



50 000 & 1  
**SEAPs**

## **Synergies and advantages of the EnMS+SEAP approach**

Focus on institutionalization, development, implementation, monitoring, sustainability of SEAP, comparison with regular SEAP, barriers and ways to overcome them; opportunities

**February 2017**

Deliverable No.	D5.3
Work Package	5
Dissemination Level	RE
Author(s)	EKODOMA; SOGESCA; MT Partenaires Ingénierie
Co-author(s)	All partners
Date	February 2017
File Name	D5.3_synergies_advantages_50000&1.docx

This document (report, etc) has been prepared in the framework of the European project 50000&1 SEAPs – Energy Management for Sustainable Action Plans (Grant agreement no. IEE/XXXX) co-financed by the European Commission in the “Intelligent Energy – Europe” (IEE) Programme.

#### CONTACT:

Email: [50001seaps@iclei.org](mailto:50001seaps@iclei.org)  
Website: [www.50001seaps.eu](http://www.50001seaps.eu)  
Twitter: @50001SEAPs



Co-funded by the Intelligent Energy Europe  
Programme of the European Union

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## Executive summary

There are already well known set of barriers that often occur while developing and implementing Sustainable Energy Action Plan (SEAP) in the local authorities (LAs). Among them there is always of the most crucial difficulty, i.e. energy data gathering. The other is the assigning of responsibilities. Covenant of Mayors office also suggests in order to have a successful SEAP LAs should integrate it into day-to-day life and management of the municipality: it should not be just another nice document, but part of the corporate culture!<sup>1</sup>

ISO 50001 and other energy management standards can facilitate municipalities' efforts to use energy more efficiently in all sectors. These standards lay out how to establish, implement, maintain and improve an EnMS, allowing an organisation to achieve continual success in all areas of energy performance, including efficiency, security, and consumption.

The 50000&1 SEAPs project provided a coherent approach to integrating Energy Management Systems (EnMS) with SEAPs according to energy management standard such as ISO 50001 and European Energy Award, as quality management certification system for municipalities committed to sustainable energy planning. It aimed to help municipalities overcome the barriers blocking institutionalisation of their action plans and reinforce internal structures and procedures for high-quality, long-term, energy policy and planning. This ensured that sustainable approaches to local energy policy and planning are spread and strengthened further across Europe.

Based on 50000&1SEAPs experience, the most important differences between SEAP and integrated EnMS+SEAP approaches are:

- *From general to concrete actions* in analysing, controlling and monitoring energy performance;
- *From quantitative to qualitative* measurement of the energy performance.
- *From a general territory baseline to multiple baselines for each energy use.*
- *From general Action Plans to specific and measurable annual Action Plans.*

This report summarises the overall results of the project in relation to the integrated EnMS+SEAP approach used. The first chapter recaps the basic principles and elements of the integrated approach. Meanwhile second chapter provides an insight and comparison between solo SEAP approach and integrated EnMS+SEAP approach. Chapters 3 and 4 focus more on the main advantages and barriers of the approach. Report is finalised with the conclusions.

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<sup>1</sup> Source: [http://www.pilsetumerupakts.eu/IMG/pdf/SEAP\\_guidebook\\_Part\\_I.pdf](http://www.pilsetumerupakts.eu/IMG/pdf/SEAP_guidebook_Part_I.pdf) (page 12)

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## Introduction

ISO 50001 and other energy management standards can facilitate municipalities' efforts to use energy more efficiently in all sectors. These standards lay out how to establish, implement, maintain and improve an EnMS, allowing an organisation to achieve continual success in all areas of energy performance, including efficiency, security, and consumption.

The 50000&1 SEAPs project provided a coherent approach to integrating Energy Management Systems (EnMS) with Sustainable Energy Action Plans (SEAPs) according to energy management standard such as ISO 50001 and European Energy Award, as quality management certification system for municipalities committed to sustainable energy planning. It aimed to help municipalities overcome the barriers blocking institutionalisation of their action plans and reinforce internal structures and procedures for high-quality, long-term, energy policy and planning. This ensured that sustainable approaches to local energy policy and planning are spread and strengthened further across Europe.

Initially there were different aims set of the 50000&1SEAPs project:

- To create a coherent approach – the 50000&1 SEAPs methodology – for the integration of EnMS and SEAPs that can be replicated across Europe;
- To develop, implement and monitor SEAPs according to ISO50001 and established energy management standards in 40 selected municipalities in eight countries;
- To institutionalise sustainable energy policies and ensure the effective implementation of SEAPs during and after the project's lifetime;
- To make the results widely available and enlarge the number of trained Covenant of Mayors Supporters, Coordinators and municipalities implementing the 50001SEAPs approach.

This report summarises the overall results of the project in relation to the integrated EnMS+SEAP approach used. The first chapter recaps the basic principles and elements of the integrated approach. Meanwhile second chapter provides an insight and comparison between solo SEAP approach and integrated EnMS+SEAP approach. Chapters 3 and 4 focus more on the main advantages and barriers of the approach. Report is finalised with the conclusions.

