

# Own Your SECAP

Bringing local and regional authorities towards owning their SECAP

## INTRODUCING ENERGY MANAGEMENT IN MUNICIPALITIES: FROM THEORY TO PRACTICE

Marika Rošã & Emanuele Cosenza

May 14, 2024



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# Organisational matters

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- Presentation will be available afterwards
- Webinar will be recorded for the needs of the project
- Presentation on specific argument -> Q&A
- Use chat or raise the hand for Q&A
- If we will not be able to cover all the questions on spot, we will provide written answers afterwards



SEVEN /



energy centre  
BRATISLAVA



SOGESCA



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# The scope of the workshop

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To provide insights how to create an energy management system in a municipality

*(no matter the country and no matter the size of the municipality)*



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# Expected outcome of the workshop

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- Partners and their municipalities have enough information / knowledge to start drafting their EnMS manual and related documents
- EnMS is certified at least in two target municipalities in each country



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# Shortly about us

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## Marika Rošā, Ekodoma

- Since 2016 working with more than 20 municipalities to develop and implement EnMS
- Created an online Energy monitoring platform for municipalities ([www.energoplanosana.lv/en](http://www.energoplanosana.lv/en))
- Since 2023, Ekodoma is energy manager in two Latvian municipalities

## Emanuele Cosenza, SOGESCA

- ISO 50001 expert auditor trained by BSI
- Since 2016 working with more than 10 municipalities to develop and implement EnMS
- From 2018 to 2021 member of the CEM ENERGY MANAGEMENT LEADERSHIP AWARDS expert committee



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# Agenda

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Time	Topic
14:00-14:10	Introduction and welcome
14:10-14:20	ISO 50001 standard and <b>overall concept</b> for a municipality <i>Marika Rošā</i>
14:20-14:50	<b>Scope and boundaries</b> – what to do, where and how to start? <i>Emanuele Cosenza</i>
14:50-15:20	<b>Energy planning</b> – what is the status and what can we target? <i>Marika Rošā</i>
15:20-15:30	Break
15:30-15:50	<b>Leadership</b> – who will do what? <i>Emanuele Cosenza</i>
15:50-16:20	<b>Implementation and operation</b> – how we will do it practically? <i>Marika Rošā</i>
16:20-17:00	<b>Other aspects</b> – what else municipality must consider? <i>Emanuele Cosenza</i>



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**ISO 50001**

# **ISO 50001 STANDARD AND OVERALL CONCEPT FOR A MUNICIPALITY**

Marika Rošā

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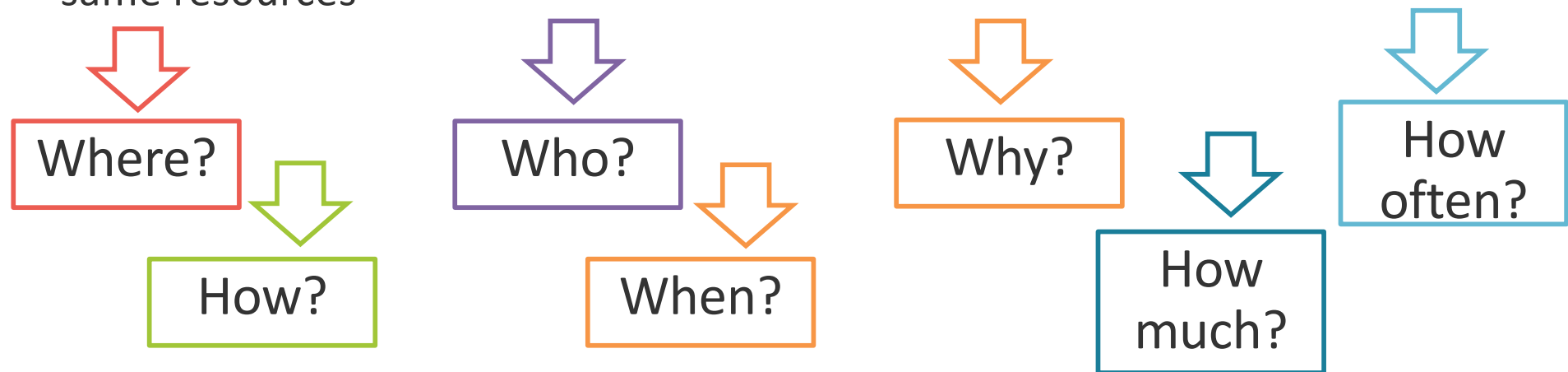
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# ISO 50001 standard and overall concept for a municipality

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- EnMS **is more** than energy monitoring
- EnMS **is not** building management system (BMS)
- With EnMS we want to achieve **systematic reduction of energy consumption in municipal assets** with no impact on comfort and with the same resources





# Documents

## Own Your SECAP



ISO 50001 standard



### Enerģopārvaldības sistēmas. Prasības un lietošanas norādījumi (ISO 50001:2018)

Energy management systems - Requirements with guidance for use (ISO 50001:2018)

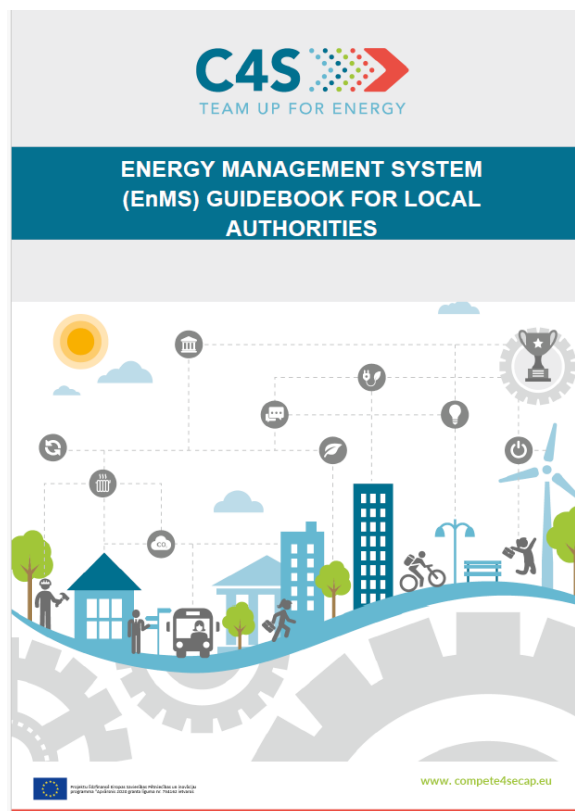
#### Nacionālais priekšvārds

Latvijas standarts LVS EN ISO 50001:2019 "Enerģopārvaldības sistēmas. Prasības un lietošanas norādījumi (ISO 50001:2018)" ir identisks Eiropas standartam EN ISO 50001:2018 "Energy management systems - Requirements with guidance for use (ISO 50001:2018)".

