



PROJECT

PRO-ENERGY

D2.6.5 PRO-ENERGY Roadmap Guidelines

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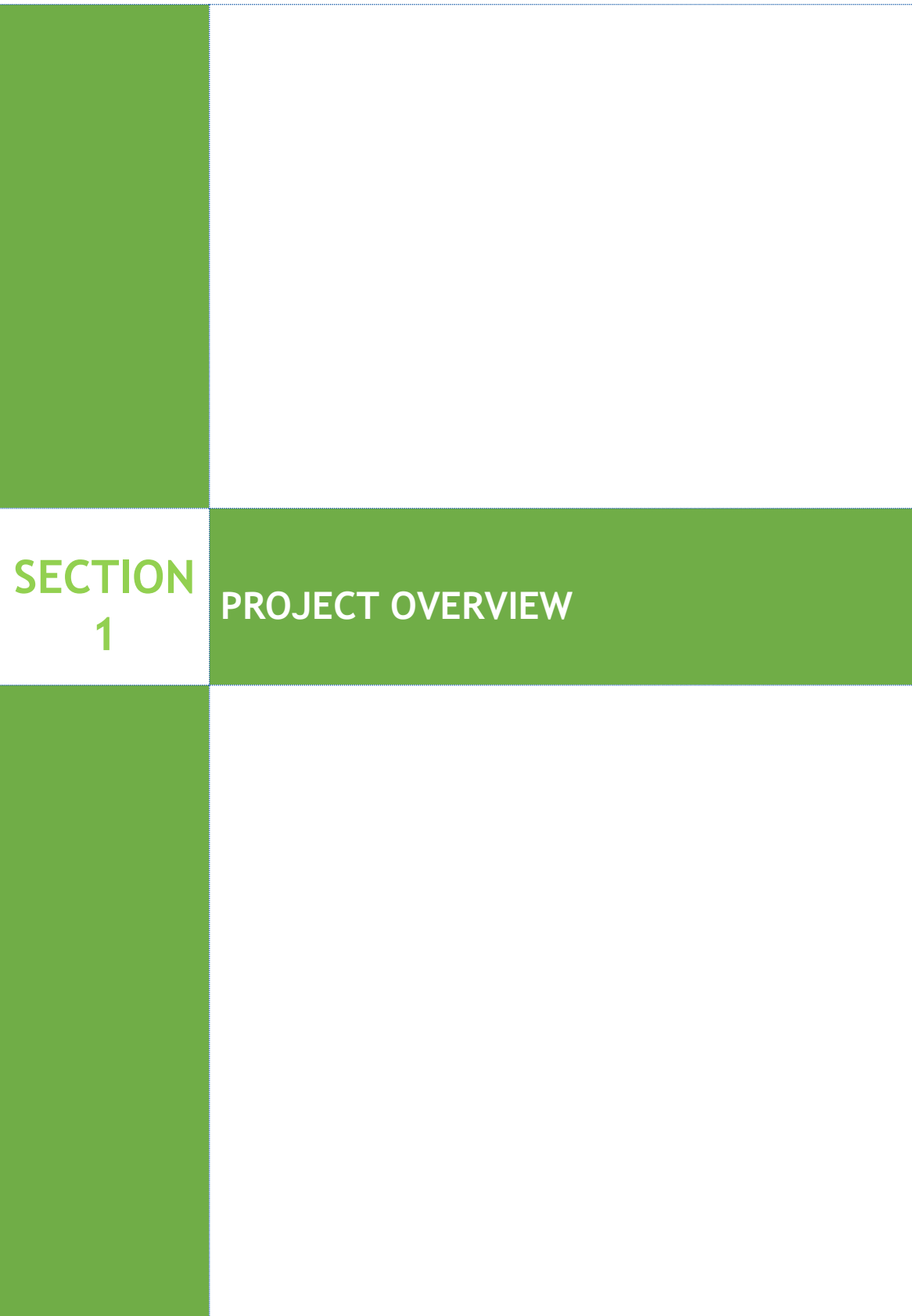
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DISCLAIMER:

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1.1 General Information

PRO-ENERGY is a transnational cooperation project, co-financed by the Cooperation Programme “Interreg V-B Balkan Mediterranean 2014-2020”, under Priority Axis 2, Specific Objective 2.2 Sustainable Territories. The project aims at promoting Energy Efficiency in public buildings in the Balkan Mediterranean territory and to create a practical framework of modelling and implementing energy investments interventions, through specific ICT monitoring and control systems, as well as through energy performance contracting (EPC). The specific objective of PRO-ENERGY is to reduce **by more than 20%** the energy spending in public buildings of the participating entities in one year after the implementation of pilot actions.