# 1 Shortly through EnMS+SEAP approach

## 1.1 Institutionalization

The institutional commitment represents the first step in EnMS+SEAP development. According to the SEAP requirements, CoM signature represents the formal act through which the Mayor is committed to support EU policy on sustainability targets. According with the EnMS requirements, local authority (LA) defines and approves an Energy Policy. It represents the first commitment step for the organizations to achieving energy performance improvement. In both cases in EnMS+SEAP developed in municipalities, the role and the responsibility of the formal commitment is in charge of political administration, including the Mayor and the Council. This means that all the political members of the LA (Mayor, Assessors, members of the Council) approve specific target, role and responsibilities in the administrative structure in order to ensure a coherent development and implementation of the sustainable policies of the LA. In particular, political administration shall define and ensure:

- A continual improvement of the energy performance;
- The availability of the information and of the necessary resources to achieve objectives and targets;
- Comply with applicable legal requirements and requirements to which the local authority subscribes related to its energy use, consumption, efficiency and sustainability;
- Provides the framework for setting and reviewing energy objectives and targets;
- Support the purchase of energy-efficient products and services related to the LA activities;
- Communicate internally to at all levels within the organization and externally to citizens and stakeholders (through the SEAP) objectives, targets and results;
- Monitor, review and update as necessary its energy policy.

In the Figure 1 is shown an example how an overall internal organisation (scheme on the left) for EnMS and SEAP coordination is ensured in LA and the scope of the team (table).

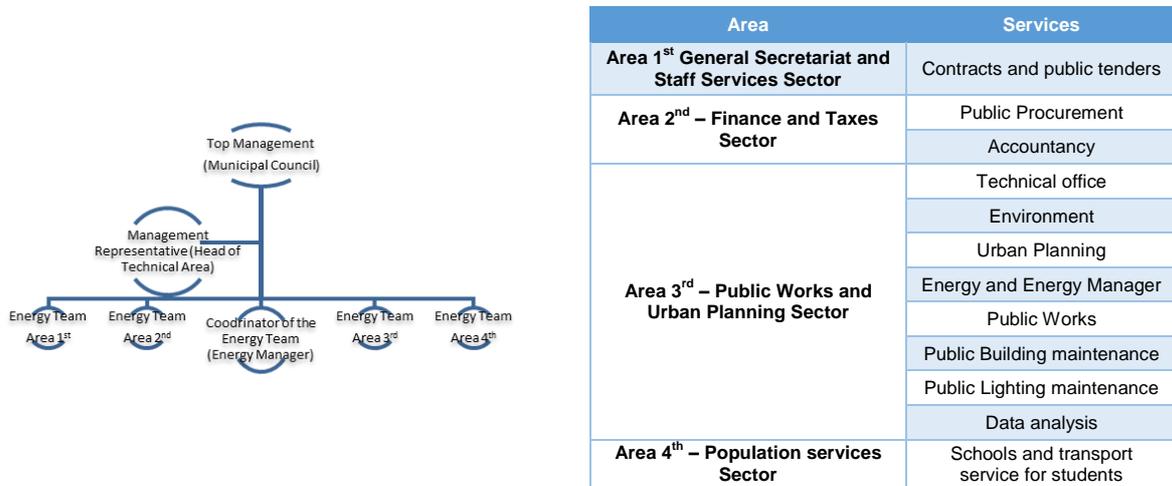


Figure 1: Example of an Energy Management System internal organization and the scope in LA

Figure 2 provides another example for internal organisation in LA where specifically energy data flow, responsibilities and coordination in public buildings is addressed. This general scheme is applied in case of 105 buildings.

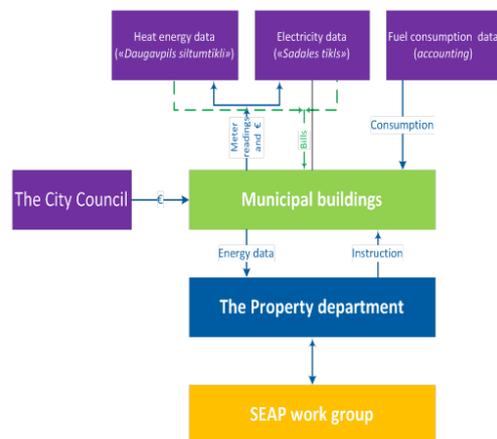


Figure 2: Another example of an Energy Management System internal organization in LA

The steps presented above are necessary for the development and implementation of the integrated EnMS+SEAP. The most important target of the LA shall introduce energy issues in the decision-making process. LA shall institutionalize a sustainable and efficient management of its budget resources by focusing the attention in analysing, designing and purchasing of sustainable and efficient products and services improving continually its energy performance and reducing progressively its environmental impact.

## 1.2 Development

In order to develop the activities adopting the EnMS+SEAP approach the next step after the definition of the Energy Policy is represented by the definition of internal roles, responsibilities and resources. The political administration shall demonstrate its commitment to support EnMS+SEAP development adapting the LA structure and creating favourable conditions which includes:

- Appointing **Management Representative(s)** with specific responsibilities to ensure that the EnMS+SEAP is established, implemented, maintained and continually improved according with the political administration objectives and targets and coherently with the Energy Policy;
- Appointing a **municipal energy manager** and/or a **coordinator of the Energy Team** ensuring that that figure has adequate position and knowledge in the municipal hierarchy, which allows him/her to manage his/her own human resources and report directly to the Management Representative and political administration;
- Defining roles, responsibilities and competences related to the development and implementation of the EnMS+SEAP. Involving specific sectors and offices related with energy issues (data management, design, purchase, planning, maintenance) officially naming them as members of the **Energy Team**.

