



Mayors in Action Training Material

ENERGY MANAGEMENT SYSTEMS (EnMS)



Presentation of EnMS according to ISO 50001

ISO 50001:2011 specifies requirements for establishing, implementing, maintaining and improving an energy management system, whose purpose is to enable an organization to follow a systematic approach in achieving continual improvement of energy performance, including energy efficiency, energy use and consumption.

ISO 50001:2011 specifies requirements applicable to energy use and consumption, including:

- ✓ measurement,
- ✓ documentation and reporting,
- ✓ design and procurement practices for equipment, systems, processes and personnel that contribute to energy performance



Potential results of an EnMS

It has been estimated that the **ISO 50001** Energy Management standard could have a positive impact on some **60%** of the world's energy use by providing **public and private sector organizations** with management strategies to increase energy efficiency, reduce costs and improve energy performance.

The ISO 50001 standard obliges the LG to establish criteria to control and evaluate results of planned activities in advance, to define shared suitable indicators and to take decisions on measured results and quantified expected results.

In the system are included also hydraulic systems, services of the public administration, the vehicle fleet and all means using energy or fuels (eg. tools for gardening).



Components

The general aim of the Standard is to help organizations establish and maintain the following elements:

1. **Energy review and baseline**, knowledge of energy uses
2. **Improvements** in energy performance
3. Energy performance indicators (**EnPI**)
4. A sound **monitoring plan** to measure performance and improvements, entailing cost reductions, improved competitiveness and greenhouse emission reduction



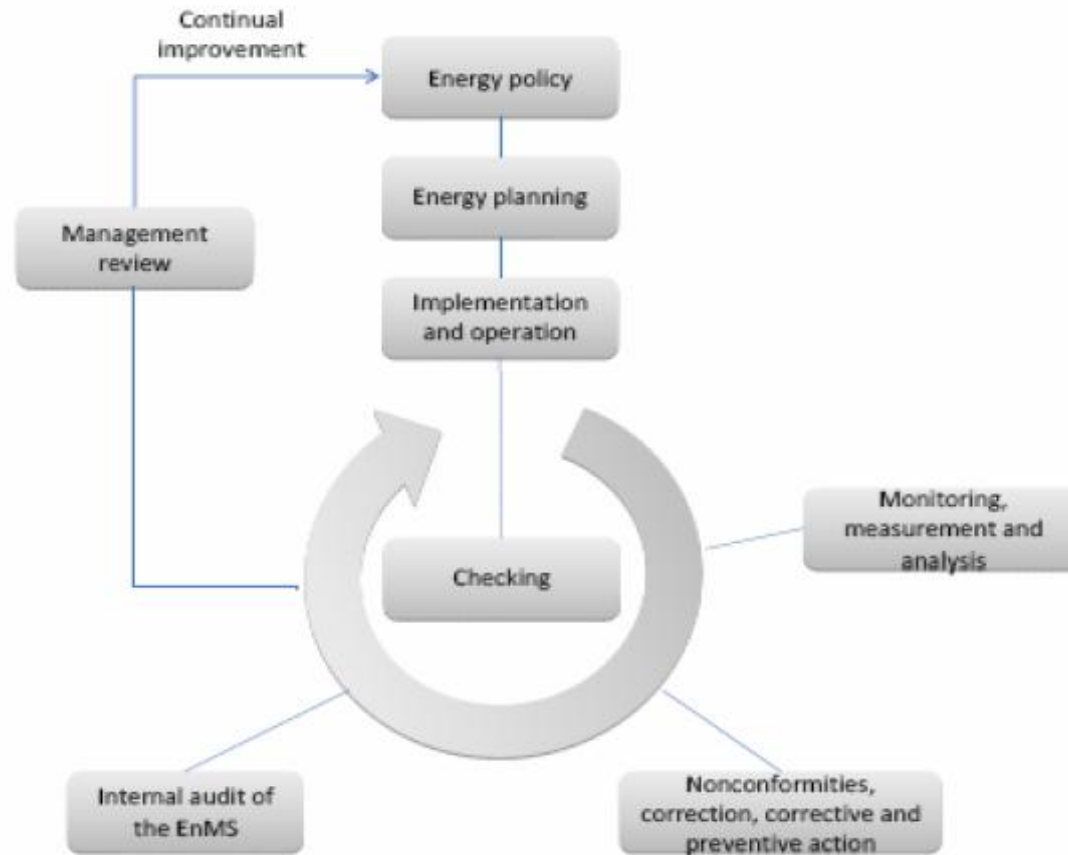
Steps

The following steps are needed for setting up of an EnMS:

1. Establish EnMS scope, boundaries and Energy Policy.
2. Identify and allocate rules and resources required to put the energy policy and energy objectives into practice.
3. Document all relevant EnMS requirements in writing
4. Documents involving the responsibilities of other parties outside of the organization
5. Identify and prioritise energy uses and legal requirements
6. List and prioritise improvement opportunities
7. Identify a set of Energy Performance Indicators (EnPIs)
8. Establish measurable objectives for energy performance improvement



The EnMS Cycle



SEAPS AND SEAPS COMPLIMENTARITY

WHAT ARE THE DIFFERENCES?

SEAPs	SEAP+EnMS
Internal Structure of the Public Administration	Top Management
Baseline Emission Inventory	Energy Baseline + definition of EnPI
Vision of the most relevant aspects	Energy Policy
Action Plans	Action Plans
Implementation	Implementation
Monitoring and reporting of the actions	Monitoring and measure for Effectiveness (what to measure, how, who is the responsible, frequency, ...)
Internal and External Communication (stakeholders involvement, Energy Days, ...)	Internal and external Communication
Approval by JRC	Certification and Registration (stage 1 and Stage 2)

SEAPS AND SEAPS COMPLIMENTARITY: AVAILABLE DATA:

SEAPs

SEAPs + EnMS

Energy Consumption in Public Administration (Buildings, Public Lighting, Vehicle fleet)

Energy Consumption in Public Administration (Buildings, Public Lighting, Vehicle fleet)

REAL OR ESTIMATED CONSUMPTION DATA

Real consumption data

Energy Consumption in **Private sectors**: Residential, Commercial, Industrial, Private Transport, Waste production, Renewable energy Production (...)

Definition of EnMS boundaries:
Application of the EnMS at Public Administration areas

Definition of consumption indicators

Energy Performance Indicators (EnPI)

USUALLY MWH/YEAR – CO₂ REDUCTION/YEAR

DETAILED INDICATORS RELATED TO ENERGY USE

Definition of monitoring indicators

Definition of monitoring indicators



Actors and roles

Within the LG, the roles on a EnMS are quite well defined and officially assigned during the 1st phase of formulation of the EnMS (establishment of scope and boundaries).

The main roles are:

1. The top management, which is responsible for the Energy Policy;
2. The top management representative;
3. The Energy team;
4. The coordinator of the Energy Team;
5. If relevant, partners of the LG which can be included in the boundaries of the EnMS.



Financial resources

Usually the financial resources to be used to setup an EnMS come from the budget of the LG, unless there are subsidies from a higher administrative level.

For a small Municipality the cost for setting up the system and managing for two years is around 10.000 € (i.e. a small town in the Veneto Region, with around 9.000 inhab.).

For larger LGs the cost can be from 30.000 to 50.000 € according to the complexity of the system and the number of infrastructures and buildings to be audited and managed.



Highlights

The 50001 SEAPs Project - IEE

	Actions	Description (and expert partner)	Main Actors
10.1	Energy Management System in Public Buildings EMS 50001	The project 50001 SEAPS is elaborating strategies for the optimal integration of the SEAP and the Energy Management Systems for Local Governments. (SOGESCA s.r.l., CRES) http://www.50001seaps.eu/home/	LGs

The **50000&1 SEAPs project** provides 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.

It aims 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.



THANK YOU



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

Empowering Covenant of Mayors Coordinators and Supporters to assist municipalities in implementing and monitoring their Sustainable Energy Action Plan

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