The common challenge of PRO-ENERGY is to improve energy efficiency of public buildings (municipal/provincial/regional buildings, schools, universities, health centres, hospitals, museums, sports facilities etc.). This is a common problem faced by the territories participating in the project characterized by old facilities, outdated/degraded building façades, materials & equipment (insulation, electrical appliances, cooling/heating systems etc.), low energy consciousness & awareness, lack of skilled civil servants, etc. all leading to high energy consumption & CO2 emissions.

In this direction, **WP2 (Communication & Dissemination)** aims to disseminate and diffuse project results, to involve stakeholders in project activities while ensuring replicability and multiplier effects of the project.

A range of strategies will be unfolded in order for the project to have a successful outcome. One of them, the information & publicity strategy includes the preparation of a special publication, the **PRO-ENERGY Roadmap for the replicability of results & multiplier effect**, whose ultimate goal is to ensure the replicability of the project outputs & results to public, residential, commercial & other buildings in the participating areas, as well as to other areas in the Balkan-Mediterranean programme area, beyond the partnership.

The consultation of the Roadmap with local stakeholders in all participating territories will also contribute to the increase of awareness. The aim of this Roadmap is to be a guideline for future projects and stakeholders that might wish follow the path towards the development of PRO-ENERGY. To get this purpose, the Roadmap provides essential information and tools for any interested partner/stakeholder that want to learn more about ways to ensure energy efficiency

and to apply a similar approach to a new initiative or more simple to join to the PRO-ENERGY Network.

**SECTION
2**

**DESCRIPTION OF THE PRO-ENERGY PROJECT
- CURRENT ACHIEVEMENTS**

2.1 Introduction

The PRO-ENERGY project was launched as a very ambitious intervention aimed at improving energy efficiency of public buildings (municipal/provincial/regional buildings, schools, universities, health centers, hospitals, museums, sports facilities etc.).

At the same time, the project is focused to create a practical framework of modelling & implementing energy investment interventions through specific ICT monitoring & control systems.

The project kicked off in February 2019 and is expected to last until July 2022. The project partners are:

- Region of Epirus - Regional Unit of Thesprotia - Greece
- Development Agency of Evia SA - Greece
- Cyprus Energy Agency - Cyprus
- Department of Electrical and Mechanical Services - Ministry of Transport, Communications and Works - Cyprus
- Regional Development Agency with Business Support Centre for Small and Medium-sized Enterprises - Bulgaria
- National Agency of Natural Resources - Albania

2.2. Overview of the Objectives

| Project Objectives | | | | | |
|---|--|---|---|---|---|
| To promote Energy Efficiency in public buildings in the Balkan Mediterranean territory& to create a practical framework of modelling& implementing energy investment interventions, through specific ICT monitoring& control systems, as well as through energy performance contracting (EPC) | | | | | |
| Specific Objectives | | | | | |
| To reduce by more than 20% the energy spending in public buildings of the participating entities in one year after the implementation of pilot actions | | | | | |
| Programme Outputs Indicators & Project Main Outputs | | | | | |
| 1 open-source Joint ICT Platform guiding energy consumers behaviour to energy saving actions contributing to the achievement of 20% reduced energy spending in public buildings & to increased energy efficiency | 1 Joint Strategy & Action Plan contributing to developing effective energy efficiency policies & measures & to defining pilot actions for the reduction of energy spending in public buildings | 1 Joint Cost-Benefit Analysis Modeller (open to all) supporting decision-making for retrofits, renovations etc. which lead to increased energy efficiency. | 1 Framework for energy-related interventions in public buildings which includes the implementation of Energy Audits in selected public buildings enabling through smart sensor systems the recording of energy consumption | 15 Training sessions (seminars, study visits, eLearning etc.) on energy-related topics (energy management process, monitoring, targeting, energy auditing, regulations & standards, development of energy projects, financial tools & techniques with emphasis on energy | 1 Benchmarking Tool for the benchmarking of participating authorities regarding energy performance & the promotion of energy efficiency & savings in public buildings. |