Resources include human resources, specialized skills, technology and financial resources and skills.

Energy Team coordinated by the municipal energy manager/coordinator of the energy team and under the Management Representative supervision shall:

- Identify the scope and boundaries to be addressed by the EnMS+SEAP;
- Define a data collection procedure and methodology;
- Define the significant direct and indirect energy uses in LA and in the territory (energy review and baseline);
- Communicate the importance of the EnMS+SEAP to those in the organization;
- Ensure that energy objectives and targets are established and monitored;
- Define specific and appropriate energy performance indicators (EnPI) to compare energy performance;
- Ensure that results are measured, reported and communicated to the political administration at determined intervals;
- Conduct and participate in the Management Review.

### 1.3 Implementation

Once the specific human, technical and financial resources have been formally and practically allocated throughout development of energy management system integrated in Sustainable Energy Action Plan of the LA, the LA is ready to start the implementation and operation phase. The organization shall conduct, document and implement an energy planning process consistent with the Energy Policy focused on the continuous improvement of the energy performance and the respect of the legal requirements applicable. The first step of the implementation phase arises from the Energy Review and the definition of the baseline. The LA shall develop, record and maintain an energy review in order to prioritize the measures which will be included in the Action Plan. In particular, the LA shall:

- Identify and analyse direct and indirect energy uses;
- Identify energy sources;
- Evaluate past and present energy use and consumption and define the significant direct and indirect energy use;
- Identify facilities, equipment, systems, processes and personnel working for, or on behalf of the LA;
- Identify the energy use in the private sector of the territory according with the SEAP requirements;
- Determine the energy performance;
- Estimate the future energy use and consumption.

Using this approach the LA is able to establish, implement and maintain documented energy objectives and targets consistent with the Energy Policy. The analysis of the energy performance presented in the Energy Review represent a fundamental step to identify where, why and how to invest resources to improve energy performance monitoring the effectiveness of the measures implemented.

Continual improvement is the most important requirement of the EnMS approach. That means define appropriated EnPI in order to demonstrate the effectiveness of the performance improvement. Table 1 provides an example of performance indicators for SEAP but in Table 2 is shown an example of EnPI in the framework of an energy management system.

Table 1: Sectors and EnPI identified in private sectors according with SEAP requirements

EnPI in the territory monitored by the SEAP activities (Energy Balance and measures)	
Total consumption of electricity	kWh/capita per year
Electricity consumption by sector (residential, industrial, agriculture, tertiary)	kWh/year
Total consumption of natural gas	thous.m <sup>3</sup> /year
Natural gas consumption by sector (residential, industrial, agriculture, tertiary)	thous.m <sup>3</sup> / year
Fuel sales in private transport	t/year

Electricity RES production by sector (residential, industrial, agriculture, tertiary)	kWh/year; kWh/kWp
Thermal energy production by sector (residential, industrial, agriculture, tertiary)	kWh/year; kWh/m <sup>2</sup>
Total energy consumption per capita	MWh/capita
Total energy consumption in residential sector	MWh/ capita
Total energy consumption in industrial sector	MWh/company
Relationship between energy production from renewable sources (electricity and heat) and territorial gross final consumption	%
Relationship between buildings in class A in the municipal area and the total number of buildings	%
Energy efficiency measures on private buildings in residential sector	Number of energy efficiency measures; MWh saved/year

Table 2: Example of Energy Management Action Plan with EnPI of a LA

Target	Energy Efficiency measure	EnPI	EnPI Baseline	EnPI expected	Time frames
<b>Improvement of the EnPI in thermal use Public Buildings (Schools)</b>	Primary School (windows replacement heating plant revamping)	kWh*Degree Day/m <sup>2</sup>	190 kWh/m <sup>2</sup> *DD	172 kWh/m <sup>2</sup> DD	2017
	Secondary School (windows replacement and climatic heating plant regulation)	kWh*Degree Day/m <sup>2</sup>	144 kWh/m <sup>2</sup> DD	138 kWh/m <sup>2</sup> DD	2017
	Primary School "Andersen" (roof insulation)	kWh*Degree Day/m <sup>2</sup>	140 kWh/m <sup>2</sup> DD	133 kWh/m <sup>2</sup> DD	2017
	Primary School "J. Piaget" - (roof insulation)	kWh*Degree Day/m <sup>2</sup>	143 kWh/m <sup>2</sup> DD	136 kWh/m <sup>2</sup> DD	2017
	Primary School "Zanella" - (roof insulation)	kWh*Degree Day/m <sup>2</sup>	99 kWh/m <sup>2</sup> DD	94 kWh/m <sup>2</sup> DD	2017
<b>Improvement of the EnPI in Public lighting system</b>	Lamp replacement in public lighting	kWh/lamp	334 kWh/lamp	183 kWh/lamp	2020

The same approach shall be adopted to stimulate and plan actions in private sectors. It can be achieved through cooperation with the stakeholders and public-private partnership, cooperation in searching regional, national and European funds to finance specific measures in specific private areas. The definition of objectives and targets of the LA, the identification of the possible energy efficiency measures to be implemented in buildings, facilities and infrastructures shall be discussed with and communicated to the political administration. The LA shall consider energy performance improvement in the design of the new, modified and renovated facilities, equipment, systems and process. The Council shall allocate specific economical resources of the balance sheet dedicated to energy efficiency projects focused on the continual improvement of the energy performance.

