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# FINAL LOCAL EVENTS REPORT

## Description

This document describes the Final local events of STEPPING project.

## Document details

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## Description

This report is the deliverable of Activity 2.3 “Final Local Events report”. The document describes the events each partner organized in order to raise awareness and promote the project activities to relevant stakeholders and the general public. This report documents the final cycle of events occurred between 06/2019 and 10/2019.

## Background information

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STEPPING project seeks, through cooperation and knowledge sharing, to adapt EPC (Energy Performance Contract); an investment scheme for buildings' energy upgrading, to the specific conditions prevailing in the Mediterranean area. The project includes the development and pilot implementation of investment plans as well as the launch of tenders for EPC implementation in selected public buildings.

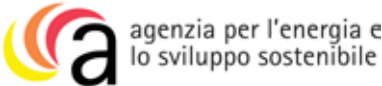
In the framework of this scope, STEPPING foresees the organization of two local events for each partner to have the opportunity to raise awareness and promote the project activities to relevant stakeholders and the general public. This report documents the second cycle of events occurred between June and October 2019.

AEGEA, leader of the Activity 2.3 - STEPPING local events, designed the events' concept and coordinated the necessary steps for producing this report. AEGEA developed and provided all partners with material; templates for agenda, list of participants, assessment questionnaire, event's summary as well as a concept note and check list, ensuring the content and organization of the events. All partners were involved in the collection and sharing of experiences and insights gained during the events, while AEGEA compiled them and produced the final report.

The aim of this report is to document the results and progress achieved thanks to the events organized by each partner. The stakeholders engaged in the events as well as the outcomes reached regarding the approach and realization of EPC investment plans are analysed per partner.

# Partners

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# AEGEAN ENERGY & ENVIRONMENT AGENCY (AEGEA)

## FINAL EVENTS

On 25 July 2019, the Aegean Energy and Environment Agency (AEGEA) organized the final local event of STEPPING project at the premises of the Management Organization Unit of Development Programmes (MOU SA) in Athens. The event was a follow-up to the mid-term event, held one year ago, offering the opportunity to review the progress of STEPPING and collect feedback from stakeholders on the latest policy development regarding EPC in Greece.

In total 27 participants attended the roundtable, including representatives of ministries and regional authorities, ESCOs, financial institutions, sectoral agencies, who discussed the state of play and prospects for realizing energy retrofitting projects in public buildings using EPC in Greece. The last part of the event was dedicated to a training session on EPC MED Guidelines and the EPC Simulation Tool, two core deliverables of STEPPING.

## MAIN OUTCOMES

Participants expressed their interest for the methodology and work delivered by STEPPING in Greece while ESCOs in particular provided comments regarding the additional interventions that could be added to the EPC tender under preparation by AEGEA. The discussion also touched upon the new programming period 2021-2027, the emphasis placed on financing instruments and the situation currently in Greece, where two financing platforms are under construction:

- **Electra Programme:** Investment funds of 500 M€ provided by the EIB through the Consignments and Loans Fund in Greece for energy retrofitting of building stock belonging to the national government. Interventions include the envelope and electromechanical systems, as well as static reinforcement (where needed).
- **Infrastructure Fund:** 450 M€ of funding by the EIB to trigger at least 650M€ of financing in RES projects (wind/biogas/pv) and energy upgrading of public and private buildings. Intermediary national banks are in charge of managing the funds, foreseen to also leverage the available funds.

Following a constructive debate on the shortcomings spotted in the design and delivery of these platforms, and ways to improve them, participants stressed the need for more such platforms to be introduced, allowing the combination of various sources of funds and loans starting from the European Structural and Investment Funds (ESIF) and European Fund for Strategic Investments (InvestEU in 2021-2027). This is critical for the uptake of EPC in the energy retrofitting of public buildings and Greece can learn from other countries (e.g. France) who have introduced provisions in ESIF regulation to allow for such combination.

The role ESCOs that can play as direct recipients of loans was also underlined, allowing them to set up an SPV (special purpose vehicle) company and run an EPC project. Lastly, the need to officially recognize the role of an EPC facilitator and define the criteria that an organization should fulfil in order to be assigned that role was discussed in detail.

# REGIONAL ENERGY AND ENVIRONMENT AGENCY FROM NORTH ALENTEJO (AREANATEJO)

## FINAL EVENTS

The Regional Energy and Environment Agency from North Alentejo (AREANATEjo) organized the Final Conference of STEPPING project on 12th September 2019, at BioBIP - Bioenergy and Business Incubator of Portalegre, located in the Polytechnic Campus of Portalegre. The event was dedicated on two INTERREG MED Projects; STEPPING and ENERJ.

