitator. This should be a well-trained, experienced project facilitator, who supports the preparation and implementation of the project on behalf of municipalities. Particularly in small, under-resourced and remote municipalities, like on islands, a project facilitator is very much needed, since they can provide services that municipalities cannot afford to provide on their own namely, project development and communication skills, preparation of investment plans, structuring of projects financing, procurement processes and legal advice, measurement and verification of project. Moreover, project facilitators may act as mediators between the municipalities and ESCo to build up a sustainable relationship and to

create trust between the future contract partners. To deliver on their role, project facilitators should be recognized and trained at the national/regional level. A certification and quality assurance scheme could be designed once the market has developed enough.

2. **EPC observatory:** develop an official EPC observatory, an ESCO public register to be an official reference point also in respect to the energy audits procedures and V&M protocols. The observatory shall advocate for a clear EU common definition of EPC to avoid the development of 'false EPC' that tarnished the EPC image in local authorities mind.
3. **Simplified processes and standardization** of procedures and approaches in order to upscale the implementation of EPC at local level to ease the tasks related to EPC implementation. This could also support the creation of a clear and transparent policy framework, clearly defining what is an EPC and the provision of supporting documentation as results on pilot studies, guidelines, tender documents templates, etc.
4. **Facilitate project pooling** and establish a simple organization to facilitate administrative tasks and cooperation with financing institutions. According to the EU strategy Clean Energy for all Europeans and the Package "Smart Finance for Smart Building" one key point is based on the aggregation of projects in public sector in order to achieve a sound and bankable projects pipeline of investments, which is of interest for private investors. This activity is strictly connected to the first point of the recommendations list, as the one stop shop should also facilitate project pooling among its key tasks.
5. **Build trust among the different actors:** have a transparent code at EU level that can be applied in each country to assessing EPC providers, including certification of competence and compliance.
6. **Adequate access to financing and financial mechanisms:** financial institutions should be actively involved in offering specialized products and financing in favourable conditions and lower risks.
7. **Mixed funding:** combining public subsidy from Structural Funds with third party financing through EPC can enhance the performance of the financial indicators of the projects in public buildings.
8. **Creation of financial instrument** that can combine the European Structural and Investment Funds (ESIF) with European Funds for Strategic Investments (EFSI), including:
 - a) National/regional investment platforms for EE/RES projects
 - b) Guarantee facility allowing financial intermediaries such as commercial banks to develop and deploy attractive financial products for the energy renovation of buildings
 - c) Local/regional one-stop-shops

d) Other (e.g. White Certificates)

9. **Targeted capacity-building:** tailor-made training sessions and capacity building activities should be designed for central government policy-makers, municipality and public authority staff, financing sector and the market to build understanding on EPC basics. Besides, technical seminars and vocational training for ESCOs professionals could boost the capacity of the market to offer high quality bids.
10. **Multilateral facilitation by cooperative banks:** banks may be more flexible in offering non-financial services (consulting) and being prepared to assist in the choice of financial products offered in connection with the EPC scheme.