## 1.4 Monitoring

Monitoring of the energy performance is a fundamental requirement of the EnMS+SEAP approach to demonstrate the effectiveness of the correct implementation and the positive

results related. The LA shall ensure that the key characteristics of its operations that determine energy performance as well as the energy performance in private sectors are monitored. Adopting the EnMS+SEAP approach the LA shall monitor the direct energy use through the implementation of the EnMS requirements and at the same time shall transfer the EnMS approach and methodology to monitor the energy performance in private sectors identifying specific indicators as mentioned above in Table 1. In particular LA shall monitor the key characteristics of the energy performance of the direct and indirect energy uses, such as:

- Significant direct and indirect energy uses;
- Relevant variables related to significant energy uses;
- EnPIs;
- The effectiveness implementation of the Action Plan in achieving objectives and targets;
- Evaluation of actual versus expected energy consumption.

LA shall define and periodically review its measurement needs according with specific needs and according with the CoM Monitoring report timeline. Measurements can range from only utility meters for small organizations up to complete monitoring measurement systems connected to a software application. It's also important to be able to investigate, react and respond to significant deviations in the energy performance.

## 2 Comparison of the two approaches

### 2.1 Solo SEAP

SEAP development approach enables LAs to enhance its knowledge about energy issues of the territory by defining a general energy and emission balance. SEAPs are focused on avoiding CO<sub>2</sub> emissions generated by energy use in public and private sector adopting a specific strategy which includes the cooperation of LA and stakeholders. As voluntary agreement between Mayors (LAs) and EU, the SEAP requirements are based on three fundamental targets to be achieved by 2020:

- Increase energy efficiency by 20%;
- Increase RES production by 20%;
- Avoid CO<sub>2</sub>e emission by 20% compared with the baseline defined.

Since 2016 new CoM climate and energy targets for 2030 have been set:

- At least 40% lower CO<sub>2</sub> (and possibly other greenhouse gas) emissions by 2030 through improved energy efficiency measures and greater use of renewable energy sources;
- Enhanced resilience to the impacts of climate change;
- Increased cooperation with fellow local and regional authorities within the EU and beyond to improve access to secure, sustainable and affordable energy.

LAs who signed the CoM initiative shall implement a SEAP in order to reach the results showed above. In order to achieve those results, LAs shall establish and implement policies focused on the involvement of citizens and stakeholders.

SEAP boundaries involve LA properties and activities as well as private sectors where energy is consumed. SEAP represent a “toolbox” where all the territorial planning instruments are put together in order to improve the environmental impact of the energy use in the territory, create public-private cooperation and define permanent roundtables with citizens and stakeholders of the territory in order to achieve the results of 20% of CO<sub>2</sub>e reduction.

Usually SEAPs includes quantitative indicators as mentioned in Table 1 and qualitative indicators to monitoring the effectiveness of the implementation. Qualitative indicators are established freely by LAs and are shared among the community.

There are two scopes to be considered together and separately: public and private. Both the sectors contribute to reach the CO<sub>2</sub>e reduction by adopting specific “hardware measures”

and/or “regulatory measures”. Data collection, SEAP measures and monitoring phase can be defined in a general way by respecting and implementing SEAP requirements.

## 2.2 EnMS+SEAP

EnMS+SEAP approach is aimed to increase the institutionalization of the SEAPs in LA involved in the process enhancing energy knowledge and expertise, providing specific training and tools. As the project 50000and1SEAPs is focused on the implementation of EnMS in LAs, the introduction of the ISO 50001 requirements in the SEAPs activities represent the most important step in order to increase the level of the implementation and monitoring.

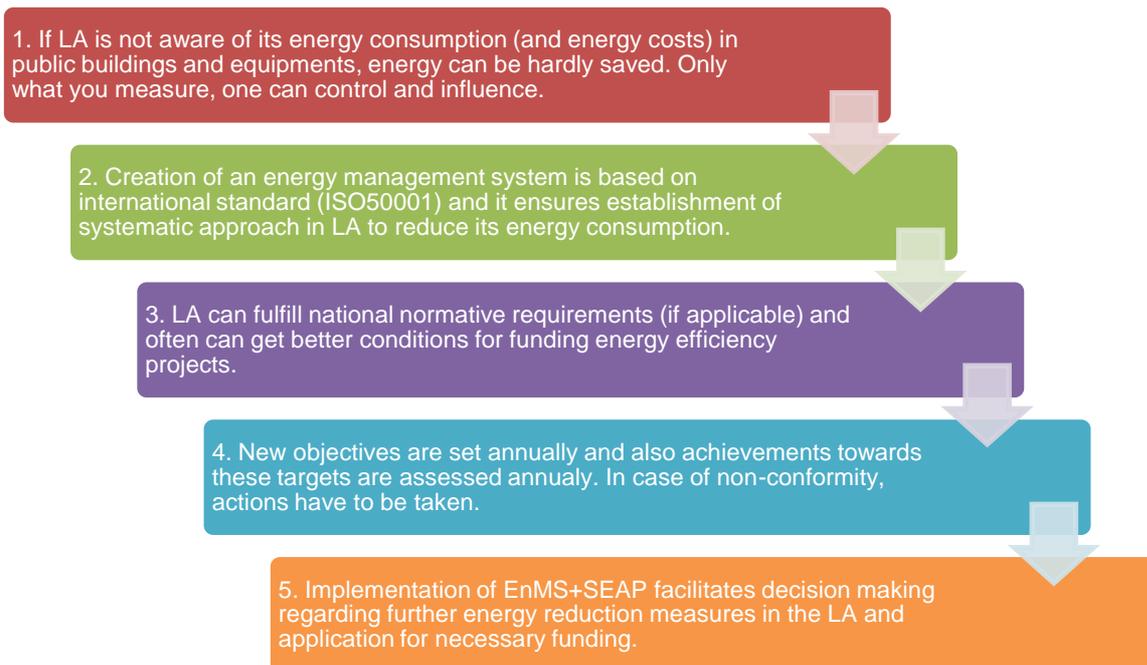
As International Standard, ISO 50001 requirements strictly encourages LAs to respect and implement legal requirements related to energy issues. The standard requires establishing necessary systems and processes in the organisation to improve energy performance. The compliance to requirements is subjected to verification by independent accredited bodies. ISO 50001 approach requires an in-depth analysis of the energy performance of the organisation defining specific and appropriated EnPI which includes external and environmental variable which could affect the energy performance.