About 20 participants; representatives of municipalities, energy agencies, SMEs, private social welfare institutions and educational institutions, attended the conference, during which the main results and outputs of both projects were addressed.

## MAIN OUTCOMES

In the context of STEPPING project, AREANATEjo highlighted the installation of energy consumption monitoring devices in 12 public buildings. The measurements / data are integrated in real time on STEPPING common platform. In addition to this, 12 energy diagnoses (one per public building) were developed, identifying buildings' energy consumption patterns and associated costs. The energy diagnoses led to defining 63 energy efficiency improvement measures, focusing on five main areas:

1. Sanitary hot water production from renewable energy (biomass),
2. Improvement of HVAC systems,
3. Installation of capacitor batteries to compensate the power factor,
4. Installation of solar photovoltaic systems for self-consumption,
5. Improvement of lighting systems.

AREANATEjo developed an Investment Plan in order to assist the implementation of the identified efficiency improvement measures.

The implementation requires an overall investment of around € 725.000 and the cost savings are estimated around € 194.000 per year, giving a simple payback period of 3,7 years (without funding).

The Conference concluded that thanks to STEPPING project, municipalities have made an important step towards mitigating their concerns on Energy Performance Contracts (EPC), as a financing mechanism. AREANATEjo, through the monitoring system they promoted, contributed into reducing the uncertainty of baseline measurement, which could result in increasing installation costs and payback periods. Municipalities have heightened their awareness and are able to perceive more positively the potential of EPC for improving buildings' energy efficiency.

## **PIEMONTE REGION (REG-PIE) - ENERGY AND SUSTAINABLE DEVELOPMENT AGENCY OF MODENA (AESS) – REGIONAL ENERGY AND ENVIRONMENT AGENCY IN AUVERGNE RHONE-ALPES (AURA - EE)**

### **FINAL EVENTS**

On 13th June 2019, the Regional Energy and Environment Agency in Auvergne Rhone – Alpes (AURA – EE), with the contribution of Piemonte Region (REG – PIE) and the Energy and Sustainable Development Agency of Modena (AESS), organized the Regional Conference “Exchanges on energy performance contracts for the renovation of public buildings in France and in Italy” at the DREAL Auvergne-Rhône-Alpes in Lyon.

The conference was divided into two parts:

1. case studies in France and Italy; case studies were presented by the contracting authorities from Italian and French local authorities;
2. roundtable session; companies providing EPC services discussed the setting up of their offers as well as their management focusing on the performance guarantee aspect.

76 participants; representatives of ESCo, engineering companies, institutions, associations and federations, attended the conference, during which the renovation works, conducted on public buildings, and the legal and financial mechanisms, mobilized in the context of STEPPING project, were shared.

### **MAIN OUTCOMES**

During STEPPING project, AURA - EE, REG – PIE and AESS have tested shared models of EPC for public buildings renovation. Their work has enabled energy efficiency improvements on buildings in different municipalities, through bundling suitable models, mobilizing the local business market and initiating new financing levers.

Silvio De Nigris (REG – PIE), lead partner in STEPPING project, presented four bundled EPC, initiated thanks to Interreg MED programme. The projects include the renovation of nearly 40 buildings in about twenty Piedmontese local authorities. The estimated energy savings are between 25% and 40%, for energy efficiency works ranging from €320k to €1.5m. The type of EPC used in Italy includes power supply based on a contract similar to a public-private partnership (PPP). The local authority can ask the contracting ESCo for financing only part of the works, and the cost savings guarantee the partial reimbursement of the investment made.

Representatives of the Auvergne-Rhône-Alpes Regional Council and Dalkia, presented the EPC signed between the two parties covering energy efficiency improvement measures in 50 buildings. The EPC guarantees 45% energy savings or in other words €650k cost savings per year, for an investment of €23m granted by the Region. Environmental objectives are also included in the contract: 42% CO2 emissions reduction and 28% RES production.

Different types of works have been carried out over a three-year period: insulation, replacement of heating systems, installation of PV, use of LED bulbs as well as monitoring systems, centralized technical management and connected meters. These measures were chosen by the technical service providers based on the economic objectives set by the Region. The IPMVP measurement protocol has determined the type of consumption monitoring implemented throughout the contract.