Eiropas standarta teksts, tā saturu nepārveidojot, ar tulkojuma metodi pārņemts nacionālā standarta statusā.

Tulkojuma pamatā ir teksts angļu valodā. Domstarpību gadījumā tekstam angļu valodā ir priekšroka.

Explanatory document



What does the EnMS look like?

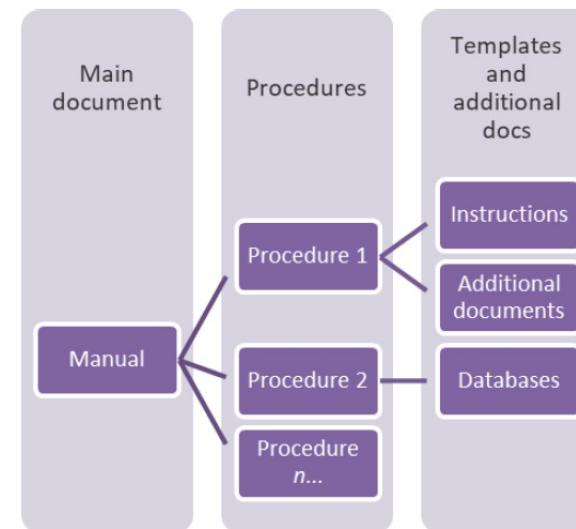


Figure 2: Documentation of an EnMS

**For municipalities:**  
Examples and templates of all these documents in English are already provided by OwnYourSECAP partners and available on OneDrive



**ISO 50001**

# **SCOPE AND BOUNDARIES – WHAT TO DO, WHERE AND HOW TO START?**

Emanuele Cosenza

## Own Your SECAP



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# Scope and boundaries – what to do, where and how to start?

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## What requires ISO 50001 standard

*"The organization shall determine the boundaries and applicability of the EnMS to establish its scope".*

- The scope and boundaries should be set by the LA, and can be represented by: **a process, a group of processes, a site, an entire organisation or even multiple sites under control of the LA.**
- The concept of the scope and boundaries allows a certain degree of flexibility to the LA to define for itself what should be included in its own EnMS.



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# Scope and boundaries – what to do, where and how to start?

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## What requires ISO 50001 standard

*"The organization shall determine the boundaries and applicability of the EnMS to establish its scope".*

## Three questions to get the job started

1. *What type of energy management services do I want to certify? (Scope)*
2. *In which municipal structures and facilities do the services I want to certify apply? (Boundaries)*
3. *Who are the subjects involved in Energy Management who operate within the Organization and what role do they have? (Organization and competences)*



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# Scope and boundaries – what to do, where and how to start?

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## What requires ISO 50001 standard

*"The organization shall determine the boundaries and applicability of the EnMS to establish its scope".*

- Typical Scope: *"The provision of municipal services through the energy management of public buildings, such as municipal offices, schools, socio-cultural and recreational sports facilities, etc., as well as the management of public (street) lighting, municipal vehicle fleet, renewable energy plants, etc."*

*"Scope" is: The provision of municipal services through the energy management*

*"Boundaries" are: public buildings, such as municipal offices, schools, socio-cultural and recreational sports facilities, etc., as well as the management of public (street) lighting, municipal vehicle fleet, renewable energy plants, etc."*



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# Scope and boundaries – what to do, where and how to start?

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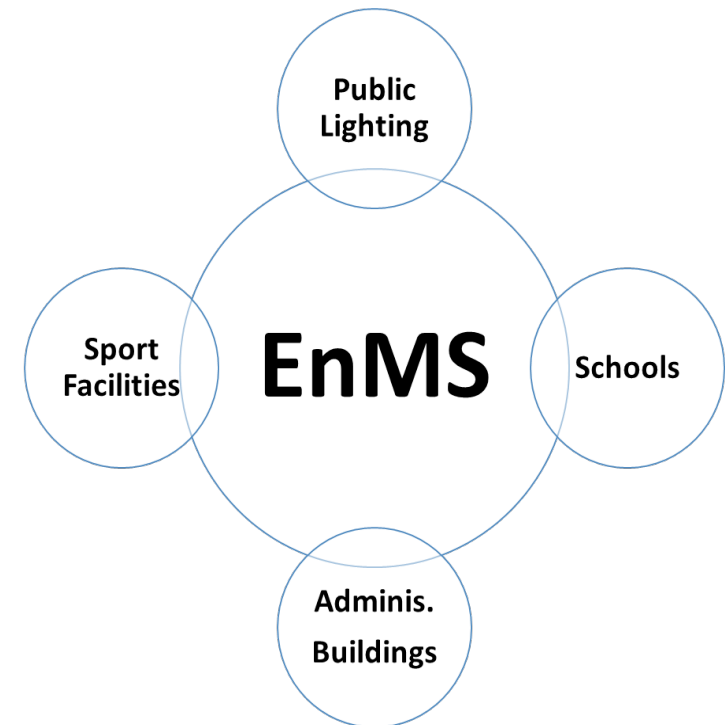


## How to select and assess boundaries

LA itself is to be considered as an organization energetically managing its own assets.

The Municipality can decide that its boundaries of the EnMS include **all municipal buildings and facilities** or **only some public buildings and/or only part of its public lighting network**. It is always possible in the second case to make an extension plan to include other assets in the future.

The decision on the boundaries of the EnMS **must be taken immediately** in order to **start implementing the System on all the users included in it and demonstrate that the System works during the Certification visit and in subsequent surveillance.**



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# Scope and boundaries – what to do, where and how to start?



### How to select and assess boundaries

### Practical example – Roveredo in Piano

ALL LA's assets are included in the EnMS:

- 5 Schools;
- 11 Sport, Cultural and Health facilities;
- 3 Administrative buildings and facilities;
- 1,842 light points
- 2 RES plants

### What's the reason why???

Category	Building/facility	
OTHER ENERGY USES	CONTATORE EX MERCATO COMUNALE	
	FONTANA PUBBLICA PIAZZA	
	CIMITERO COMUNALE - EX MAGAZZINO	
SCHOOLS	SCUOLA DELL'INFANZIA	
	SCUOLA MEDIA	
	SCUOLE ELEMENTARI I LOTTO	
	SCUOLE ELEMENTARI II LOTTO	
	ASILO NIDO	
	SCUOLA DI MUSICA	
CULTURAL AND SPORT FACILITIES	CENTRO AGGREGAZIONE GIOVANILE	
	BIBLIOTECA	
	SEDE VIS ET VIRTUS (NON AGIBILE)	
	EX CAMPO TENNIS	
	PALAZZETTO DELLO SPORT	
	STADIO COMUNALE	
	IMPIANTI TENNIS	
	BOCCIODROMO COMUNALE	
	SEDE ASSOCIAZIONI (Piano I)	
	SEDE ASSOCIAZIONI (Piano Terra Ass.)	
	RSA	
	ADMINISTRATIVE OFFICES AND FACILITIES	MAGAZZINO COM.LE E PROTEZIONE CIVILE
		POLIZIA LOCALE
		SEDE MUNICIPALE
PUBLIC LIGHTING	TUTTI I POD ILL. PUBBLICA	
RES PLANTS	SEDE MUNICIPALE	
	SCUOLA MATERNA	



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# Scope and boundaries – what to do, where and how to start?

## Own Your SECAP

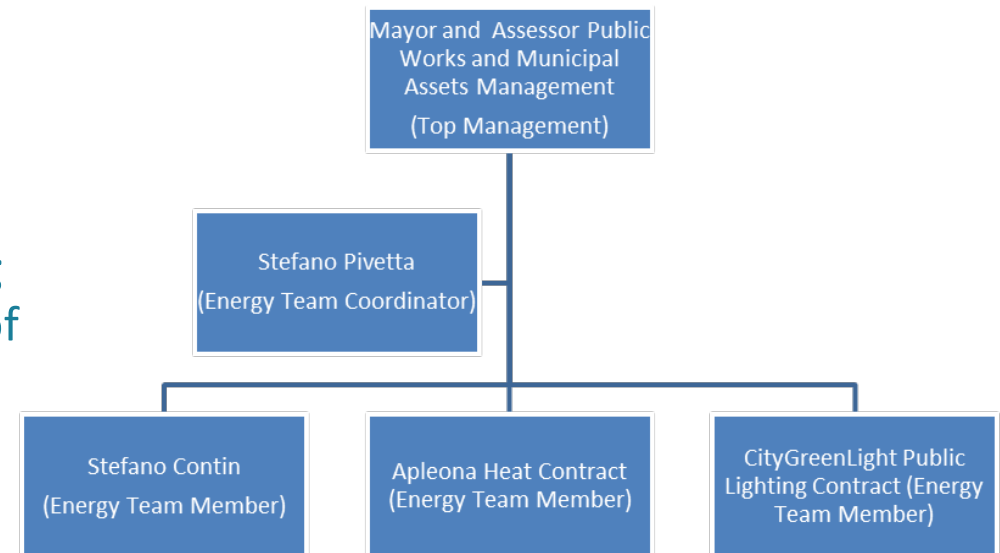


### How to select and assess boundaries

### Practical example – Roveredo in Piano

### What's the reason why???

1. The Municipality has **2 Project Financing contracts for the energy improvement of buildings and public lighting**;
2. The Municipality wants to **control and monitor the energy performance established in the contracts through the EnMS**
3. The Municipality wants to **control the energy performance of the users entrusted to third parties (sports, nursing homes and association offices) because it makes investments in the structures for energy improvement.**





# Scope and boundaries – what to do, where and how to start?

## Own Your SECAP



### What data and how to start to gather them

1. Define your **Energy Baseline**. LA is free to choose its own energy baseline (EnB) based on the energy review and **sets three main conditions when the EnB should be revised**. **Energy Baseline** can be referred to the previous year (2022/2023).
2. Collect **monthly/bimonthly consumption data** to demonstrate that **continuous monitoring and verification of any deviations in energy performance** is underway.
3. Establish a data collection plan that defines **what data to collect, the frequency and verification** of the data collected (**draft a Monitoring Plan**)

TEP Totali per Categoria					
Categoria	Utenza	2019	2020	2021	2022
Altri usi	CONTATORE EX MERCATO COMUNALE	0,05	0,07	0,04	0,01
	FONTANA PUBBLICA PIAZZA	3,02	2,59	2,96	3,13
	CIMITERO COMUNALE - EX MAGAZZINO	1,55	1,26	1,78	2,12
SCUOLE	SCUOLA DELL'INFANZIA	10,41	8,01	14,68	12,36
	SCUOLA MEDIA	14,22	11,58	16,83	14,27
	SCUOLE ELEMENTARI I LOTTO	10,67	10,82	12,47	13,81
	SCUOLE ELEMENTARI II LOTTO	10,77	36,31	10,58	12,58
	ASILO NIDO	2,73	2,26	2,7	3,34
Centri Socio-Culturali e Sportivi	SCUOLA DI MUSICA	1,31	1,08	1,27	1,22
	CENTRO AGGREGAZIONE GIOVANILE	5,62	4,85	5,59	4,96
	BIBLIOTECA	2,55	1,89	2,85	2,61
	SEDE VIS ET VIRTUS (NON AGIBILE)	0	0	0	0
	EX CAMPO TENNIS	0,88	0,49	1,36	2,82
	PALAZZETTO DELLO SPORT	26,76	20,09	24,56	29,7
	STADIO COMUNALE	8	2,25	4,53	7,23
	IMPIANTI TENNIS	0	0	7,5	5,04
	BOCCIODROMO COMUNALE	0	0	0	0
	SEDE ASSOCIAZIONI (Piano I)	1,17	1,11	1,44	1,13
	SEDE ASSOCIAZIONI (Piano Terra Ass.)	3,69	3,23	3,52	3,38
RSA	0	0	45,23	43,26	
Uffici Amministrativi	MAGAZZINO COM.LE E PROTEZIONE CIVILE	3,08	2,77	2,75	2,4
	POLIZIA LOCALE	3,5	3,22	3,62	3,38
	SEDE MUNICIPALE	19,35	18,04	26,04	18,34
ILL. PUBBLICA	TUTTI I POD ILL. PUBBLICA	137,3	135,35	136,52	114,23
Impianti a fonte rinnovabile	Fotovoltaici	0	2,99	7,07	7,75
TOTALE		266,61	270,27	335,9	309,09



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# Scope and boundaries – what to do, where and how to start?

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## What data and how to start to gather them

Energy use	Energy type	Consumption parameters and parameters that influence consumption	Who holds the data	Format	Frequency of data collection	Tools	Registration	EnPIs
Municipal Buildings	Electricity	monthly kWh	Public Work Sector	Excel+Online Platform	Monthly	Meters; Online consumption platform	Excel	For each building and for each cost center: kWh/year kWh/m2*anno kWh/h
		m2	Public Work Sector	Excel	Fixed	Plans/Diagnosis/EPC	Excel	
		Actual hours of use of facilities	Public Work Sector	Excel	Monthly	Monthly hours data	Excel	
Public Lighting	Electricity	monthly kWh	Accountancy sector	Excel+Online Platform	Monthly	Meters; Online consumption platform	Excel	For the complex of electrical panels; kWh/light point kWh/year
		n. light points for each Electrical Panel	Public Work+CityGreen Light (Contractor)	Excel	Annual	Meters; Online consumption platform	Excel	For each electrical panel: kWh/year kWh/year/no. light points
Municipal Buildings	Natural Gas	monthly cubic meters	Public Work Sector	Excel+Online Platform	Monthly	Meters; Online consumption platform	Excel	For each building and cost center and for each thermal season: kWh kWh/m2 kWh/m2*day Sm3/year Gggrif; actual hours of use of facilities
		m2	Public Work + APLEONA (Contractor)	Excel	Fixed	Plans/Diagnosis/EPC	Excel	
		Degree days		Excel	Winter and Summer season	ARPA FVG Pordenone weather station	Excel	
		Actual hours of use of facilities		Excel	Monthly	Excel	Excel	
RES Plants	Electricity	m2	Public Work Sector	Excel	Monthly	Online Software	Excel	kWh/kWp

Monitoring plan



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# Scope and boundaries – what to do, where and how to start?

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# Q&A



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**ISO 50001**

# **ENERGY PLANNING – WHAT IS THE CURRENT STATUS AND WHAT CAN WE TARGET?**

Marika Rošā

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# Energy planning – what is the current status?

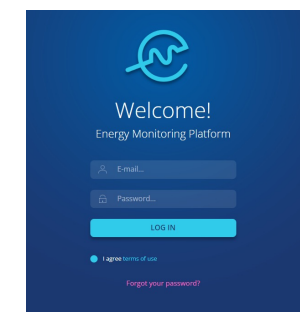
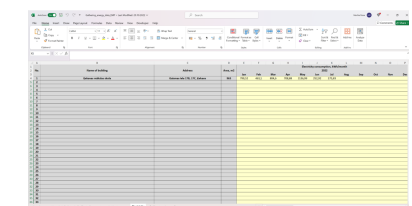
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## How do we assess the consumption and performance of the objects in our boundaries?

1. Monitoring plan – understand what and where to measure and how much and from where historical data to gather (minimum – 2023 (for baseline) and 2024) (*template and examples available*)
2. Gather the data for each group of the objects (buildings, public lighting, municipal fleet) in a separate Excel files (*templates available*)
3. Create your own tool or use other tools that municipality already has or use available Energy Monitoring Platform ([www.energoplanosana.lv/en](http://www.energoplanosana.lv/en)) which is already available and for free for municipalities in OwnYourSECAP (available in English and other languages and can be easily translated in any other language)

Category	Energy Unit	Measurement frequency	Measurement location	Instrument	Equipment of measurement	Units	Measurement	Notes
Municipal Buildings	Electricity	Monthly	Public Works Sector	Smart meters	Electricity	kWh	Actual	For each building and for each year
		Quarterly	Public Works Sector	Smart meters	Electricity	kWh	Actual	For each building and for each year
Public Lighting	Electricity	Monthly	Public Works Sector	Smart meters	Electricity	kWh	Actual	For each street and for each year
		Quarterly	Public Works Sector	Smart meters	Electricity	kWh	Actual	For each street and for each year
Municipal Buildings	Natural Gas	Monthly	Public Works Sector	Smart meters	Natural Gas	m <sup>3</sup>	Actual	For each building and for each year
		Quarterly	Public Works Sector	Smart meters	Natural Gas	m <sup>3</sup>	Actual	For each building and for each year
Municipal Fleet	Electricity	Monthly	Public Works Sector	Smart meters	Electricity	kWh	Actual	For each vehicle and for each year



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# Energy planning – what can we target?

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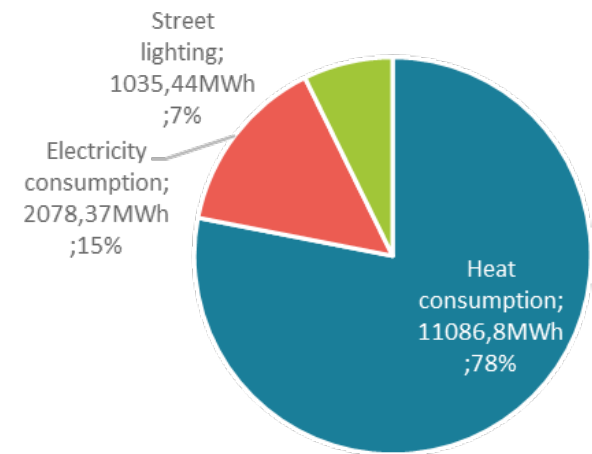
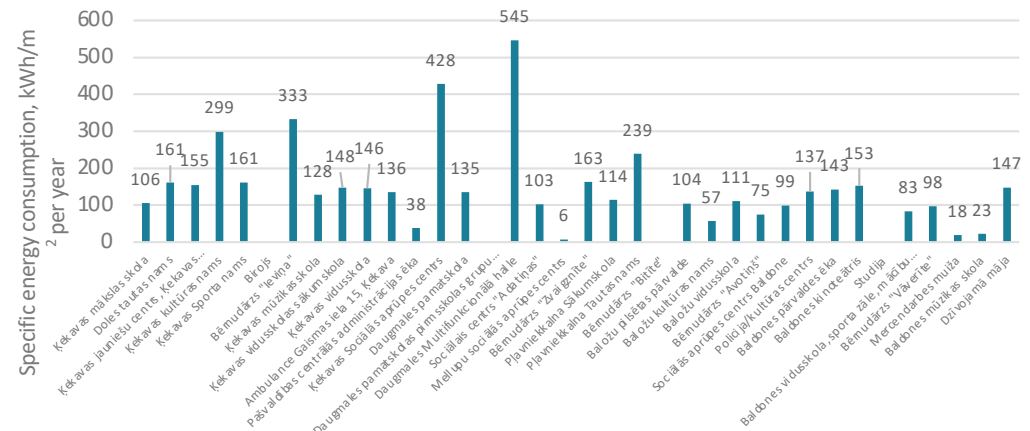


### Objectives and targets

- Annual targets – now municipalities can set them until the end of 2025
- Quantitative and qualitative targets
- Level of ambition depends on the municipality
- Example:

In order to promote the achievement of long-term goals, the municipality of Ķekava region sets the following goals within the framework of EPS until the end of 2023:

- implement, maintain and continuously improve the energy management system in the municipality in accordance with the LVS EN ISO 50001:2018 standard;
- reduce heat energy consumption in municipal buildings by at least 15% in relation to the established energy baseline (in accordance with the order of the municipality of Ķekava region No. 1-1/22/67);
- reduce the total electricity consumption for street lighting by 30% in relation to the established electricity baseline.



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# Energy planning – what can we target? Own Your SECAP



- Set clear tasks and responsibilities to reach the objectives
- Estimate potential energy savings

Example of Ľekava municipality



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No.	Action	Responsible	Due date	Resources, EUR	The result
1.	Appoint the responsible person in the municipality for maintaining the energy management system	Executive director	September - October 2022	1500 EUR/month	position of energy manager has been filled
2.	Maintain and continuously improve the energy management system in the municipality	Working Group	continuously	5000	Annual Management Report and current EPS manual
3.	Inform all involved parties about the establishment and maintenance of the energy management system	Energy manager / Property management	2 times a year		Emails, seminars
4.	Carry out analysis and monitoring of monthly submitted consumption	Energy manager / Property management	Each month		EMP, Excel file
5.	Conduct inspection of the 10 largest consumers (buildings) and energy consumption evaluation (together with building owners and construction engineer). Determine measures and objectives	Energy manager / Property management	September - December 2022	5000	Summary with results; further actions
6.	Carry out a survey of renovated and new buildings and evaluate their management according to the energy efficiency / construction project	Energy manager / Property management	September - October 2022		Survey results; recommendations
7.	Organize trainings for building managers and heads of institutions (separate)	Energy manager / Property management	At least once a year	800	Organized trainings on how to reduce energy consumption in buildings
6.	Prepare operating instructions for each building (40 buildings and objects)	Energy manager / Property management	Until March 2023	19,000	User manual for each building
7.	Implement the street lighting energy efficiency project	Property management	December 2023	150,000	Procurement; replacement of light fixtures
6.	Conduct an internal audit of the system (in parts that do not directly affect the energy manager)	Energy manager	August 2023	-	Summary with results
8.	Conduct an internal audit of the system (elements of the system for which the energy manager is responsible)	External auditor (from the municipality)	September 2023	-	Summary with results
9.	Prepare regulations for organizing competitions between municipal buildings	Energy manager	June - August 2023	1000	Regulations
10.	Install heat energy meters in municipal buildings with wood heating	Energy manager and building owners / Property management	May 2023	4000	Meters installed
11.	Fuel quality and storage	Capital companies / institutions	October 2022	-	Purchased according to quality criteria
13.	Develop energy efficiency criteria for building and infrastructure renovation projects (energy efficiency guarantee)	Energy manager / Property management	November 2023	2000	List of energy efficiency criteria



No.	Action taken	Energy consumption before the event, MWh/year	Energy consumption by event, MWh/year	Total energy savings achieved, MWh/year
1.	Appoint the responsible person in the municipality for maintaining the energy management system	The measure as such will not result in savings, but will ensure that in case of the implementation of the measures defined below, the planned savings are achieved		
2.	Maintain and continuously improve the energy management system in the municipality	14201	14059	142
3.	Inform all involved parties about the establishment and maintenance of the energy management system			
4.	Carry out analysis and monitoring of monthly submitted consumption			
5.	Conduct inspection of the 10 largest consumers (buildings) and energy consumption evaluation (together with building owners and construction engineer). Determine measures and objectives	7033	6329	704
6.	Carry out a survey of renovated and new buildings and evaluate their management according to the energy efficiency / construction project	2754	2616	138
7.	Organize trainings for building managers and heads of institutions (separate)	6133	5454	679
8.	Prepare operating instructions for each building (40 buildings and facilities)			
9.	Implement the street lighting energy efficiency project	1035	724	311
10.	Conduct an internal audit of the system (in parts that do not directly affect the energy manager)	The measure as such will not result in savings, but will ensure that in case of the implementation of the measures defined below, the planned savings are achieved		
11.	Conduct an internal audit of the system (elements of the system for which the energy manager is responsible)	The measure as such will not result in savings, but will ensure that in case of the implementation of the measures defined below, the planned savings are achieved		
12.	Prepare regulations for organizing competitions between municipal buildings	The savings will depend on how many municipal buildings will participate in the competition. The more you participate, the bigger the savings. On average, because of energy competition , buildings save 3-8% of total energy consumption with minimal investments		
13.	Install heat energy meters in municipal buildings with wood heating	The measure as such will not result in savings but will ensure that heat energy consumption is accounted for in the future. Based on measured data, it will be possible to determine the true energy consumption and potential		
14.	Fuel quality and storage	Savings cannot be determined at this time as no data is available		
15.	Develop energy efficiency criteria for building and infrastructure renovation projects (energy efficiency	The saving of the event will be able to be calculated in the case of each individual project. The inclusion of an energy efficiency guarantee will ensure that the planned energy savings are also		

# Energy planning – what is the current status and what can we target?

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## Q&A



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ISO 50001

**BREAK 10 MINUTES!!**

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# ISO 50001 LEADERSHIP – WHO WILL DO WHAT?

Emanuele Cosenza

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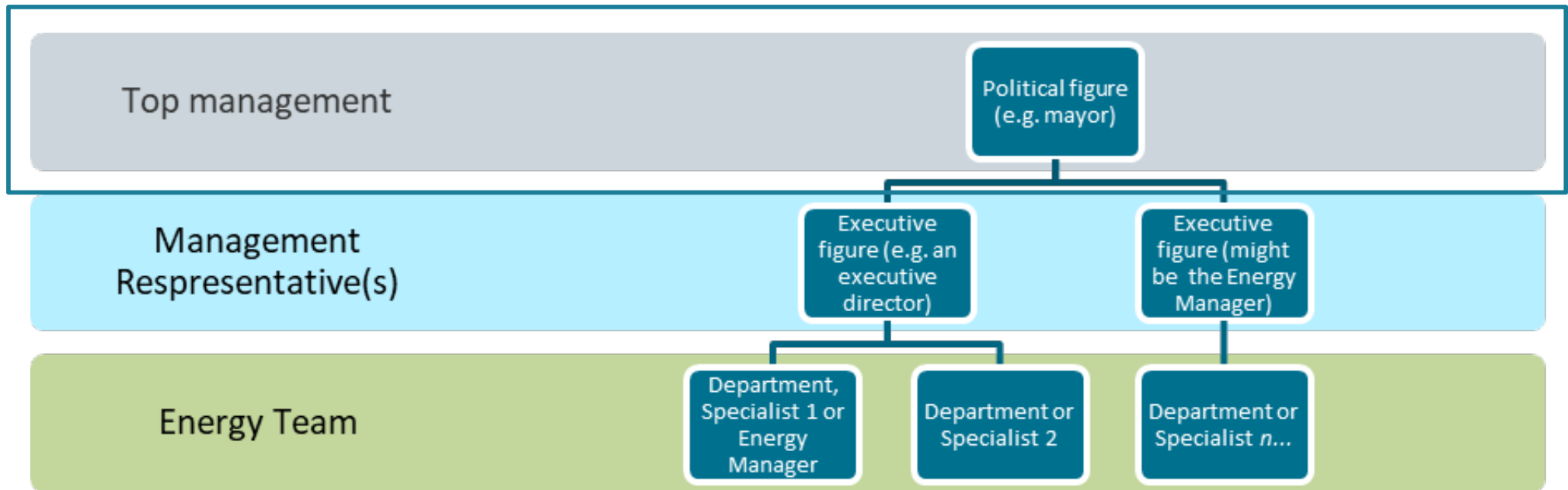
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# Leadership – who will do what?

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### Top management



The roles, commitment and duties of the LA's top management and management representative(s) should be clearly defined.

# Leadership – who will do what?

## Own Your SECAP



### Top management

- Ensuring that the EnMS **scope and boundaries** are established;
- ensuring that the **energy policy, objectives and energy targets** are established and are compatible with the strategic direction of the organization;
- ensuring the **integration of the EnMS requirements** into the organization's business processes;
- ensuring that **action plans** are approved and implemented;
- ensuring that the **resources needed** for the EnMS are **available**;
- **communicating** the importance of effective energy management and of conforming to the EnMS requirements;
- ensuring that the EnMS **achieves its intended outcome(s)**;
- promoting **continual improvement of energy performance** and the EnMS;
- ensuring the **formation of an energy management team**;



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# Leadership – who will do what?

## Own Your SECAP



### Top management

- **ensure your LA's political commitment.** For example, you could make a short presentation for the Mayor and/or other relevant (top) management representatives about the benefits of the EnMS for your LA.
- **prepare official documentation appointing Management Representative(s), Energy Team Coordinator/Manager and Energy Team members,** being sure to identify staff with appropriate, complementary skills in order to create a capable and effective energy management group within scope and boundaries of the EnMS.
- Once this group has been established, it's important to **define clear internal roles, responsibilities and targets** within EnMS development and implementation.



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# Leadership – who will do what?

## Own Your SECAP



### Daily management and involvement of the main persons

- Which organizations, departments and persons should be involved?
  - All sectors and **personnel which do or can influence the energy performance of the LA** should be involved. This would typically include people who **work for or on behalf** of the LA and who manage **services, processes, purchases, Operation & Management and facilities related to energy uses**.
  - In a LA, departments frequently involved in EnMS usually include the following: **Public Works, O&M, Procurement, Accountants** and any working with external suppliers of energy goods and services.



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# Leadership – who will do what?

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## Daily management and involvement of the main persons

- How often and for what purpose?
  - Try to organize **monthly Energy Team meetings** and keep them regular over time;
  - Create a **small, cohesive group** that is effectively involved in the municipality's energy management
  - Analyze the **training needs** of the staff involved and make sure that the people identified and involved are **gradually trained**;
  - Emphasize that energy management is a **daily activity with or without an operational EnMS**;
  - Emphasize that the EnMS is a tool for **evaluating the effectiveness of the Municipality's investments** dedicated to energy efficiency



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# Leadership – who will do what?

## Own Your SECAP



### Competences

- **Competence, training and awareness** are fundamental aspects to **improve LAs' energy performance**. Personnel involved in the EnMS should be **adequately and periodically trained** on specific energy aspects. Training activities could help the LA to **avoid deviations** in the LA's energy performance.
- All the members of the Energy Team should have a certain competence (EXAMPLE below):

Energy Team Coordinator	Energy Team Members
[Technical] Degree or [Technical] Diploma	Degree or Diploma
Training in Energy Management	Specific training on legal requirements relevant to the activity carried out directly
Training on the requirements of the UNI EN ISO 50001 standard	Training on the requirements of the UNI EN ISO 50001 standard
At least [defined by municipality] years of top management position within the Municipality or other Public Body	Work experience in the institutional role currently held of at least [defined by municipality] years
At least [defined by municipality] years work experience	At least [defined by municipality] years work experience



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# Leadership – who will do what?

## Own Your SECAP



# Q&A



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**ISO 50001**

# **IMPLEMENTATION AND OPERATION – HOW WE WILL DO IT PRACTICALLY?**

Marika Rošā

**Own Your SECAP**



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# Implementation and operation – how we will do it practically?

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## Who, how often, how does what?

- To ensure operational control of the EnMS, within the boundaries of the EnMS, a person responsible for collecting energy performance data is designated for each building and set of actions are performed

Example of operational control of municipal buildings in Ľekava municipality



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# Operational activities on monthly basis

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Step 1: the responsible employee of the building manages the building according to current practice

Step 2: responsible employee reads the readings of the heat energy, electricity and cold water meter in the building and enters the data into the Energy Monitoring Platform in 15 days

Step 3: in case of questions and uncertainties, the responsible employee of the building turns to the energy manager

Step 4: the energy manager collects monthly data on the average outdoor air temperature in municipality and heat energy and electricity tariffs and enters the information into the Energy Monitoring Platform

Step 5: the energy manager and the employee in charge of the building perform data analysis of the buildings, paying special attention to the comparison of the specific energy consumption with the baseline

# Operational activities on monthly basis

Own Your SECAP



Step 6: if an increase/decrease (deviation) in the energy consumption of the relevant month is observed above  $\pm 20\%$  for those buildings identified as significant energy consumers, and above  $\pm 25\%$  for the other buildings, compared to the three-year average baseline for the same month, the energy manager takes action\*

\* examines energy efficiency indicators, outdoor air temperature measurements, takes notes. If, as a result of the data analysis, the energy manager is convinced that the indicators are above the norm, he/she contacts the technical employee of the relevant building to find out the cause of the changes

Step 7: in case the cause is explainable and plausible, the responsible employee together with the energy manager agrees on further action

Step 8: if the responsible employee does not have an explanation for the cause of the deviation, the energy manager (if necessary, inviting representatives from the relevant structural units) visits the relevant object and evaluates the causes of energy use and changes, and decides on corrective actions

Step 9: about the observed deviations and corrective actions and the deadline for their execution, the energy manager makes and saves entries in the Register of Deviations and Non-conformities (in *M05\_01 Register of Deviations* )

Step 10: the energy manager informs the head of the Energy working group about the identified non-conformities once every six months (if necessary, more often)

# Implementation and operation – how we own Your SECAP will do it practically?



## Q&A



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**ISO 50001**

# **OTHER ASPECTS – WHAT ELSE MUNICIPALITY HAS TO CONSIDER?**

Emanuele Cosenza

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# Other aspects – what else municipality has to consider?

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## Documentation

- The LA should document a **set of EnMS documentation** and how the LA ensures control of this documentation.
- In the **manual**, a brief description of current documentation practices could be included and references to relevant procedures and/or databases (i.e. a registry) **prepared and approved**. **Procedures** should describe **in clear detail how documentation relates to specific responsibilities, methodologies**, access to the registry, etc., and how they align with requirements already set out within the ISO 50001 standard for documentation.
  - first investigate current documentation practice and flow in the LA and then define/update and use it in all EnMS documents.
  - create of a central “List of Documents” registry;
  - changes should also be reflected in the registry “List of Documents”.



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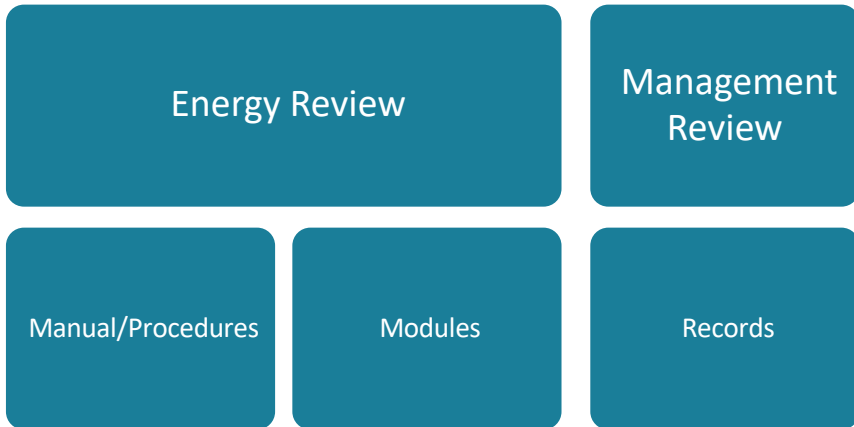
# Other aspects – what else municipality has to consider?

## Own Your SECAP



### Documentation

# Energy Policy



**Documentation shall be approved by the City Council !!!**

Title	Last edit	File name	Revision number
Manual	10/11/2023	EnMS_Roveredo manual	0
01_Improvement opportunities register form	10/11/2023	01_Improvement opportunities register form	0
02_Training plan form	10/11/2023	02_Training plan form	0
03_Module Evaluation of direct uses of energy	10/11/2023	03_Module Evaluation of direct uses of energy	0
04_Energy monitoring plan form	10/11/2023	04_Energy monitoring plan form	0
05_Legislative register form	10/11/2023	05_Legislative register form	0
06_NC_AC Register Module	10/11/2023	06_NC_AC Register Module	0
07_ISO 50001 Process Mapping Module	10/11/2023	07_ISO 50001 Process Mapping Module	0
08_Action Plan Form	10/11/2023	08_Action Plan Form	0
Management Review Form	10/11/2023	Management Review Form	0



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# Other aspects – what else municipality has to consider?

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### Communication

The following process aims to manage **internal and external communication regarding the energy performance** of the organization and establishes a process through which all people working in the organization or on its behalf can make comments or suggest improvements to the EMS .

### Internal Communication

TOPIC	RESPONSIBLE
Provide data, information and reports relevant to energy management to the GGE or CGGE	All the organisation's staff
Inform staff about the organisation's energy performance	Energy Team

### External Communication

TOPIC	RESPONSIBLE
Municipality website	Area responsible for the data, Energy Team
Brochures, posters, posters, regulations	Coordination.
Public meetings	Top Management
SECAP	Top Management and Energy Team
	City Council

Sistema di Gestione dell'Energia



ISO 50001

#### Guidare

Il Comune verso l'ottimizzazione dei consumi di energia e la semplificazione della comunicazione legata alla gestione delle proprie risorse energetiche

#### Semplificare

La gestione energetica del patrimonio comunale ai fini di ridurre le emissioni di gas serra e migliorare la qualità dell'ambiente delle strutture pubbliche e nel territorio

#### Monitorare i consumi

Strutturazione di un monitoraggio continuo basato sugli indicatori di performance energetica e variabili dinamiche che influenzano gli usi energetici

#### Organizzazione interna e campo d'applicazione ISO 50001

Alta Direzione: Sindaco e Assessore al LLPP del Comune di Roveredo in Piano  
 Energy Team: Ufficio LLPP, - Patrimonio - Protezione Civile - Ambiente

#### Promuovere

una buona gestione dell'energia nel patrimonio comunale in modo da proporre e sostenere efficienza energetica quale obiettivo generale dell'Ente Locale

#### Ridurre i costi

Il Sistema di Gestione mira non solo una riduzione dei costi energetici, gestionali, di materie prime ma anche a una conoscenza approfondita dei processi amministrativi

#### Ridurre le emissioni di CO2

Attraverso un uso più razionale delle risorse energetiche si riducono le emissioni CO2, nel rispetto delle normative vigenti in materia di sostenibilità e ambiente

#### Certificazione

Il Comune di Roveredo in Piano ha progettato un Sistema di Gestione dell'Energia secondo la Norma Internazionale UNI EN ISO 50001 perseguendo il miglioramento continuo della performance energetica del patrimonio comunale. Attività co-finanziata dal Progetto Europeo "OwnYourSECAP"

PER MAGGIORI INFORMAZIONI, VISITA [WWW.COMUNE.ROVEREDOINPIANO.PN.IT](http://WWW.COMUNE.ROVEREDOINPIANO.PN.IT)



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# Other aspects – what else municipality has to consider?

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## Legal requirements

- LAs should be able to **document the existing legal requirements** – and any voluntary agreements – that apply to its own energy aspects, including energy use and efficiency.
- The legal requirements to be respected **refer to rules already in force at local, provincial, regional, national and international levels.**

For example, these can include **energy efficiency standards in public buildings or green procurement requirements for appliances** or any other acts applicable for an LA. In respect to EnMS, the LA should define the **procedure explaining how it actually gets to know about new/updated legal norms** (e.g. how often), estimate their impact on the LA (i.e. what are the requirements and consequences to the LA) and **who does what in these regards** (i.e. define clear responsibilities).



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# Other aspects – what else municipality has to consider?

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## Internal audit

LAs should carry out an **internal audit and document the frequency of them**. The standard also defines three main requirements of the internal audit, as well as the criteria for conducting it.

- a) plan, establish, implement and maintain (an) **audit programme(s)** including the **frequency, methods, responsibilities**;
- b) define the **audit criteria** and scope for each audit;
- c) select auditors and conduct audits to ensure **objectivity and the impartiality** of the audit process; (Energy Manager would not be the suitable person to perform it)
- d) ensure that the results of the **audits are reported to relevant management** (in the Management Review);
- e) take appropriate **actions to solve any non-conformity**;
- f) Register and **maintain audits results** and reports.



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# Other aspects – what else municipality has to consider?

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## Internal audit

Criteria for identifying internal/external personnel who must conduct internal audits

INTERNAL	EXTERNAL
A specific course and training on conducting audits, or audit experience in management systems	Course as an auditor or certified skills in management systems
Two audits side by side	Three audits as manager
Specific skills in the audit topic	Demonstrable skills in the energy sector
Independence from the subject of the audit	At least 3 years of work experience in the role currently held

	<b>Report Audit Interno</b> ISO 50001:2018 Data Audit: 20/11/2023 Data Report: 21/11/2023	Comune Roveredo in Piano 	
Sito dell'audit: Comune di Roveredo in Piano via Giosuè Carducci n.11			
Auditor	Emanuele Cosenza - SOGESCA	Firma	
Co-Auditor	Caterina Volpe - SOGESCA		
Persone partecipanti			
Nome	Funzione	Nome	Funzione
Paolo Nadai	Sindaco del Comune di Roveredo in Piano		
Stefano Pivetta	LL.PP. – Patrimonio – Protezione Civile - Ambiente		
Stefano Contin	FUNZIONARIO TECNICO		
Sommaro dell'audit			
L'Audit si è svolto secondo le modalità pianificate (in presenza) ed ha coperto tutti i requisiti del SGE. Le persone coinvolte hanno dimostrato disponibilità e competenza fornendo informazioni relative al SGE secondo la propria area di competenza e le mansioni ad esse assegnate. Le evidenze raccolte permettono di valutare che il sistema di gestione sia efficace.			
Percentuale di conformità		totale	90%
Numero di non Conformità		0	Numero di proposte di miglioramento
			5



Internal audit checklist was prepared by MT Partenaires in the C4S Project !!!



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# Other aspects – what else municipality has to consider?

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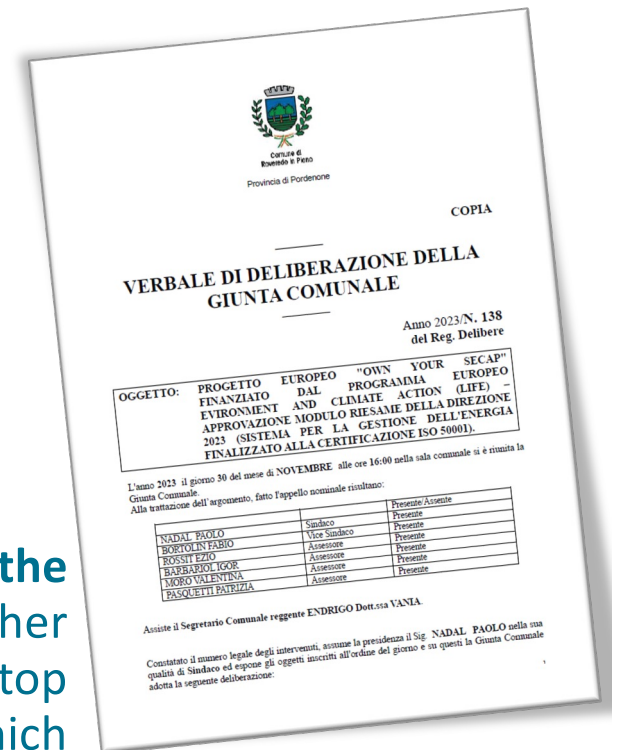


## Management Review

LAs should **plan for a management review at adequate intervals** according to the needs of the EnMS, the eventual **occurrence of energy performance deviations** or when needing to **verify EnPIs**. The standard defines necessary inputs and outputs of the management review.

A management review is an **annual report** which **summarises the results and achievements of the EnMS** and ensures further **continuity of the whole process**. It is specifically targeted for top management of the LA. The ISO 50001 clearly defines which issues should be addressed and what is expected out of the management review.

**Management Review shall be approved by the City Council!!!**



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# Other aspects – what else municipality has to consider?

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## Management Review

Input elements of the Management Review are **ISO 50001 requirements** and must be respected and reported in the MR document:

- a) the **status of actions** from previous management reviews;
- b) changes in external and internal issues and associated **risks and opportunities** that are relevant to the EnMS;
- c) information on the **EnMS performance**, including trends;
- d) **opportunities for continual improvement**, including those for competence;
- e) **energy policy**.

A management review (and related meetings for revision and approval) is an important **phase in the whole process to summarise and inform top management of the LA what has been achieved (or not) during the previous year.**



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# Other aspects – what else municipality has to consider?

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## Design & Procurements

- The LA's **energy performance improvement** should be considered in any operational control, as well as in the **design of new, modified and/or renovated facilities, equipment, systems and processes** which can have a **significant impact on energy performance**.
- The results of the LA's energy performance should be adequately **verified** by using **appropriate EnPIs** and be suitably incorporated in design and procurement activities of the relevant project(s).
- When procuring energy services, products and equipment that have, or can have impact on significant energy use, **the LA should inform its suppliers that procurement is partly evaluated on the basis of energy performance**.
- Criteria for assessing energy consumption and efficiency should be established **respecting legal requirements** that the LA must follow.
- **Energy purchase specifications** should be defined and documented even in **public tenders** made by the LA concerning its **energy services and/or activities**.



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# Other aspects – what else municipality has to consider?

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## Design & Procurements

From an EnMS perspective, to design properly, the LA should:

- Ensure the **inclusion of opportunities for improvement** in the various phases of design and in public tender documents.
- Establish any need to introduce **procedures for the operational management** of facilities and equipment.
- Evaluate the possibility of **obtaining incentives related to the improvement of energy performance**.

Procurement therefore should be viewed as an **opportunity to improve energy performance through the use of more efficient products and services** by the LA. It is also an opportunity for the LA to work closely with the **relevant supply chains and positively influence their energy behaviour and footprint**.



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# Other aspects – what else municipality has to consider?

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# Q&A



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# Contacts

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