The most important “difference” between SEAP and EnMS+SEAP in terms of analytical approach could be: *“from general to particular”* in analysing, controlling and monitoring energy performance. The second “difference” to be mentioned could be *“from quantitative to qualitative”* measurement of the energy performance. A third one could be: *“from general Action Plans to specific Action Plans”* and the last one could be *“from a general baseline to multiple baselines for each energy user”*.

### 3 Advantages of the EnMS+SEAP approach

In general, SEAP and EnMS+SEAP approach are very similar. However, the passage from the “general” to the “concrete”, from the “estimation” to the “measured” guaranteed and required by the EnMS+SEAP approach can considerably increase the quality of the SEAP and its effectiveness in public and private sectors. Moreover, the definition of specific qualitative EnPI can help the LA to increase the knowledge on the public and private energy performance. Defining specific improvement and transfer the methodological approach in the private sectors stimulating citizens and stakeholders can help the territory to increase life quality, save wasted energy and avoid CO<sub>2</sub>e emissions.

The ten main advantages of the EnMS+SEAP approach are summarised in the Figure 3.



(Continuous on the next page)



Figure 3: Ten main advantages of the EnMS+SEAP approach

Application of EnMS+SEAP approach in the energy planning process at the local level ensures better understanding where and who can actually practically reduce energy consumption. Moreover, this approach just simplifies and increases the awareness in the LA for the need of the monitoring of the SEAP. Even if the energy management system in LA is usually applied only for public buildings and equipment, 50000&1SEAPs experience has proven that it allows LAs to assess and acknowledge their role in the whole territory. Most advance LAs have approved also specific procedure for the overall monitoring of the SEAP in the framework of their local EnMS.

## 4 Main barriers and solutions to them

There are already well known set of barriers that often occur while developing and implementing SEAPs in the LAs. Among them there is always of the most crucial difficulties, i.e. energy data gathering. The other is assigning responsibilities.

Also in case when EnMS+SEAP approach is used, one of the main barriers and challenges are of human nature. The other group of barriers is still financial (though signalled by minor number of LAs) and the third – technical.

In general throughout the 50000&1SEAPs project all these barriers most of the LAs managed to overcome. The most significant challenges at different stages of the development and implementation of integrated EnMS+SEAP are:



- **Human:**

- **Challenge:** Lack of municipal energy manager in LA.
  - **Possible solution:** This is one of the crucial obstacles LA faces usually at the beginning of the energy planning process. Often LAs argue that they lack budget for energy manager or there are no knowledgeable people for this position or they wouldn't be able to set tasks and control an energy manager. The lesson learned by 50000&1SEAPs project shows that development and implementation of an energy management system can provide answers to all of these arguments:
    - First of all, energy manager is paid from the energy (and cost) savings achieved with EnMS. The basic duties and tasks of an energy manager are stated in the ISO 50001 standard, however more and more information is available in online (see also reports on [www.50001seaps.eu](http://www.50001seaps.eu)).
    - In general, the main duty of an energy manager at the beginning is to create and implement an EnMS in LA. Later energy manager should ensure continuous improvement of the system and continue implementation of the SEAP.
    - Finally, one of the basic requirements of the energy management system is to ensure annual assessment of the whole EnMS. In case objectives are not reached, LA has all the possibilities to evaluate (and control) appropriateness of the energy manager and motivate.