AESS has a long history on EPC implementation, counting 58 EPC for public lighting and 42 EPC for public buildings with a total investment of 300 M€. Their methodology includes the following steps:

1. selection of buildings that will be subject to energy audits,
2. based on the energy consumption, energy - intensive buildings, with high potential for energy performance improvements, are selected to integrate the EPC
3. the objectives in terms of work and RES implementation are set
4. the financial aspects are defined
5. The tender files are then prepared and launched

Thanks to STEPPING project, AESS has developed a bundled EPC of 62 buildings in seven local authorities. The EPC guarantees 30% energy savings including energy supply and preventive and corrective maintenance, for an investment of €6 million in energy efficiency measures.

During the roundtable session, a difference in the EPC markets between the countries; France and Italy, was pointed out. In France, competitive dialogue is often essential for the successful EPC implementation. The local authorities - buyers have the possibility of “sourcing”, i.e. by exchanging with companies while drafting the specifications, before the tender is launched. In Italy, the anti - corruption law requires very limited exchanges between companies and contracting authorities. All ESCo representatives participating in the discussions agreed that a reference situation, based on reliable data in order to build a solid offer, is often missing. To remove this uncertainty, companies apply monitoring systems that give a precise picture of buildings’ energy consumption as well as enable them to control drifts and guarantee accurate reporting throughout the contract.

The Conference concluded with the lessons learnt throughout STEPPING project and the implementation of EPC mechanism in France and Italy:

- The bundled EPC model proved to be complex to implement and time - consuming. Internal local authority resources as well as renovation project management skills are key points to take into account before choosing the EPC option. A project management assistance can be a valuable aid not only in carrying out the audit and developing the tender specifications on the one hand, but also in the development and monitoring of the energy performance contract.
- Limits in terms of public financing, the lack of maturity of the local market and the obligation of guarantee are obstacles regarding the deployment of EPC.
- The selection of buildings, part of the contract, has to be carried out in a sufficiently detailed way in order to ensure the feasibility of the EPC in relation to the market. In the Mediterranean area, where the climate is temperate, energy needs for heating are not very high and sometimes this results in making EPC unattractive.



# **BSC, BUSINESS SUPPORT CENTRE LTD, KRANJ; REGIONAL DEVELOPMENT AGENCY GORENJSKA (BSC)**

## **FINAL EVENTS**

The BUSINESS SUPPORT CENTRE LTD, KRANJ; REGIONAL DEVELOPMENT AGENCY GORENJSKA (BSC) organized the Final Conference of STEPPING project on 1st October 2019. The event was dedicated on STEPPING project sharing its main objectives and outcomes. About 15 participants; representatives of municipalities, energy agencies and ESCo, attended the conference, during which the bundled EPC investment plans were addressed.

## **MAIN OUTCOMES**

In the context of STEPPING project, BSC prepared a bundled EPC of three buildings belonging to two municipalities. The expected energy savings are 17% with a payback period of about 15 years. The long payback time makes the investment unattractive and risky for ESCo. Nevertheless, in such cases the combination of public funding and the EPC mechanism could mitigate the uncertainty. To this direction, during the conference, BSC demonstrated the EPC Simulation Tool, which enables to compare different scenarios in order to balance out public and private investments in public buildings energy – efficiency retrofits.

## HUELVA COUNTY COUNCIL (DPH)

### FINAL EVENTS

The Huelva County Council (DPH) organized the Final Conference of STEPPING project on 16th July 2019. During the event, the work initiated and carried out in the context of STEPPING project, the drivers and barriers for the bundled EPC investment plans as well as the replicability of this scheme to other buildings were analyzed. About 35 participants; representatives of local authorities, educational institutions and ESCo, attended the conference, which included two parts:

1. Presentations about the process followed in order to develop the EPC for buildings energy - efficiency retrofits
2. Roundtable session, allowing a fruitful discussion on EPC mechanism and its adoption in Spain and other Mediterranean countries.

### MAIN OUTCOMES

In the first part of the Conference, the status of the EPC in South Spain and the processes followed for the selection of school and municipal buildings as well as the energy audits were presented. The company that executed the energy audits, analyzed the results.

Moreover, the involvement of ESCo and financial entities, and the model used for implementing the bundled EPC were reported in detail. This allowed the participants to perceive the whole picture of implementing buildings energy – efficiency retrofits by using the EPC mechanism, taking into account all the necessary Agreements, Technical and Administrative Documents.