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| | | | | performance contracting etc.) contributing to increased capacities of energy managers & other stakeholders leading to medium-term & long-term energy efficiency. | |
|--|--|--|--|--|--|

| Operational Objectives (connected with the respective Work Packages) | |
|--|---|
| WP1: PM & Coordination | WP1 aims to ensure timely & proper implementation of project activities & coordination of all partners, & includes project management & reporting activities, project meetings (also kick-off), evaluation & monitoring performance activities (indicators & mid-term evaluation), quality assurance (manual & procedures) & participation to program events. |
| WP2: Communication & Dissemination | WP2 aims to disseminate & diffuse project results, to involve stakeholders in project activities & to ensure replicability & multiplier effects of the project; it includes the drafting of the Communication Plan (definition of stakeholders strategy, messages, channels, action plan, assessment), the implementation of the Action Plan (project identity, website, social media, brochures, events, eNewsletters, videos), monitoring of action's plan implementation, & the design of the PRO-ENERGY roadmap for replicability of results/multiplier effects & the roadmap's consultation with local/regional/national/European stakeholders. |
| WP3: Joint Regional Analysis, Strategy & Framework | WP3 aims at formulating a Joint Strategy & Action Plan for the whole Balkan Med area regarding energy efficiency through behavioural change based on the analysis of the existing situation regarding energy efficiency in participating territories incorporating mapping of policies, initiatives & interventions & the selection of good practices & benchmarking of participating authorities, at building know-how which will be used in trainings of WP4 & at establishing the framework for the pilot actions of WP5 through the establishment of joint criteria for selecting pilot public buildings, the identification/selection of pilot buildings from all territories & the implementation of energy audits (smart metering) in these buildings. |
| WP4: Capacity Building for Energy Managers | WP4 capitalizes on knowledge & results of WP3 & includes the identification/selection of trainees (energy managers), the assessment of their training needs, the design & development of training curricula on topics such as energy management process, monitoring, targeting, energy auditing, solution development, regulations & standards, development & management of energy projects, financial tools & techniques with emphasis on energy performance |

| | |
|--|---|
| | contracting etc., the organisation of training sessions (eLearning, study visits, seminars etc.) as well as the evaluation of training sessions |
| WP5: Pilot Actions & Sustainability | WP5 includes the implementation of pilot actions designed & specified in the Joint Strategy (WP3) & the drafting of a follow-up plan for sustainability of results (pilot actions, trainings) & its consultation with stakeholders. |

**SECTION
3**

Demystifying replication

3.1. What is replication?¹

The word replication refers to reproducing something in exactly the same way. Replicability on the other hand, refers to the possibility of transporting or ‘copying’ results from a pilot case to other geographical areas, albeit with potentially different boundary conditions. In other words, if a pilot was proven to work in one community or region, it could be exported to other communities or regions (indigenously or abroad), but taking into account that the boundary conditions could be quite different from those in the piloted community or region. Replication may also encompass the management process that was used in the pilot scheme or the cooperation structure between critical stakeholders.

In this sense, the understanding of replication in PRO-ENERGY and in this guide is that replication can mean copying a full solution, however, it is more likely to refer to reusing parts of a solution by taking generic components either directly, or adapting or repurposing them to function in a different context. Transnational replication between different partners, and their respective cities, regions and countries is the objective of PRO-ENERGY. However, replication may also happen within public entities, where new use cases are found for the same technical components.