- **Challenge:** Identification of the “right” energy manager throughout the process.
  - **Possible solution:** For any work to be done well there is need of a person performing well. This is applicable also for EnMS. Often LAs have prejudices and beliefs that only an engineer can be an energy manager. Our experience shows that it is not always the case. It is recommended to employ person with technical knowledge, however in case of implementation of integrated EnMS+SEAP it is even more crucial to hire or appoint motivated, open and communicative person.
- **Challenge:** The personnel involved in the EnMS development process has significant amount of other duties. That makes hard for them to focus on their duties in EnMS+SEAP.
  - **Possible solution:** One of the activities during development of an EnMS in an LA is to identify all the persons involved in the whole process, including technical staff in the public buildings. This means LA initially has to do an inventory of the personnel. Our experience from 50000&1SEAPs shows that even if firstly LAs have negative attitude, later during development of EnMS the attitude changes. This is mainly due to advantage they see that clear duties and tasks for each involved employee are assigned as often these employees are partly already performing tasks related to EnMS. However through the energy management system they are better defined and also controlled. This finally allows also increasing work productivity of the personnel and in general in the LA.
- **Challenge:** Lack of competences as well as old mentality; need for significant training of the personnel.
  - **Possible solution:** There will always be someone opposing introduction of new ideas and concepts. Energy management system allows LA flexibility to assign tasks and control their fulfilment. In case there is nonconformity, i.e. energy consumption is not achieved or any other requirement implemented, e.g. procurement announced without defining EnPI, LA has to take action, e.g. revise responsibilities and duties. One should also remember that opposing can also be reduced by ensuring training of the involved personnel. It is very important to train employees involved in the implementation of EnMS and SEAP to increase their knowledge and also acceptance.
- **Challenge:** Political restless, bureaucracy in LAs as well as lower priority than other activities in LA.
  - **Possible solution:** One of the methods tested in the discussions with LAs, was questioning how big their municipal energy bill is. As it is never small (or they are not aware of the annual sum), it opens possibility for further inquiries and discussions. Moreover, ISO50001 standard clearly at the initial stage of the creation of the energy management system requires involvement of the top management. There are clear duties that top

management commits to ensure, including financial, human and other resources. Therefore EnMS+SEAP approach requires early political support that compared to solo SEAP approach, delivers better results, i.e. commitment and identification of further actions etc.

- **Challenge:** Lack of cooperation and coordination among departments.
  - **Possible solution:** The only solution is to start communicating. In order to achieve overall energy and climate targets in the LA, an Energy or SEAP or EnMS team has to be involved. Energy manager alone will not be able to achieve these targets. Therefore it is important to discuss internally the best communication strategy at different levels, including political level and also communication with parents of the children attending kindergartners and schools.
- **Challenge:** Certification bodies have a hard time understanding it is no multi-site procedure.
  - **Possible solution:** Even though energy management has been well known concept for the last 20-30 years, ISO 50001 standard was published in 2011. Moreover, it was initially created for industries and application of it in LAs is not substantial. Therefore also certification bodies in different EU countries had no or few knowledge regarding certification process in LAs. This however has changed during 50000&1SEAPs and currently in the eight EU countries there are experienced certification bodies.
- **Financial:**
  - **Challenge:** Lack of own financial opportunities to implement and maintain the EnMS.
    - **Possible solution:** LAs pay their energy bills for all the public buildings and equipment like public street lighting. In most of these LAs, they are not aware if their energy bill is big or small and if they can reduce it. Therefore the first step is to acknowledge how much LA paid during the previous year for their entire infrastructure. Based on the assumption that implementation of EnMS can ensure reduction of 5-10% of the energy bill (with small or no investments), LA can calculate the payback time for maintaining the EnMS. Moreover, implementation of the EnMS guarantees not only energy and cost savings but ensures other benefits, e.g. better climate conditions in the buildings, productivity etc.
  - **Challenge:** Lack of funds for the EnMS certification and renewing the certificate in the future.
    - **Possible solution:** Certification costs vary in different countries and also among LAs. In general they start from 1500 EUR and are up to 10000 EUR or more (in case of certification of EEA (see chapter 5)). Certification ensures that independent bodies assess the energy management system and also provides suggestions for improvement. It allows then to set more

ambitious targets. LAs can easily calculate the payback time in order to make decision for certification.

- **Technical:**

- **Challenge:** Scarce availability of initial energy consumption data, methodological approach in data collection and data management at the initial part of the process.
  - **Possible solution:** This challenge has remained among top obstacles in LAs. However, one of the greatest advantages of the integrated EnMS+SEAP approach is that this challenge is removed after the implementation of the EnMS. One of the basic rules of the energy management system is to create systematic procedure for energy data collection and analysis. Usually in most of the countries it is ensured at monthly or quarterly basis.
- **Challenge:** Definition of the significant energy uses, definition of the energy measures priority.
  - **Possible solution:** Once energy data collection is ensured, this challenge is removed. It is up to LA to develop a suitable methodology to define and assess priorities of different energy measures. It is especially important in LAs with large EnMS boundaries, i.e. system includes all public buildings, also public street lighting and/or public transport.

## 5 Other available tools

### 5.1 The European Energy Award (EEA)

The European Energy Award supports some 1400 municipalities willing to contribute to sustainable energy policy and urban development through the rational use of energy and increased use of renewable energies. EEA is a tool for energy policy quality management for municipalities and local authorities (LAs) taking all energy related policies into account on the given territory.

Initially sustained by private companies, the governance of EEA has been transferred to the non-profit Association European Energy Award AISBL, which will take over all international eea activities from 2017 onwards and was founded in Brussels on 20 December 2016.

Ordinary members of EEA are Austria, France, Germany, Italy, Liechtenstein, Luxembourg, Monaco and Switzerland. Pilot countries are Romania, Ukraine and Morocco.

EEA can be recognised as an efficient implementation tool for SEAPs in the context of the **Covenant of Mayors**<sup>2</sup>. In doing so, the European Commission acknowledges the quality management and certification system of the European Energy Award<sup>®</sup> which has been developed within previous European programmes.