The main topics discussed during the roundtable session were the suitability of the EPC mechanism in South Spain and the factors to be considered when selecting the interventions which will result in energy and cost savings, and reduction of the greenhouse gas emissions in public buildings in the province of Huelva. The most relevant conclusions of the debate can be noted as following:

- The lack of EPC - specific standards in Spain has slowed down the adoption of this financing mechanism.
- Continuous changes in the regulatory framework of self-consumption have caused mistrust among the market players.
- In case of school buildings in the province of Huelva, the conditions; schools are closed during summer meaning low cooling load and the winters are mild, so no high heating needs either, do not favour the adoption of an EPC.
- Analyzing the feasibility of the EPC mechanism in cases of energy-efficiency retrofits in sport centers, municipal swimming pools and other types of public buildings with higher energy/cost-saving potential should be considered.
- The installation of photovoltaic panels seems to be the most interesting and relevant intervention in school buildings, although the Spanish regulation can be improved in order to prioritize self-consumption and sale of excess energy.
- ESCo do not find profitable to participate in the EPC for school buildings in the province of Huelva.

# MALTA INTELLIGENT ENERGY MANAGEMENT AGENCY (MIEMA)

## FINAL EVENTS

Malta Intelligent Energy Management Agency (MIEMA) organized the Final Conference of STEPPING project on 31st October 2019, at the Europe House, located in Valletta. The event was dedicated on two INTERREG MED Projects; STEPPING and PEGASUS. About 15 participants; representatives of the local community, decision-makers and experts from the renewable energy sector, attended the conference, during which the main results and outputs of both projects were addressed.

## MAIN OUTCOMES

In the context of STEPPING project, MIEMA conducted energy assessments in 5 public buildings, involving 5 different municipalities (1 building per municipality). Each building was modelled and assessed by using the EPRDM Software (software used in Malta for the energy performance certificate), while for some buildings the BIM EcoDesigner Software was also used.

A complete picture of the buildings' energy performance was developed and different scenarios - sets of energy efficiency measures were simulated. In accordance with the results, the following measures were introduced:

- Addition of insulation to roof structure
- Replacement of single glazed apertures with PVC double glazed windows and shading devices
- Installation of Photovoltaic panels
- Internal/external wall insulation
- Efficient/smart LED lighting system
- Energy efficient heat pumps water heaters

MIEMA developed one joint EPC Investment Plan for 3 buildings in order to assist the implementation of the identified efficiency improvement measures. The implementation requires an overall investment of 1.5 – 2.1 M€ and the CO<sub>2</sub> emission savings are estimated 30% on average.

It was underlined that due to mild climate conditions and thus low energy demand for heating, EPC including only energy efficiency solutions, corresponds to long payback periods (longer than 30 years). The payback period of the investment can be shortened by including RES.

During the Q&A session, it was highlighted and discussed how the regional funds ERDF can be efficiently managed to achieve future targets in energy efficiency for buildings as well as the possibilities for local authorities to join larger projects, such as ELENA funding schemes.

## CONCLUSION

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STEPPING final local events concluded the project's results in terms of the work carried out (e.g. energy audits, definition of energy efficiency measures, bundled EPC tender) as well as the administrative and regulatory aspects necessary for favouring EPC implementation in public buildings in each partner country.

In the regions of Huelva, Modena, North Alentejo, Piedmont and Rhône-Alpes, where there is already experience in the EPC financing mechanism, the bundled EPC for public buildings energy retrofits offer satisfactory results. One bundled EPC includes interventions in about 15 (Portugal, Spain) or 50 public buildings (France, Italy) resulting in 25-45% energy savings and 9-15 years contract duration.

Nevertheless, even these regions recognize that the EPC financing mechanism constitutes a complex and time intensive model to be implemented and managed.

In Greece, Malta and Slovenia, where EPC market is at infant stage, STEPPING partners (AEGEA, MIEMA, BSC) developed bundled EPC including lower number of buildings and combining it with other funding schemes in order to remove the risk of high investments. In all partner countries, it was noted that the climate conditions in the Mediterranean area (mild winters) contribute in making EPC financially unattractive especially in cases of no cooling load (school buildings).

All events attracted a good number of stakeholders, with key roles regarding the EPC implementation in public buildings energy retrofits, allowing fruitful and insightful discussions. Depending on the different growth stage of EPC market in each country, STEPPING events were conducive to identifying barriers to EPC market development / success and initiating solutions to break them.