***Note:** Replication should be understood as a wider concept of reusing different aspects and components of the developed solutions*

3.2 Factors for replicability

The potential to replicate a solution depends on the interest and support from the developer of the original solution to share and facilitate the necessary information. The interest of a solution developer to facilitate the replication is often founded in the belief that open collaboration among a community of developers leads innovation and qualitative solutions.

Looking beyond the contextual challenges for replication and focusing on how to increase the replicability of components from concrete solutions there are a few things that solution

¹ **Source:** https://smartcities-infosystem.eu/sites/www.smartcities-infosystem.eu/files/document/the_making_of_a_smart_city_-_replication_and_scale_up_of_innovation_across_europe.pdf

developers can do to facilitate the process. Three aspects are particularly relevant to increase replicability:

- ❖ *Make sure people can find your solution*
- ❖ *Provide clear documentation and easily accessible information*
- ❖ *Help others to use it*

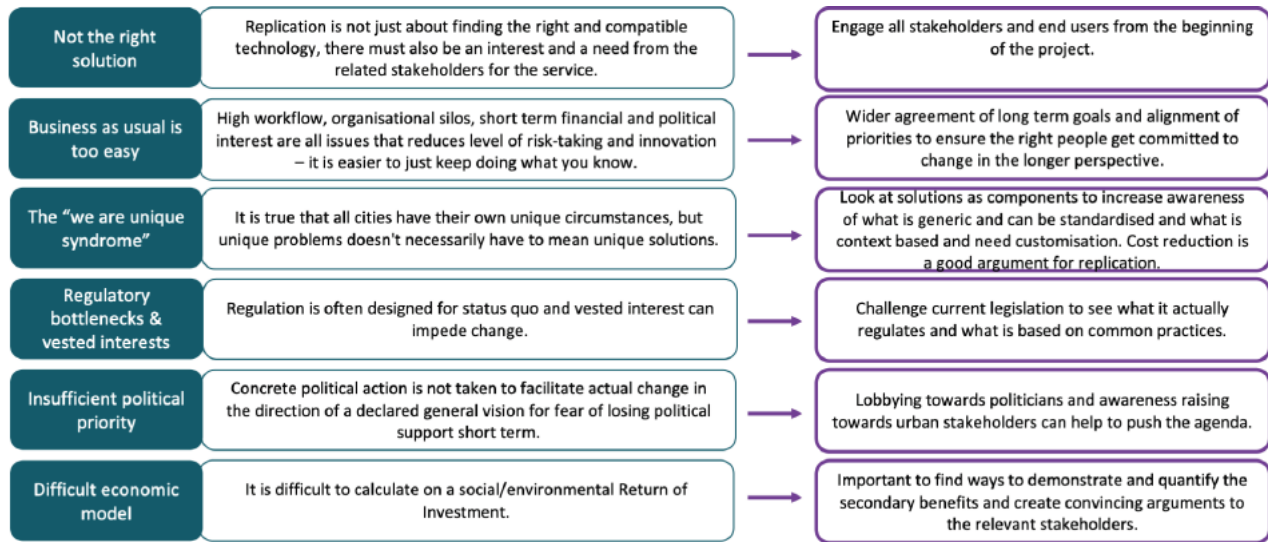
3.3 Barriers for replication

Even though there are many arguments to replicate and reuse what is already available, it is not always easy to make it happen. As with any other development in a relevant project, it requires work to prepare an enabling context.

Working with the stakeholders to increase knowledge and awareness about alternative solutions can help to overcome these barriers. Once the “we are unique syndrome” is broken down into which aspects actually are unique and where some standard components can work to address a certain issue, the decision makers can be more receptive to the input from another city. To build confidence in replicating a solution, complete information about technical and non-technical aspects of the original development, testing and implementation is essential.

The barriers presented below are not necessarily overcome by working open source, rather, an open-source solution is likely to face the same challenges. However, open source can help to strengthen the argument for change of practices and trigger innovation, both in terms of products and services as well as in new ways of working together. Open source and replication can together play an important role for how public entities in general can improve their services to the citizens while reducing cost and time spent.

