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CoM office and Latvian Environmental Investment Fund

European Commission

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"National Energy policy – Covenant of Mayors future prespective in Latvia"

Riga, 11th September 2014

New system of SEAP Monitoring tool

Paolo Zancanella
European Commission – Joint Research Centre

www.jrc.ec.europa.eu

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Outline

Part I

1. **The role of JRC in the CoM**
2. **SEAP evaluation by JRC**
3. **Issues faced by the CoM Signatories**
4. **Technical support provided by the CTC**

Part II

5. **Monitoring**

Conclusions

1. The Role of JRC in the CoM

JRC - Robust Science for Policy Making

(The European Commission in-house science service)

As a Directorate-General of the European Commission, the JRC provides customer-driven scientific and technical support to Community policy making

JRC provides scientific and technical support to the CoM

- ✓ Methodological developments (SEAP guidebook): **http://www.eumayors.eu/support/library_en.html**;
- ✓ Scientific support to signatories;
- ✓ Analysis of submitted SEAPs, with feedback to Covenant signatories;
- ✓ Monitoring of the CoM implementation;
- ✓ Overall evaluation of the impact of the initiative.

Scientific-technical support to the development, implementation and monitoring of the CoM

- Development of the guidebook "How to develop a Sustainable Energy Action Plan (SEAP)"
- Monitoring the CoM implementation, including the development of a specific template & instructions for signatories
- Evaluation of submitted SEAPs, with feedback to Covenant cities
- Overall analysis and assessment of the initiative
- Operation of the technical helpdesk service

The team: Paolo Bertoldi (IET), Andreea Iancu (IES), Albana Kona (IET), Giulia Melica (IET), Silvia Rivas (IET), Paolo Zancanella (IET)

NB: In addition, the CoM Office in Brussels is in charge of: general coordination, promotion (website etc), networking, administrative support, technical helpdesk (with JRC), etc.

2. SEAPs EVALUATION by JRC

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What is a SEAP?

Its nature is threefold

- Political document: it shows how CoM signatories want to reach their target: detailed measures and medium-long term strategies.
- Technical document: it starts from the results of the baseline emission inventory to identify the most appropriate actions
- Communication tool: a clear and structured document addressed to citizens and stakeholders

Example: SEAP of Riga

CoM requirements

European Commission

Mayors commit to go beyond EU energy and climate objectives:

at least 20% CO2 reduction in their respective territories by 2020

- Define a Baseline Emission Inventory (BEI)
- Prepare a Sustainable Energy Action Plan (SEAP)
- Implement their Action Plan and report periodically on progress
- Involve citizens and other stakeholders
- Adapt city structures and allocate sufficient resources
- Encourage other cities to join

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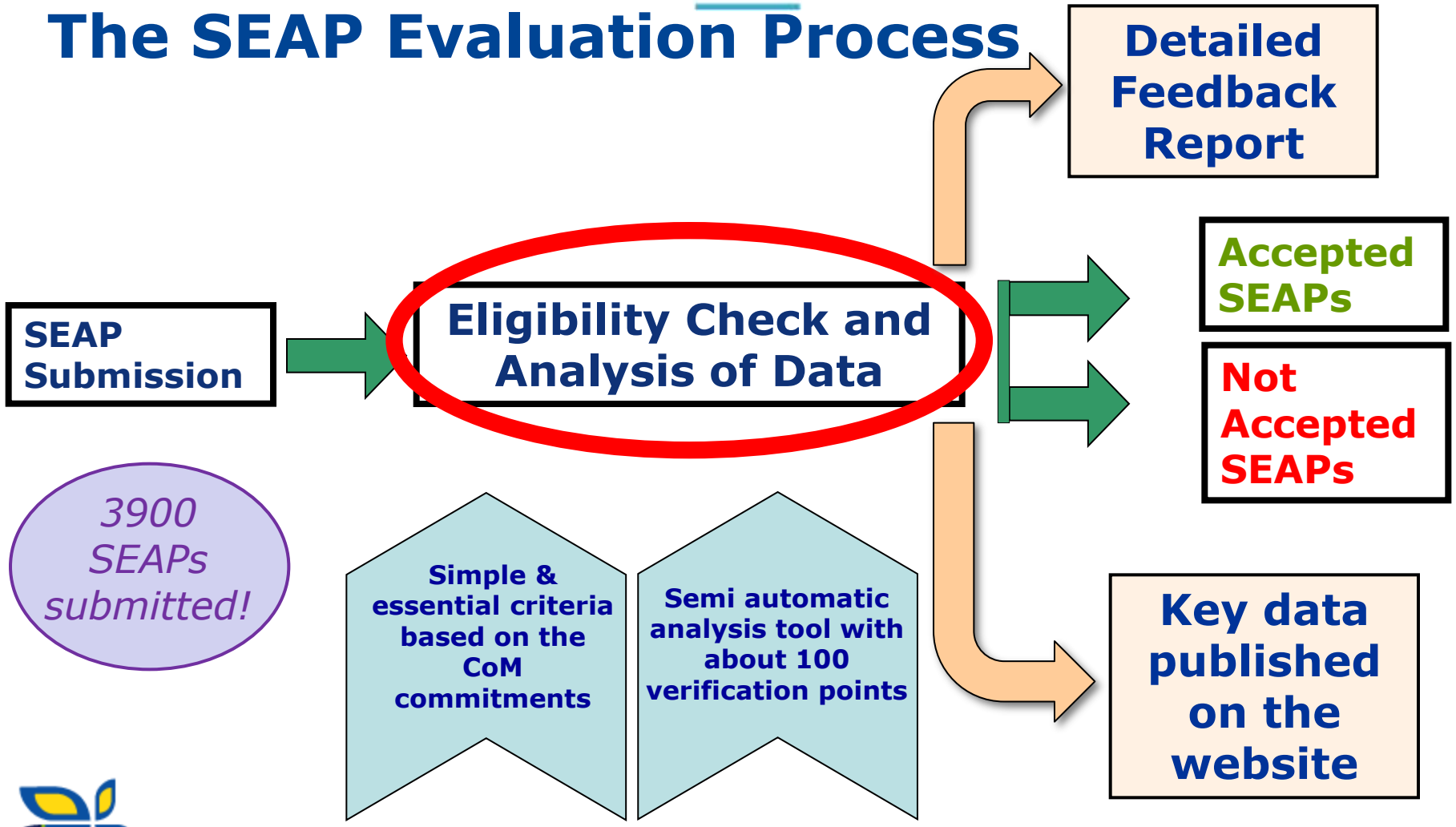
The SEAP Evaluation Process



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SEAP analysis criteria

Eligibility check

1. The SEAP must be **approved by the municipal council** or equivalent body
2. The SEAP must contain a clear reference to the **CO2 reduction objective by 2020** (20% as a min.)
3. The **results of BEI** must be provided
4. The SEAP must include a **set of actions in the key sectors** of activity
5. The SEAP **template** must be **correctly filled-in**
6. The **data** provided must be **coherent and complete**

Data coherence check

The SEAP template must reflect the content of the document officially approved by Municipal Council

<u>IMPORTANT</u>: SEAPs that do not comply with all the above criteria cannot be accepted

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More on BEI and the actions…

Sectors / Fields of action	
Municipal	√
Residential	√
Tertiary	√
Transport	√
Local energy production	**Recommended**
Land use planning	**Recommended**
Public procurement	**Recommended**
Working with the citizens and stakeholders	**Recommended**
Industries (excl. ETS sector)	**Optional**
Other sectors	**See SEAP guidebook**

4 KEY SECTORS whose inclusion is highly recommended

To be eligible, SEAPs must include:

✓**BEI,** covering at least 3 out of 4 key sectors

✓**A list of concrete measures**, covering at least the municipal sector and one or more other key sectors

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Feedback report

www.eumayors.eu

Covenant of Mayors

FEEDBACK REPORT

Jelgava (LV)

Foreword

The present document is the feedback report from the Covenant of Mayors (CoM) Technical Helpdesk after having completed the analysis of your Sustainable Energy Action Plan (SEAP).

The analysis is essentially focusing on the compliance of the SEAP with the Covenant formal commitments and principles as well as on the evaluation of the completeness and consistency of the data inserted in the SEAP template. The latter is mainly based on a computer-assisted analysis performed on the data you inserted in the online SEAP template. The selection and definition of adequate actions aiming at achieving your emissions reduction objective are entirely left to your responsibility as they need to be tailor-made on your territorial circumstances.

The feedback report serves the purpose of informing the signatory on whether its SEAP fulfils the following criteria:

1. The SEAP must be approved by an official body (in principle the municipal council).
2. The SEAP must clearly specify what is your overall CO_2 reduction objective by 2020 (20% as a minimum).
3. The results of the Baseline Emission Inventory (BEI) must be provided and must cover the key sectors of activity.
4. The SEAP must include a set of actions in the key sectors of activity.
5. The SEAP template must be correctly filled-in.
6. The data inserted in the SEAP template must be coherent and complete.

The present report also provides observations and suggestions for improvement, which we recommend that you take into consideration as much as possible. Nevertheless, in some instances our remarks might just point out peculiarities which do not need to be addressed because they find their explanation to be in the particular circumstances occurring within your territory.

1

The Signatory will receive a Feedback Report, including the **results of the analysis** and concrete **recommendations and/or suggestions** on how to improve the SEAP.

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3. ISSUES FACED BY SIGs WHEN DEVELOPING THE SEAP

Guiding principles of the CoM approach

- **Scientific soundness** → knowledge of starting point (BEI)
- **Territorial approach**
- **Focus on FINAL energy consumption:**
  - In Buildings, equipment/facilities (and industries):
    - → Municipal sector (exemplary role of the local authority)
    - → Residential sector
    - → Tertiary sector
  - Transport

→ **Actions** on Energy Efficiency and implementation of Renewable Energies





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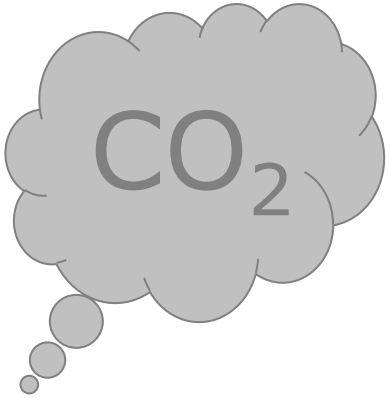
Bottom-Up *versus* Top-Down approaches

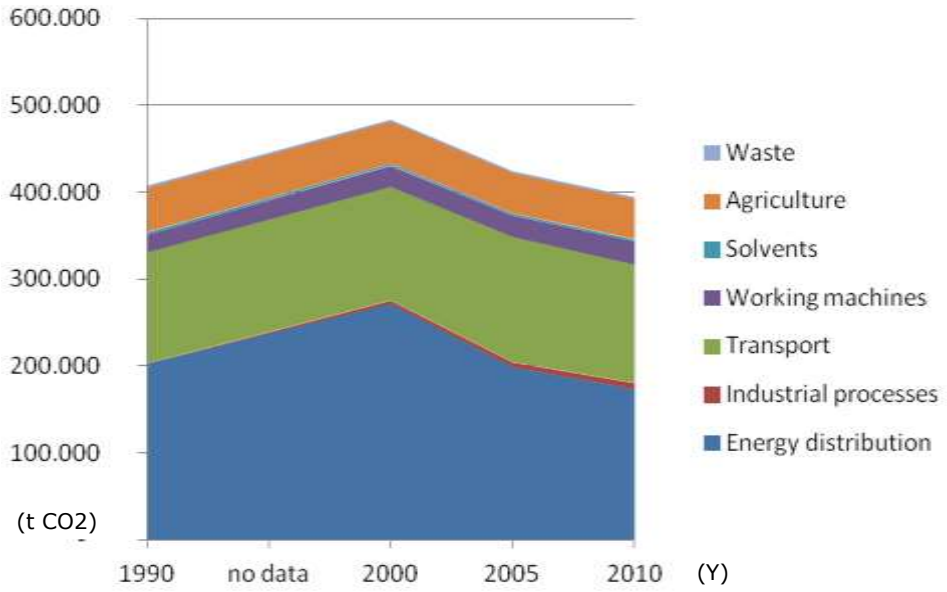
- ✓ Ideally a full **Bottom-Up** approach should be followed
- ✓ **Top-Down** approaches might not give an accurate picture of the municipality



Will the Monitoring Emission Inventories capture the results of local actions?

CHALLENGES IN DATA COLLECTION
Structure of national/regional statistical data

1. Activity sectors



National level

- Municipal Buildings, equipment/ facilities
- Tertiary Buildings, equipment/ facilities
- Residential Buildings, equipment/ facilities
- Public lighting
- Industries (non ETS)
- Municipal Fleet
- Public transport
- Private and Commercial transport

CoM

Example of a signatory with this problem…

Legend of colours and symbols:

Green fields are compulsory | Grey fields are non editable

A. Final energy consumption

Please note that for separating decimals dot [.] is used. No thousand separators are allowed.

Category	FINAL ENERGY CONSUMPTION [MWh]															
			Fossil Fuels								Renewable energies					Total
	Electricity	Heat cold	Natural gas	Liquid gas	Heating oil	Diesel	Gasoline	Lignite	Coal	Other fossil fuels	Plant oil	Biofuel	Other biomass	Solar thermal	Geothermal	
BUILDINGS, EQUIPMENT / FACILITIES & INDUSTRIES																
Municipal buildings, equipment/facilities		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tertiary (non municipal) buildings, equipment/facilities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Residential buildings	Data	Data	Data												Data	Data
Public lighting		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Industries (excluding industries involved in the EU Emission trading scheme - ETS)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Subtotal	2564000	856000	3617000	0	4475000	0	0	0	318000	0	0	0	0	0	0	1183000
TRANSPORT																
Municipal fleet	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Public transport	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Private and commercial transport	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Subtotal	138000	0	0	0	0	0	5360000	0	0	0	0	0	0	0	0	5498000
TOTAL	2702000	856000	3617000	0	4475000	0	5360000	0	318000	0	0	0	0	0	0	1732800

Municipal purchases of certified green electricity (if any) [MWh]:

0

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CHALLENGES IN DATA COLLECTION
Structure of national/regional statistical data

2. Energy carriers reporting:
e.g. Central Statistics bureau – National

- Diesel
- Gasoline

} **Liquid Fossil Fuels**

3. Privacy/secrecy issues

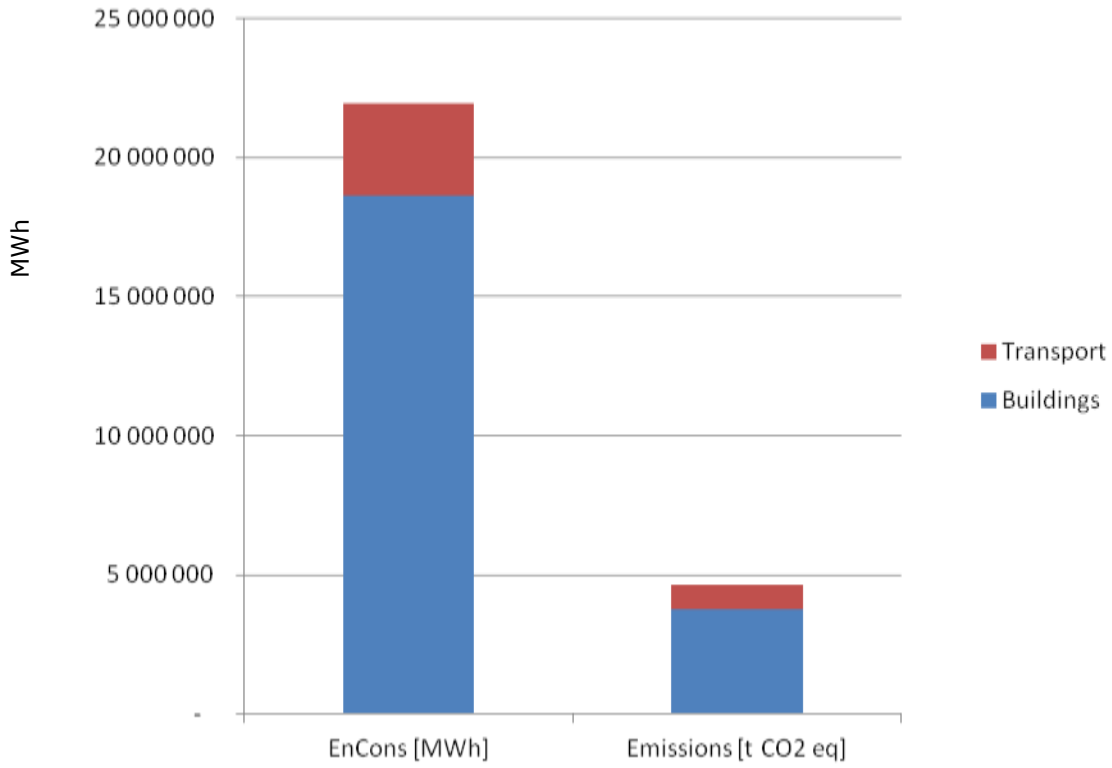
Different reporting schemes, responding to different needs, exist…
→ Signatories may lack resources to comply with them all

Overview of data quality in the SEAPs

- ✓ Data reporting remains a major challenge for signatories and the level of details in the templates shows a certain country dependence
- ✓ For templates with a good level of details:
  - **Electricity** consumption and its split by Covenant sub-sectors are generally reported
  - When relevant, data on **Natural Gas** consumption are indicated, even though the split by Covenant sub-sectors can be more challenging
- ✓ Data on **Local Heat and Electricity Production** may be hard to find when plants are privately operated
- ✓ Split by **Covenant sub-sectors** may be a challenge
- ✓ Energy consumption data in **Private/Commercial Transport** are usually challenging

A snapshot of the situation in Latvia

Energy Consumption and CO2 emissions based on the BEIs of submitted SEAPs



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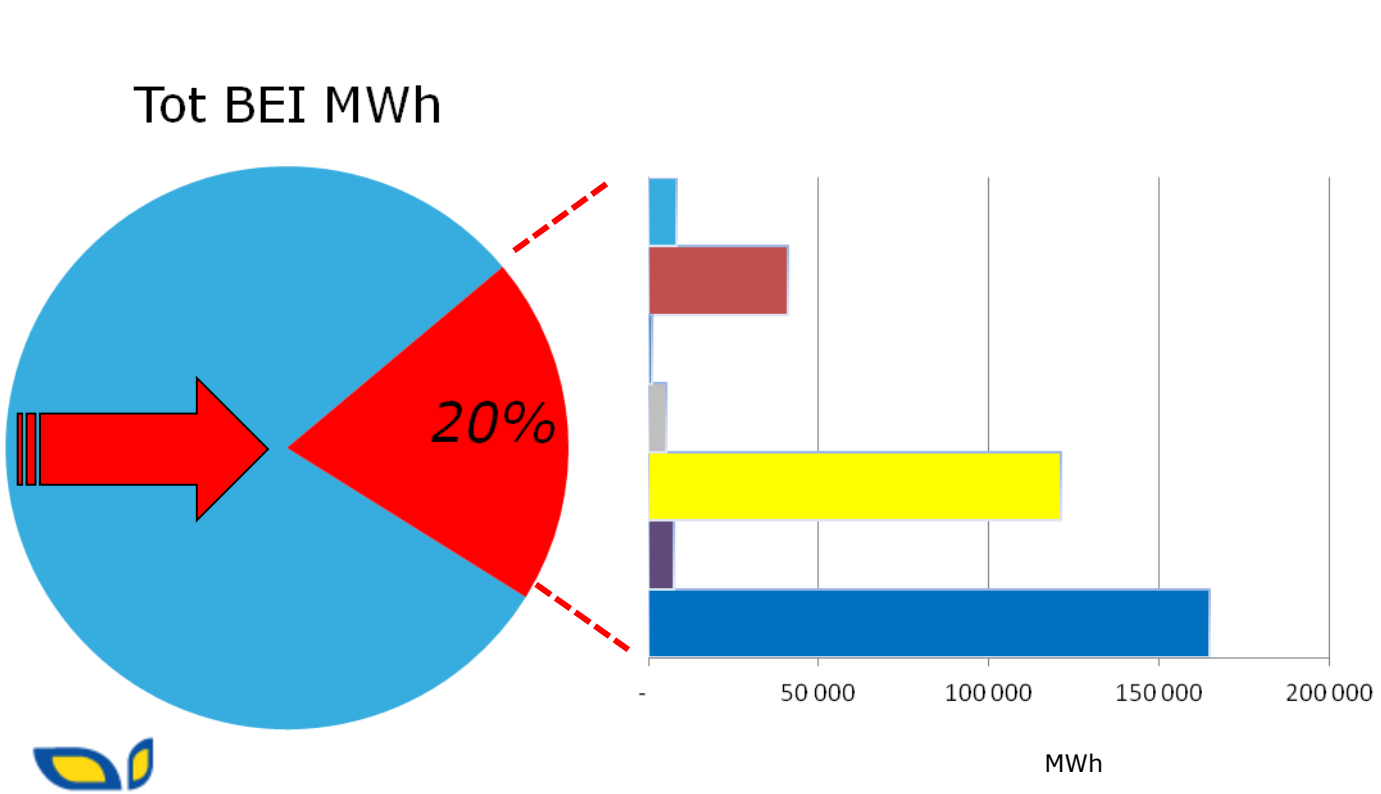
Expected energy saving from SEAPs measures/areas of intervention



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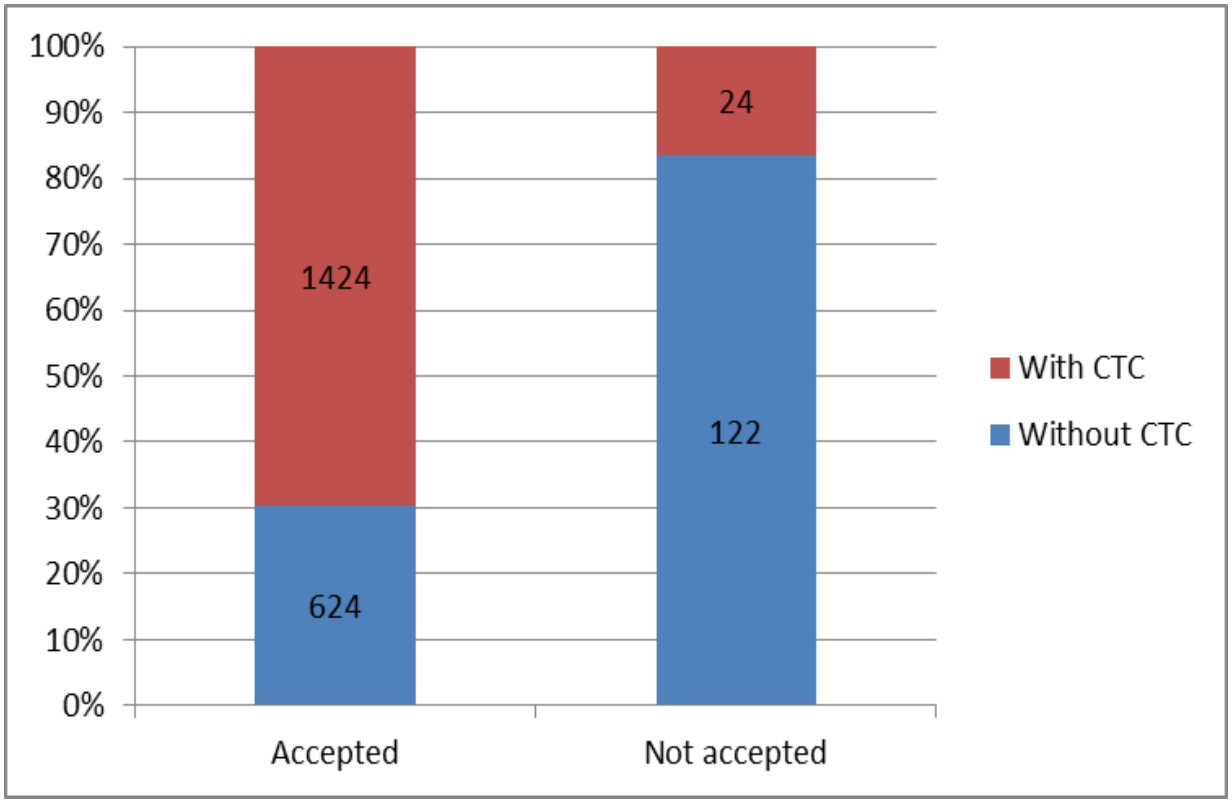
4. Technical support provided by the Covenant Territorial Coordinator (CTC)

The Covenant Territorial Coordinator (CTC)

…is a local supporting structure for the CoM signatories (public administration e.g.: region, province, Grouped of local authorities)

- Provide technical, administrative, political and financial support required by the municipalities in order to accomplish the commitments taken by signing the CoM. Brussels
- Can develop the emissions' inventory and/or SEAPs.
- Adapt the methodology for preparing the SEAPs, by taking into account the national or regional context.
- Identify financial opportunities for the implementation of SEAPs (e.g. apply for loans financed by the EIB, access to the ELENA's facility, etc…).
- Train local managers who will look after their SEAPs.
- Liaise with JRC and CoMO on behalf of the signatories.

Share of Accepted SEAPs covered by CTCs



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The analysis of SEAPs with the CTC Grouped approach

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SEAPs developed by CTCs should have common characteristics…

- BEIs are established and based on common data sources and approach.
- Common key areas of action.
- The estimates on forecasted energy savings related to the actions are calculated in a consistent way.
- SEAP documents are structured in a very similar way.

Advantages of the CTCs' Grouped approach

- ✓ Better knowledge of the national/local conditions (CTC).
- ✓ Faster and more detailed analysis (JRC).
- ✓ Easier identification of any criticalities for the methodology adapted (JRC).
- ✓ Detailed feedback received in shorter time (CTC).
- ✓ Subsequent easier solution, applicable to future SEAPs under preparation (CTC).

The Grouped approach analysis

The Province/region has developed the SEAPs not directly but it has confirmed that the plans have followed the same methodology and they can be analyzed following a Grouped approach (because they have been drafted by a local energy agency or private consultants).

In this case, the Province/region will perform first an eligibility check on each SEAP (i.e.: document approved in the municipal Council AND online template) and it will communicate the outcome to the JRC.

The Grouped approach analysis

Example

- **For municipalities >50000 people the SEAP will be analysed on a one to one basis by JRC.**
- **The Province has Grouped their SEAPs based on the following population's thresholds and for each Grouped, has identified and communicated the representative plan to JRC. E.g.:**

- **< 3.000 inhab. (SEAP 1)**
- **3.001 – 10.000 inhab. (SEAP 2)**
- **10.001 – 50.000 inhab. (SEAP 3)**

..but it has also taken into account other characteristics, such as:

- *geographical and territorial conditions*
- *existence of industrial, agricultural, protected green areas..*

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The Grouped approach analysis

Example

The Province/Region has provided JRC with a detailed description of the methodology adopted to develop the SEAPs:

- **Description of the regional context.**
- **Identification of the local data sources (energy consumption and energy production).**
- **Approach used for BEI elaboration.**
- **Description of the strategic measures and key actions to be implemented in order to achieve the target.**
- **Description of how the Province/Region will support and coordinate the signatories.**

The Grouped approach analysis: next steps?

JRC

- JRC will analyse in details the **methodology** and the **representative SEAPs** and will provide the feedback report (in English) to the Province.
- In order to support the Province, JRC will perform an automatic analysis of the **data inserted in the on-line template** in order to identify any possible errors occurred whilst filling in the template.
- Based on the outcome of the analysis performed on the methodology and the representative SEAP, JRC will **accept/reject** all the related SEAPs.

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The Grouped approach analysis: next steps?

Follow-up: JRC/CTC

- **The Province/Region will distribute and follow-up the feedback on the representative SEAPs and the methodology to all the SEAPs it coordinates.**
- **Subsequently, if needed, JRC will organize a follow-up meeting (preferably in Video Conference) with some of the Province s representatives to discuss the issues raised in the feedback report and the solutions identified by the Coordinator.**

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Some figures on CTCs

No. of signatories/CTC and population covered

Country	No. of CoM Signatories	Population covered	No. of CTCs	% of signatories covered by a CTC	% of CoM population covered by a CTC
Spain	1,458	25,422,689	20	94%	70%
Belgium	104	4,603,160	3	68%	35%
Italy	2,731	33,663,567	74	66%	57%
Denmark	36	2,786,309	1	36%	24%
France	108	15,749,109	3	35%	16%
Netherlands	18	3,804,493	1	33%	43%
Portugal	92	4,581,891	4	32%	12%
United Kingdc	33	17,674,092	1	30%	22%
Greece	93	3,529,036	4	29%	30%
Germany	55	17,092,320	2	15%	7%
Romania	58	6,218,648	1	9%	4%

Some figures on CTCs

List of CTCs analysed so far via the grouped approach

Country	CTC	No. of active signato-ries	No. of submitted SEAPs	Calcula-tion of the Emission Invento-ries	Selection of key sectors to address	Mobilization of civil society	Identification of financial resources	Monito-ring process
BE	Province of Limburg	44	40	√	√	√	√	
ES	**Balearic Islands Government**	**10**	**10**					
	Basque Energy Agency	19	15	√	√		√	√
	Consejería de Medio Ambiente Junta de Andalucía	**542**	**536**	√	√			√
	Province of Alicante	120	110	√	√			
	Province of Barcelona	**206**	**189**	√	√			√
	Province of Girona	183	27	√	√			
IT	**Aggregazione dei Comuni dell'Est Veronese**	**15**	**15**	√	√			
	ALI Comunimolisani	71	60	√	√	√		
	Comunità Montana di Valle Sabbia	**27**	**27**	√	√	√		
	Comunità Montana di Valle Trompia	19	19	√	√	√		

Example of successful stories supported by CTCs

- Province of Barcelona (ES)
- Province of Limburg (BE)
- Regione Abruzzo (IT)

Province of Barcelona (ES)

- Since 2009 now counts more than 200 supported signs.
- ELENA facility 2010 – BEI financed 190 feasibility studies in EE buildings, public lighting, RE which resulted in 122.5 million € investments
- Euronet 50/50 supported by IEE ES school project with economic savings achieved split between school/public authority

Province of Limburg (BE)

- Municipalities have collected real energy data for sectors under their direct control - Province has supported them to identify key measures in Buildings and RE
- Drafted a SEAP model to be used by municipalities
- ESCOLIMBURG2020 IEE project. Developed in partnership (Province, energy grid operator and consultant) improving the heritage of municipal and provincial buildings making them more energy-efficient RE. ESCO of the energy grid operator responsible for making the necessary investment

Regione Abruzzo (IT)

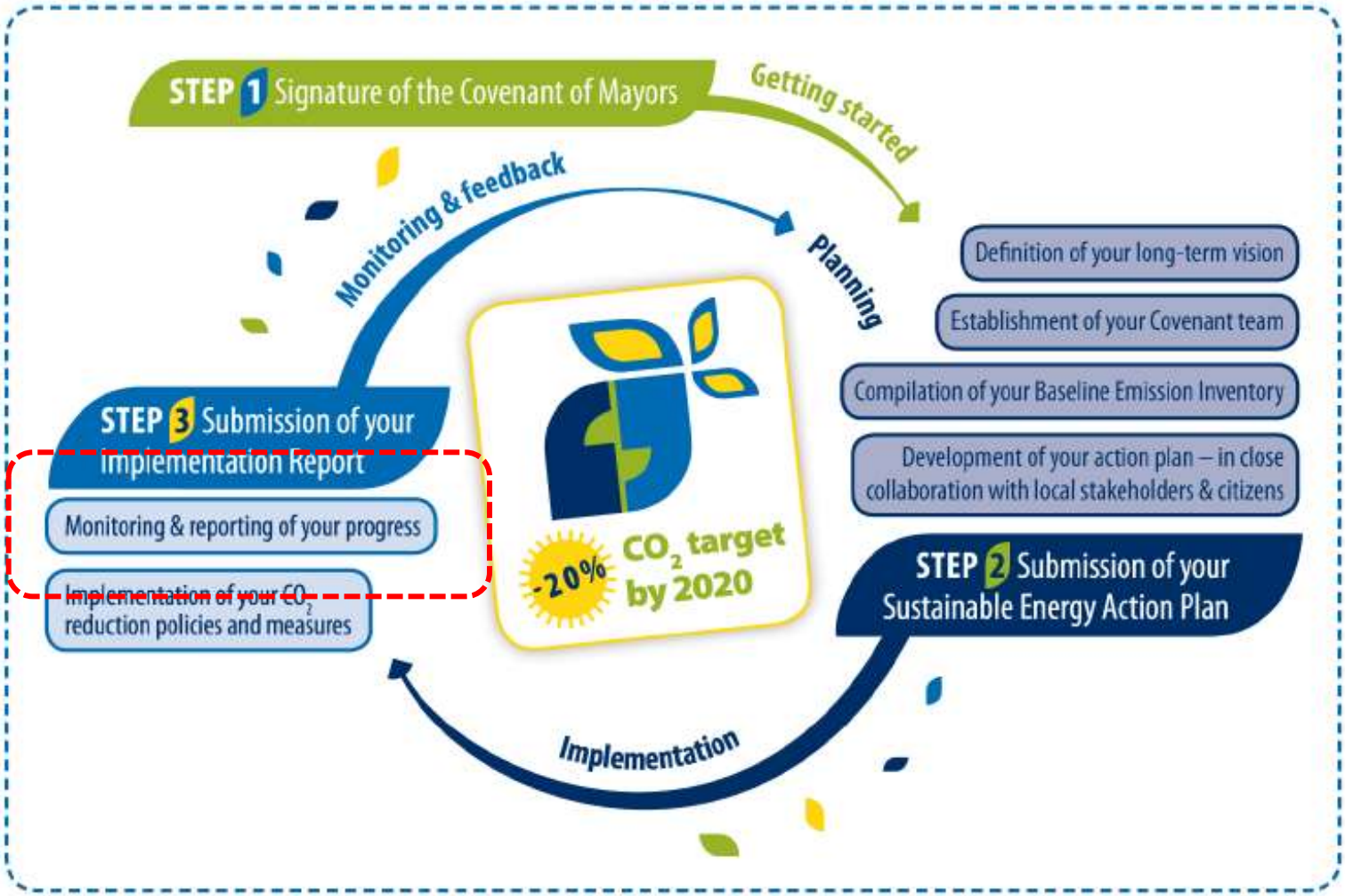
- 35 million euros through 2007-2013 European Regional Development Fund (ERDF) Operational Programme.
- Funded Covenant-related activities, Region has set up a management body involving four Provinces and the National Association of real energy data for sectors under their direct control
- 305 SEAPs developed either by the Province or by energy agencies
- 20.7 million euros from ERDF allowed the implementation of one action in each municipality

Part II

3. SEAP MONITORING

European Commission

The SEAP Monitoring



Signatories' commitment

We, the Mayors, commit to…

"Submit an **implementation report** at least **every second year** after submission of the Action Plan for evaluation, monitoring and verification purposes".

(Covenant official text)

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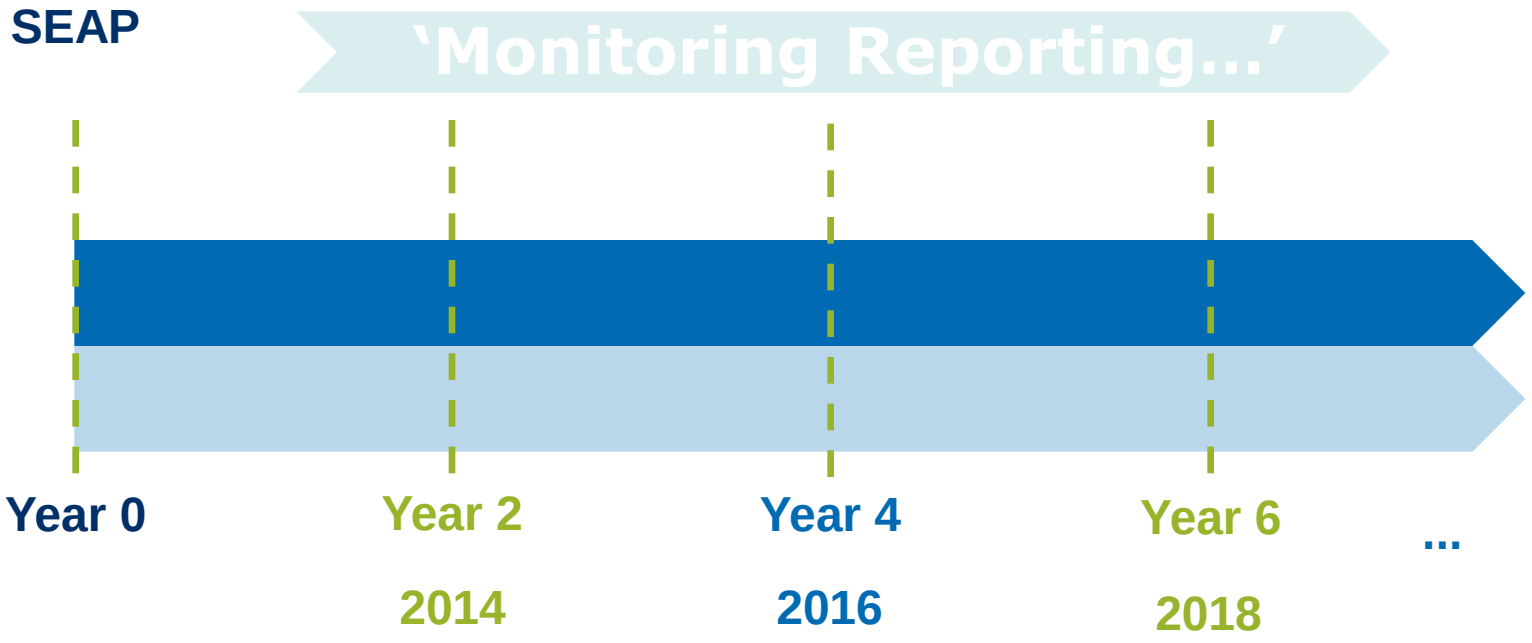
The CoM minimum requirements



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How to report to the Covenant?

On-line Monitoring Template

The template has been jointly developed by JRC and CoMO with the collaboration of a group of practitioners from local and regional authorities

I. Update Overall Strategy

II. Add Monitoring Emission Inventory (MEI)

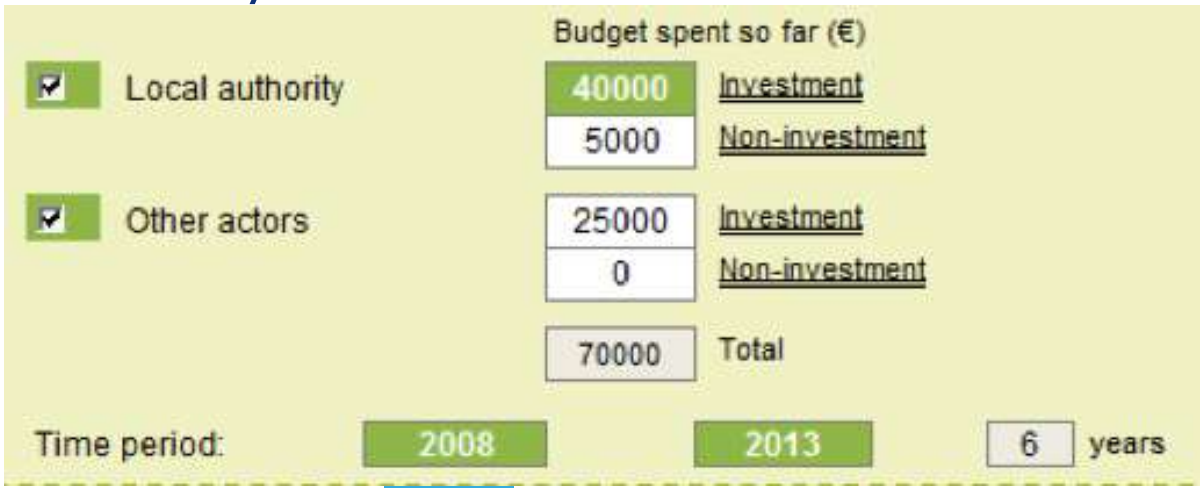
III. Report on the implementation status of the actions

New fields in the monitoring template

The monitoring template will be pre-filled from the SEAP template. New fields will allow reporting on the implementation.

Overall Strategy section

- New fields to report on the **budget spent** and on the **staff capacity allocated** for SEAP implementation so far
- New field to identify the **main barriers to SEAP implementation** by key sector of activity with the use of a qualitative intensity scale



New fields in the monitoring template

Most recurrent **barriers faced by CoM signatories**, among:

- Limited financial sources
- Absence of / weak regulatory framework
- Lack of technical expertise
- Lack of support from stakeholders
- Lack of political support at other admin. levels
- Changes in the local political priorities
- Incompatibility with national policy orientations
- Immature or high cost of technologies

New fields in the monitoring template

SEAP section

- Dropdown menu to qualitatively report on the **status of implementation** of the action
- New field for the implementation **cost** of the action
- New dropdown menu to categorise the actions

A AREA OF INTERVENTION		B POLICY INSTRUMENT	
A1	**Municipal - Residential - Tertiary Buildings**	B1	**Buildings**
A11	Building envelope	B11	Awareness raising / training
A12	Renewable energy for space heating and hot water	B12	Energy management
A13	Energy efficiency in space heating and hot water	B13	Energy certification / labelling
A14	Energy efficient lighting systems	B14	Energy suppliers obligations
A15	Energy efficient electrical appliances	B15	Energy / carbon taxes
A16	Integrated action (all above)	B16	Grants and subsidies
A17	Information and Communication Technologies	B17	Third party financing. PPP
A18	Behavioural changes	B18	Public procurement
A19	Other	B19	Building standards
		B110	Land use planning regulation
		B111	Not applicable
		B112	Other

New features in the monitoring template

Benchmarks of excellence section

- To facilitate the exchange of best practices with fellow signatories and to identify **cost effective approaches**, each signatory is asked to provide **more detailed information** (e.g. impacts and/or key economic figures) on some completed or ongoing actions from the SEAP

New features in the monitoring template

Key energy and financial figures							
CO_2 reduction			t/a				
Energy savings			MWh/a				
Renewable energy produced			MWh/a				
Implementation cost			€				
Jobs created			number				
Other figures		Please specify		Unit			
Life expectancy of the action		5	years				
Discount rate applied		4%					
First Year of investment	year	2007	2007	2008	2009	2010	2011
			0	1	2	3	4
Financial savings (F)		15,750		1,750	3,500	3,500	3,500
Investment costs		-8,000	-5,000	-3,000			
Additional costs		-1,000		-200	-200	-200	-200
Net cash flow		6,750	-5,000	-1,450	3,300	3,300	3,300
Cumulative cash flow			-5,000	-6,450	-3,150	150	3,450
Discounted cash flow			-5,000	-1,394	3,051	2,934	2,821
Cumulative discounted cash flow			-5,000	-6,394	-3,343	-410	2,411
PV of Financial savings		€ 13,899					
NPV of investment		€ 4,927					
Discounted Payback period		3	years	2	months		
Return on Investment (ROI)		21%					

New features in the monitoring template

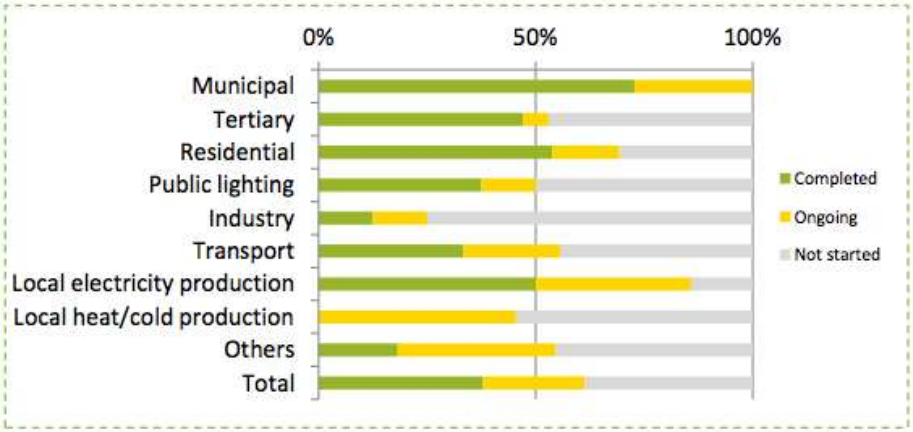
Monitoring Synthesis report

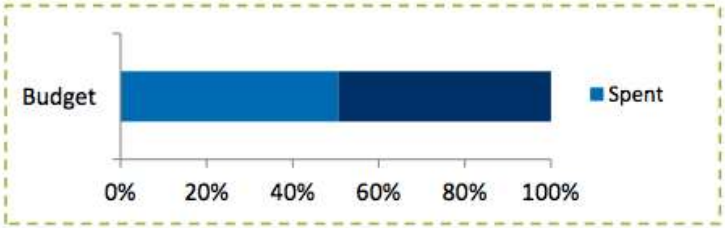
- **Automatically generated** at the end of the monitoring stage
- Some **graphical elements** ease the follow-up of the SEAP implementation and **showcase the progress** already achieved

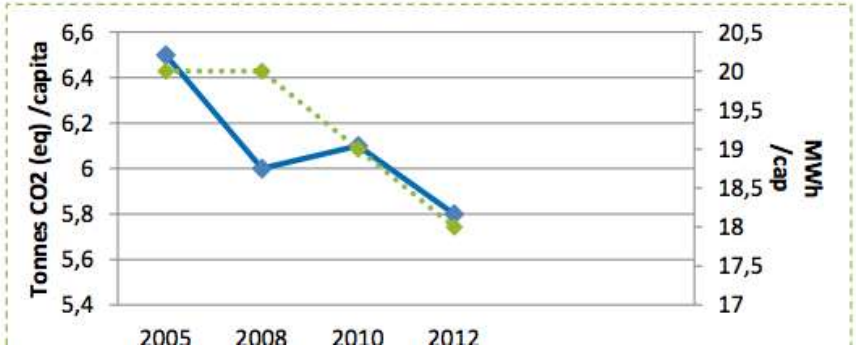
New features in the monitoring template

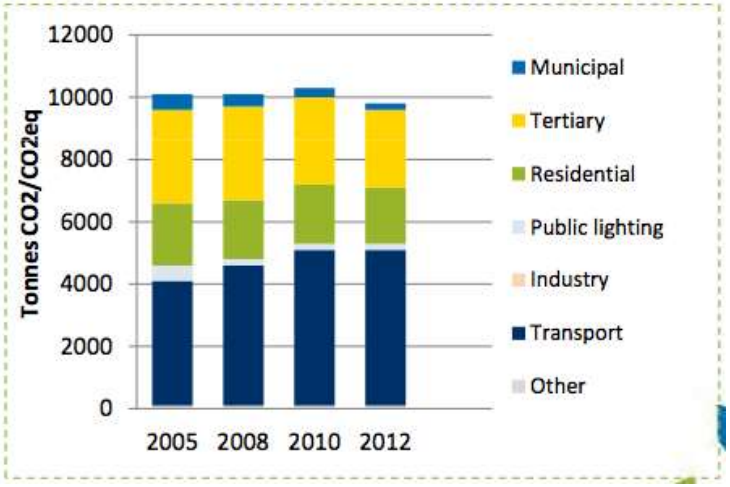
European Commission

Monitoring synthesis report









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Examples of progress-based indicators [1]

Municipal - Residential - Tertiary Buildings	
Building envelope	Number/surface area of buildings insulated [-/m2]
Energy efficiency in space heating and hot water	Number of boilers replaced [-]
Energy efficient lighting systems	Number of lamps replaced [-]
Energy efficient electrical appliances	Number of electrical appliances replaced [-]
Renewable energy for space heating and hot water	Surface area of solar thermal panels installed [m2]
Integrated action	Number/surface area of buildings retrofitted [-/m2]
ICT	Number of buildings with smart meters installed [-] / Number of new buildings with domotic systems [-]
Behavioural changes	Number of participants in awareness raising campaigns [-] / Number of CFLs distributed [-]

Examples of progress-based indicators [2]

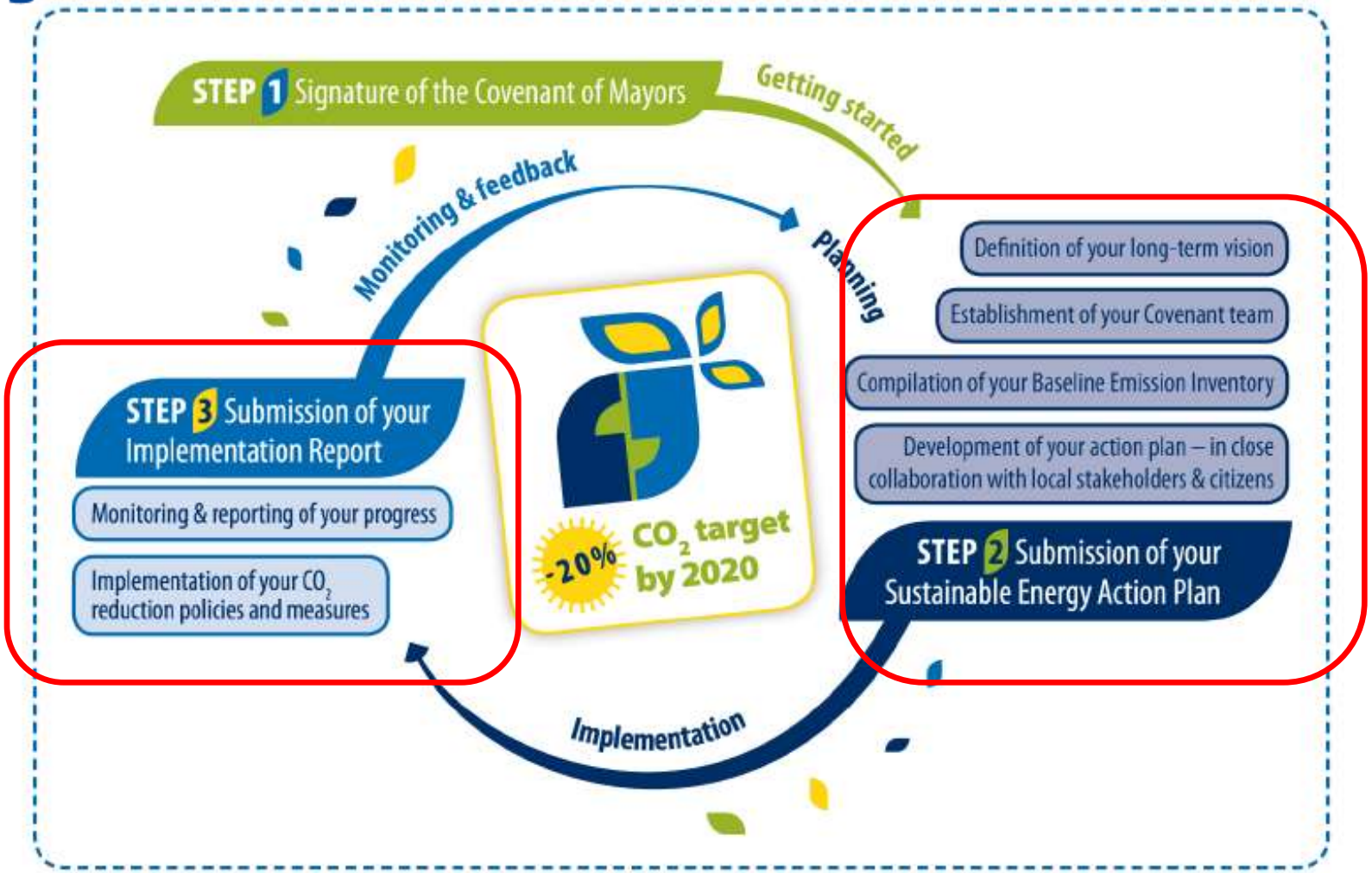
Municipal - Public - