



50 000 & 1
SEAPs

D3.5. Report on drafting a SEAP and Improvement Plan

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1. Executive summary

The aim of this document is to report on the development of **Sustainable Energy Action Plans** (following CoM methodology) and **Improvement Plans** (following ISO 50001 methodology) in over 40 municipalities participating in the project.

The SEAP defines how the municipality plans to fulfill its commitment of reducing energy consumption and GHG emissions from its territory. It contains a set of comprehensive measures covering key sectors of activity (both public and private), whose implementation should contribute to the achievement of established climate and energy targets. The document also specifies possible sources of funding of planned measures and monitoring procedures.

Also ISO 50001 envisages development of an action plan (called Improvement Plan) including a register of improvement opportunities. In this case it is focused on municipal properties and includes, among others, the definition of objectives, targets and processes necessary to deliver results in accordance with the municipality's energy policy.

Within the project, the consortium supported pilot municipalities in integration of both approaches, making an Improvement Plan part of a SEAP focused on the municipal sector. The report gives more details on the results of these works, as well as highlights main lessons learnt during the process, especially the ones concerning benefits of using 50000&1 SEAPs integrated approach.

2. SEAP and Improvement Plan

Sustainable Energy Action Plan developed in the framework of the Covenant of Mayors

Covenant of Mayors signatories voluntary commit to contribute to the achievement of the EU climate & energy goals by reducing CO₂ emissions from their territory by 20% by 2020. In order to translated their political commitment into concrete measures they develop so called Sustainable Energy Action Plans. The plans outline municipality's long-term vision towards

sustainable energy development, set specific objectives and targets and list key actions that the municipality plans to implement to achieve these targets. SEAPs developed in the framework of the CoM need to meet 10 key principles:

1. Formal approval of the SEAP by the municipal council;
2. Commitment to reduce CO₂ emissions by at least 20% by 2020;
3. Development of the baseline CO₂ emission inventory (BEI);
4. Planning comprehensive measures covering key sectors of activity (both public and private);
5. Defining both the overall long-term strategy until 2020 and the set of measures that will help to implement this strategy;
6. Adaptation of municipal structures;
7. Mobilisation of civil society;
8. Specifying possible sources of financing of planned measures;
9. Specifying how the municipality plans to monitor implementation of planned measures;
10. Submission of the plan to the CoMO within a year from signing the Covenant.

What is important, the plans should cover both the public and the private sector, since GHG emissions from the first one usually constitute only a small part of the overall emissions from the territory of the municipality. Therefore, to improve local situation, local authorities need to think how they can execute their role of local regulators and motivators to encourage implementation of sustainable energy measures also by the citizens and local stakeholders.

Improvement Plan developed in the framework of ISO 50001

Improvement Plans developed in the framework of ISO 50001 aim at the continuous improvement of energy performance of an organization and constant monitoring of the results with the process (according to Plan - Do - Check - Act cycle). They shall establish the patterns that drive all relevant stakeholders towards their objective and targets. They shall define:

- Single phases and tasks
- Responsibilities for each person/unit

- Timing milestones
- Check – points
- Criteria for controlling and monitoring
- Reporting rules for each person/unit

The plan should include and address all major improvement opportunities and define set of EnPIs suited for measuring energy performances and energy performances improvements. They may be simple parameters or more complex ratios and models. They should express relations between energy consumption parameters and parameters affecting energy consumption.

ISO 50001 stipulates that the municipality must make an evaluation of expected energy consumption for the future in order to assess effects of planned projects. This evaluation can be supported by EnPIs. Also actions should be prioritised according to the needs.

Integrated approach to action planning

According to 50000&1 SEAPs methodology the Improvement Plan should be part of the SEAP focused on municipal properties. Drafting of a SEAP should benefit as much as possible from the ISO 50001 methodology and should consist in the integration of all the work done so far, including initial CO₂ emission inventory and Energy review, consultations with the citizens and local stakeholders during energy forums, definition of long-term strategy and energy policy, etc. The SEAP should include objectives, targets, properties, actions, financing sources and schemes and monitoring indicators. It should also contain specific targets in every field, in which CO₂ emissions should be cut. Staff engaged in its development and implementation should be adequately trained.

3. 50000&1 SEAPs support to SEAP and IP development

50000&1 SEAPs consortium actively supported 38 municipalities and 3 federations of municipalities from 8 project countries in the development of a SEAP integrated with an EnMS. They assisted them in all the steps of the process, including:

1. development of Municipal Strategy (following SEAP methodology) and Energy Policy (following ISO 50001 methodology) - either as 2 separate but integrated documents or one document serving the purpose of both SEAP and EnMS;
2. internal structuring of the organisation (including appointment of energy managers/energy management teams, assigning roles and responsibilities, allocation of financial resources, training of staff);
3. development of Baseline Emission Inventory and Energy Review;
4. drafting of a SEAP and Improvement Plan;
5. consulting planned measures with citizens and local stakeholders during local energy forums;
6. definition of monitoring procedures and tools;
7. finalisation of integrated EnMS + SEAP (including formal approval of a SEAP and certification of an EnMS).

By the end of the project 40 SEAPs have been successfully developed and 35 of them were already formally approved by respective municipal councils (24 within the project duration and 11 shortly after its end). The distribution between countries is the following:

Country	Partner	No of SEAPs developed by the end of the project	No of SEAPs formally approved by the end of the project	No of SEAPs formally approved after the end of the project	Comment
Bulgaria	ARM + ECQ	5	3	1	
France	AMORCE + MT PARTENAIRES	4	1	3	1 joint SEAP for 1 city & 1 conurbation, 1 city SEAP, 1 conurbation SEAP
Greece	CRES	5	4	0	
Italy	SOGESCA	4	4	0	
Latvia	EKODOMA	5	0	5	
Poland	PNEC	6	5	0	The last SEAP will be approved most probably in August 2017
Romania	AMET + DENSKTATT	6	4	0	
Spain	ALBEA + OURENSE	5	3	2	
TOTAL		40	24	11	

In each case a SEAP foresees both actions in the public (municipal) and the private sector, with the most typical actions being the following:

	Investments	Soft measures
Public sector (reduction of GHG emissions in public/municipal sector)	<ul style="list-style-type: none"> • Thermal retrofitting of public utility buildings (including schools, kindergartens and administration buildings) • Thermal retrofitting of municipal residential buildings • Installation of RES in public utility buildings (mostly solar thermal collectors and heat pumps) • Modernisation of internal lighting in public buildings 	<ul style="list-style-type: none"> • Appointment of an energy manager • Implementation of an energy management system • Installation of smart meters and software for monitoring energy consumption in real time • Organisation of trainings for municipal staff to teach them how to use energy more efficiently

	<ul style="list-style-type: none"> • Construction of biogas plant at the landfill site or waste treatment plant • Modernisation of street lighting • Purchase of energy efficient equipment for municipal administration • Purchase of environmentally friendly buses 	
<p>Private sector (reduction of GHG emissions in private sector)</p>	<ul style="list-style-type: none"> • Co-financing replacement of old coal-fired boilers with more environmentally friendly heat sources in individual households • Co-financing installation of RES (mostly solar thermal collectors) in individual households • Construction and expansion of cycling infrastructure • Introduction of city bike system • Construction of park & ride facilities • Expansion of district heating network to connect new consumers 	<ul style="list-style-type: none"> • Educational activities at schools and kindergartens • Organisation of eco-driving trainings for citizens • Providing energy consulting services for citizens • Development and dissemination of publications on energy saving, RES use, etc. • Launching dedicated website or webpage with guidelines and tips how to save energy, how to choose optimal RES technology, etc. • Organisation of energy days

Potential impacts of the SEAPs integrated with IP developed within the 50000&1 SEAPs project are summarised in a separate deliverable (**D3.10 Summary of potential impact of SEAPs**).

4. Main lessons learned and recommendations from the implementation of SEAP + EnMS approach

- In general integration of a SEAP with an energy management system following ISO 50001 turned out very beneficial for the municipalities. It helped them to overcome many of the typical barriers encountered during the SEAP process. ISO 50001 was especially helpful:
 - ✓ during the initial stage, when relevant structures are put in place and resources are assigned;
 - ✓ during the assessment of the municipality's baseline situation. General baseline emission inventory was completed with a more in-depth analysis of different parameters related to or influencing energy consumption, as well as identification on main energy consumers and pre-definition of necessary actions;
 - ✓ during the definition of monitoring procedures and tools. Usually monitoring is the weakest part of the SEAP process. The municipalities only check and calculate basic numbers when an implementation report for the CoM is pending. This is partly because they lack expertise and experience in ensuring regular and efficient monitoring. This is where ISO 50001 is very helpful, explaining how to adopt necessary monitoring procedures, define EnPIs and develop a metering plan;
- An important added value of 50000&1 SEAPs integrated approach is that it embeds the PDCA cycle (continuous improvement concept) into the planning process of the municipality. As a result SEAP is not considered as a "unchangeable" plan but is regularly reviewed and adapted to the changing situation.
- Development of integrated SEAP + EnMS is a complex and time consuming process, which might be difficult for smaller / less experienced municipalities. That is why it is important to ensure that they are supported in the process by Covenant Coordinators, Supporters and other relevant institutions. Therefore, it is necessary to disseminate the 50000&1 SEAPs project experience, guidelines and recommendations as widely

as possible. Project partners will keep promoting their work and results to contribute to this process.

- Another important added value of 50000&1 SEAPs approach was peer-to-peer exchange between "tutoring" and "trainee" partners. It proved very efficient and beneficial for all the parties involved. When organising any future capacity building activities regarding SEAP and/or EnMS development it is worth to consider joining trainings with peer-reviews and peer-exchanges.
- Level of integration of both approaches can be different in different municipalities. Typically, SEAP would cover whole municipal territory (including public and private sector), while EnMS would be developed only for municipal properties. But the municipality may consider broadening the scope of the latter and applying some of the ISO 50001 recommendations and procedures (e.g. concerning monitoring of energy performance) also to the private sectors.
- An important aspect of the 50000&1 SEAPs approach was ensuring public participation in the SEAP + EnMS development process. BEIs developed at the beginning of the process proved that municipal properties and operations are responsible only for the small part of local GHG emissions, therefore the private sector also needs to be involved. Within the project citizens and local stakeholders were engaged in SEAP development through local energy fora.
- An important barrier encountered during the implementation of the 50000&1 SEAPs approach was lack of experience of certification bodies related to the certification of municipal EnMS, especially with "untypical" scope resulting from integration with a SEAP. The consortium believes that now, that the first steps were made, this will become less and less a problem in the future.

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AMET - www.amet.ro

DENKSTATT - www.denkstatt.ro

DEPUTACION OURENSE - www.depourense.es

ALBEA - www.albea-transenergy.com

AMORCE - www.amorce.asso.fr

MT PARTENAIRES INGÉNIERIE - www.mt-partenaires.com

ICLEI Europe - www.iclei-europe.org