The process is based on following steps: High level commitment, Energy Team formation, Initial energy review, Energy policy programme, Project implementation, Auditing Certification and award.

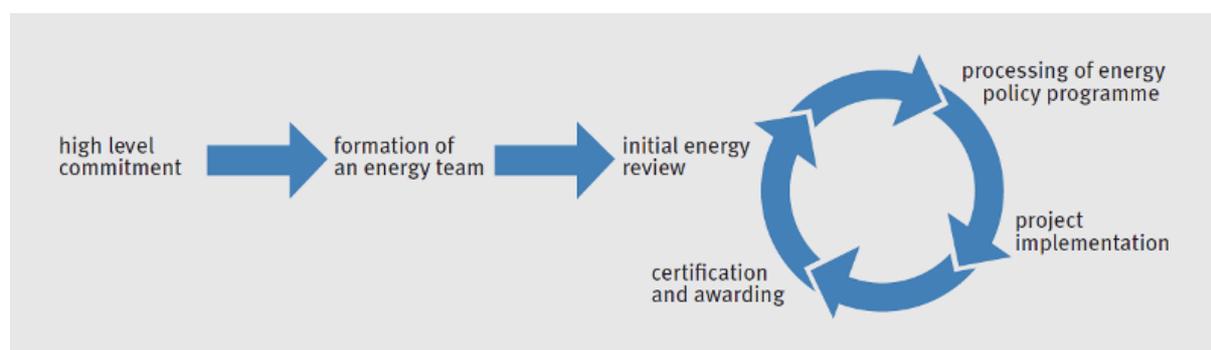


Figure 4: EEA STEPS (source: eea website)

<sup>2</sup> As per the letter of recognition of the DIRECTORATE-GENERAL FOR ENERGY AND TRANSPORT of 30 October 2010

EEA addresses the entire territory and is therefore overlapping SEAP / SECAP scope. A complete cycle lasts 4 years: after a thorough initial review, the method foresees yearly visits and evaluations. The review assesses the situation of the LA based on 79 measures within 6 areas supported by 61 KPIs. A policy programme is built on this basis followed by a certification and an award according to 3 thresholds:

- Between 35 and 50 %
- Between 50 and 75% : EEA, Cit'ergie, ...
- Above 75% : EEA gold, Cit'ergie gold

On the other hand, ISO 50001 is an energy management system of the **entity's own assets** focusing on **significant energy uses**. There are similarities and differences and therefore we consider that the **two procedures are complementary**. EEA certified municipalities and LAs express the needs of putting in place an ISO 50001 in order to improve own asset EnMS.

The Table 3 shows the gap analysis between the two systems as well as the overlapping fields and differences.

Table 3: Comparison between EEA and energy management system according ISO 50001

Area	EEA review	ISO 50001 EnMS
<b>1. Development &amp; Spatial Planning; LA policies &amp; strategy for energy, air and climate</b>	Concept and strategy Municipal planning Landowners' obligations Building approval & monitoring	Management commitment for EnMS
<b>2. Municipal buildings &amp; facilities</b>	Energy and water management Quantitative targets for energy, efficiency and climate impact Public lighting Water efficiency	Choice of significant energy uses Implementation of EnMS on these assets
<b>3 Supply &amp; disposal</b>	Utilities Water & wastewater supply and energy efficiency REs on territory Energy from waste	LA owned utilities only, if selected
<b>4 Mobility</b>	Mobility in administration Traffic calming, parking Non motorised mobility Public transport Mobility marketing	LA owned vehicles consumption only, if selected
<b>5 Internal Organisation</b>	Internal structures	Organisational issues

	Internal processes Finance	Skills and training
<b>6 Communication, Cooperation</b>	Communication strategy Cooperation and communication with authorities Cooperation and communication with industry, business and trade Communication and cooperation with residents and local multipliers Support for private activities	Internal communication only
<b>Non conformity detection and remediation</b>	Not included	Compulsory Procedure
<b>Traceability</b>	Not included	Compulsory Procedure
<b>Legal obligations check and update</b>	Supposed to exist	Compulsory Procedure
<b>Energy review</b>	Supposed to exist for yearly review	Compulsory

Source: MT Partenaires Ingénierie, Michaël TOMA – project partner and EEA advisor

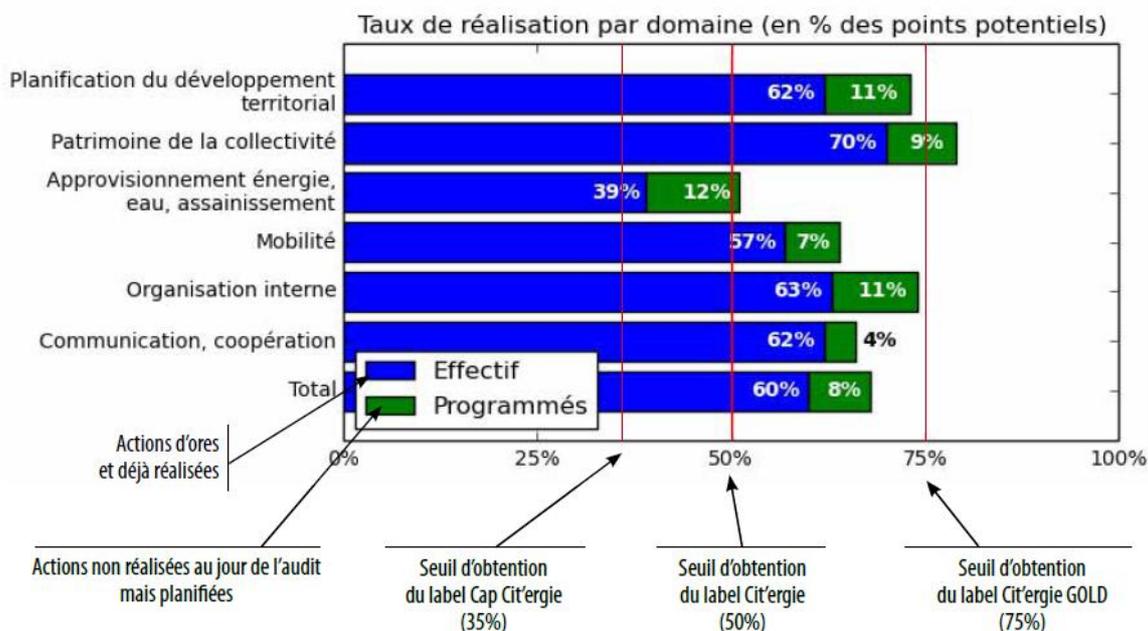
## 5.2 EMS + EEA

Lorient has been awarded Cit'ergie, the French label for EEA in 2015 with a rather high score of 60.4% (see Figure 5). Regarding its own assets, the LA felt that beyond a high score of 70%, partly due to the high proportion of RES use on city assets, a rigorous Energy Management System method and tool was needed. Therefore Lorient decided to join 50000&1SEAPs and implement an EnMS.

The EnMS focuses on significant energy uses and is fully documented. The certification audit was postponed due to high costs and will be done in 2017 through a French incentive provided via energy utilities based on white certificates. Lorient has also subscribed to COM and submitted a SEAP.

Ultimately EEA is used for policy evaluation on the entire SEAP perimeter and beyond, on a yearly basis whereas ISO 50001 covers mainly municipal assets and is used for energy management on a day to day basis.

## Les résultats de la ville



## 6 Conclusions and follow up

According to the guidelines of the Covenant of Mayors, one of the key elements of a successful SEAP is to “Integrate the SEAP into day-to-day life and management of the municipality: it should not be just another nice document, but part of the corporate culture!<sup>3</sup>”

It is a very important statement with long term consequences. There are more than 6000 municipalities around Europe with SEAPs approved. Different actions are foreseen in SEAPs and partly also implemented. However, how many of them have ensured integration of this document in a daily life? The answer is: not really many.

Therefore a question arises: what are our options? Do we have any solutions how to encourage municipalities to put effort towards systematic implementation of energy and climate measures? One can argue if that is really needed; how much it will cost and who will pay for it.

Experience of 50000&1SEAPs shows:

- Rarely top management in the municipalities really know how much they pay for energy in public infrastructure. When they learn it, it is easier to approach and convince them to act and implement SEAPs.
- Energy management system according ISO50001 standard ensures systematic approach towards reduction of energy and costs in the municipality. It provides clear procedures, defines responsibilities, sets annual targets and actions to reach them.
- Municipality can achieve at least 5-10% energy savings through implementation and improvement of an energy management system (EnMS). The main principle of the EnMS is direct involvement of energy users who can influence energy consumption.
- Clear responsibilities have to be assigned and an energy manager appointed. Another option is to delegate duties of an energy management to a third party. It also means that municipalities have to foresee initial budget.

Energy manager is a core element to ensure SEAP integration in the daily life and management in a municipality. Through initial understanding of the energy consumption and potential in facilities and infrastructure (like public buildings, public lighting and public fleet), energy manager will be able follow with SEAP actions.

More about results and finding of 50000&1SEAPs project on [www.50001seaps.eu](http://www.50001seaps.eu).

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<sup>3</sup> Source: [http://www.pilsetumerupakts.eu/IMG/pdf/SEAP\\_guidebook\\_Part\\_I.pdf](http://www.pilsetumerupakts.eu/IMG/pdf/SEAP_guidebook_Part_I.pdf) (page 12)

## **Executive summaries in national languages**

### **Kopsavilkums**

## CONSORTIUM:

SOGESCA (Coordinator) - [www.sogesca.it](http://www.sogesca.it)

CRES - [www.cres.gr](http://www.cres.gr)

PNEC - [www.pnec.org.pl](http://www.pnec.org.pl)

EKODOMA - [www.ekodoma.lv](http://www.ekodoma.lv)

ARM - [www.arm-bg.net](http://www.arm-bg.net)

ECQ - [www.ecq-bg.com](http://www.ecq-bg.com)

AMET - [www.amet.ro](http://www.amet.ro)

DENKSTATT - [www.denkstatt.ro](http://www.denkstatt.ro)

DEPUTACION OURENSE - [www.depourense.es](http://www.depourense.es)

ALBEA - [www.albea-transenergy.com](http://www.albea-transenergy.com)

AMORCE - [www.amorce.asso.fr](http://www.amorce.asso.fr)

MT PARTENAIRES INGÉNIERIE - [www.mt-partenaires.com](http://www.mt-partenaires.com)

ICLEI Europe - [www.iclei-europe.org](http://www.iclei-europe.org)



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