Figure 1: Common barriers for replication and potential solutions



Source: Replication Guidelines, Open-source solutions for Public Service Delivery, 2020



**SECTION
4**

GUIDELINES FOR REPLICABILITY

4.1 Brief guidelines for replication / capitalization

This section provides some simple information so that new areas can be included within PRO-ENERGY and to capitalize results and outcomes achieved by this project. Generally speaking, for those regional and local entities / municipalities / development agencies that intend to add to the path adopted by PRO-ENERGY, the following 5 outcomes of the project can be “copied” and replicate.

Once all partners have submitted their Respective templates, the LP - Region of Epirus will create a united consolidated Roadmap.

| Joint ICT Platform | Joint Strategy and Action Plan | Joint Cost-Benefit Analysis Modeller | Energy Performance Contracts | Training sessions |
|---|---|--|--|--|
|  |  |  |  |  |
| <p>Joint ICT Platform guiding energy consumers behaviour to energy saving actions contributing to the achievement of 20% reduced energy spending in public buildings & to increased energy efficiency</p> | <p>Joint Strategy & Action Plan contributing to developing effective energy efficiency policies & measures & to defining pilot actions for the reduction of energy spending in public buildings</p> | <p>Joint Cost-Benefit Analysis Modeller (open to all) supporting decision-making for retrofits, renovations etc. which lead to increased energy efficiency</p> | <p>Energy Performance Contracts through open-tendering procedures to finance energy upgrades from cost reductions & contribute in this way to increased energy savings & increased energy efficiency</p> | <p>Training sessions (seminars, study visits, eLearning etc.) on energy-related topics (energy management process, monitoring, targeting, energy auditing, regulations & standards, development of energy projects, financial tools & techniques with emphasis on energy performance contracting etc.) contributing to</p> |

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| | | | | increased capacities of energy managers & other stakeholders leading to medium- term & long-term energy efficiency |
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4.2 Annexes

In this template, each partner is obliged to list the type of their respective stakeholders that they plan to involve in the PRO-ENERGY alongside with their capacity in energy efficiency matters, their interests in the project, as well as how the latter are affected from the (successful) implementation of this project.

| ANNEX I – Stakeholders Analysis | | | |
|---|---|---|--|
| Stakeholder Category & Basic Characteristic | Interest and how affected by PRO-ENERGY | Capacity and Motivation to bring about a change | Possible actions to address stakeholders interests |
| | | Local Public Authorities | |
| | | | |
| | | Regional Public Authorities | |
| | | | |
| | | National Public Authorities | |
| | | | |
| | | Infrastructure and (public) Service Providers | |
| | | | |
| | | (Higher) Education & Research | |
| | | | |
| | | General Public | |

These next two (2) questionnaires, are obliged to be diffused by each partner to their abovementioned selected stakeholders that they plan to engage in the program, as a method of involving the public and introducing them into the principles of PRO-ENERGY project. Results will be provided through a report.

ANNEX II – Energy Efficiency Program Survey

Name of your Organization: **National Agency of Natural Resources**

Address

City: **Tirana**

State/Province: **Tirana**

What type of public entity do you represent?

- Local Public Authorities:
- Regional Public Authorities:
- National Public Authorities: Yes**
- Infrastructure and (public) Service Providers:
- (Higher) Education & Research:
- General Public:
- Other (please specify):

What type of energy efficiency work needs to be performed on your building?

- Lighting Upgrades: Yes**
- HVAC upgrades: Yes**
- Building envelope improvements: Yes**

Building controls system: Yes

Other (please specify):

How satisfied were you with the energy efficiency programs in general?

Very Satisfied : OK

Satisfied

Undecided

Unsatisfied

Very Unsatisfied

Suggestions to improve the energy efficiency programs: **Coordination of financial resources for programmatic EE investment**

Please describe any other major barriers to energy efficiency investment at your organization: **Limited public funds for detailed project development**

ANNEX III – Organizational Attributes

Which of the following best describes your organisations commitment to reducing energy usage?

- Target set for whole organisation for carbon and energy consumption reduction
- Target set for whole organisation for energy consumption reduction
- Vision for energy reduction clearly stated and published
- Draft energy policy or vision present but not clearly stated
- No policy

Which of the following best describes how energy reduction is managed in your organisation?

- Executive team review progress against targets on quarterly basis and progress against target published externally
- Sponsor reviews progress and removes blockages through regular Programme
- Boards and progress against targets routinely reported to Senior Management
- Team
- No monitoring

Which of the following best describes your organisation's allocation of responsibility for energy management in terms of the core team?

- Key individuals have accountability for energy reduction
- Energy reduction a part-time responsibility of a few department champions
- No recognised Energy reduction responsibility

Which of the following best describes your organisation's allocation of responsibility for energy management in terms of the executive team?

- Energy management integrated in to responsibilities of department heads
- Senior Sponsor actively engaged
- No recognised energy reduction responsibility

Which of the following best describes how your organisation manages energy data?

- Energy data compiled on a regular basis. This is collated through automatic metering feeds on fiscal meters. Where relevant sub-metering has been installed
- Energy data compiled on a regular basis. This is collated through automatic metering feeds on fiscal meters.
- Energy data compiled on a regular basis, but majority is based on bill data only.
- No energy data compiled and high reliance on estimated billing

Which of the following best describes your organisation's energy management systems?

- Data is stored in energy management system
- Data is stored in various MS excel files or other similar none energy focused systems/tools
- No systemic means of capturing data

Which of the following best describes how your organisation validates energy data?

- Data is verified against a bill validation process
- Data is verified against a bill with accounts team
- No data verification

Which statement best describes your organisation's approach to energy management training towards you?

- Environmental / energy group(s) given comprehensive operational training
- Environmental / energy group(s) given comprehensive technical training
- Environmental / energy group(s) given ad hoc training
- Environmental / energy group(s) provided basic energy management information on ad-hoc basis
- No training

Which statement best describes your organisation's approach to energy management training in terms of the wider staff and other occupiers?

- All staff given formalised energy management training:
- Staff given energy management information on ad-hoc basis
- No communication or training

Do you test staff awareness on energy management through a survey?

- Yes
- No

Which statement best describes your organisation's approach to financing energy efficiency in terms of ring-fenced funds?

- 2 year or more plan agreed with financial budget for energy efficiency initiatives, with a ring-fenced finance programme
- 2 year or more plan agreed with financial budget for energy efficiency initiatives
- 1 year plan agreed with financial budget for energy efficiency initiatives
- Some financial budget allocated to energy reduction, but no clear plan
- There is a clear plan in place but no budget assigned
- All finance allocated to energy reduction is done so on an ad hoc basis

Is there any financial representation from the organisation on the energy management team?

- Yes
- No

In this template, each partner is obliged to write down their intended interventions on their respective public buildings, with the aim of achieving energy efficiency (smart meters installation, “green” renovation and upgrading of the existing building stock, installation of eco-friendly technology, etc.)

| ANNEX IV – Type and Number of Interventions | | | | | |
|---|---------------|------------------------|---|----------|--------------------------------|
| Greece (Thesprotia) | Greece (Evia) | Cyprus (Energy Agency) | Cyprus (Electrical and Mechanical Services) | Bulgaria | Albania |
| | | | | | Smart Meter Installation |
| | | | | | New windows |
| | | | | | New Electric installation |
| | | | | | Lighting Upgrades |
| | | | | | HVAC upgrades |
| | | | | | Building envelope improvements |

In this template, each partner is obliged to document the list of public buildings that the aforementioned interventions are planned to be made to, as well the specific type of building (school, region hall, city-hall, theater, etc.).

| ANNEX VI – List of Public Buildings | | | | | |
|-------------------------------------|---------------|------------------------|---|----------|-------------------------------------|
| Greece (Thesprotia) | Greece (Evia) | Cyprus (Energy Agency) | Cyprus (Electrical and Mechanical Services) | Bulgaria | Albania |
| | | | | | School Qazim Pali, |
| | | | | | School Koto Hoxhi |
| | | | | | Culture Center, Dervician, Dropulli |
| | | | | | Culture Center, Gjirokastra |
| | | | | | Municipality of Gjirokastra |
| | | | | | Municipality of Vlora |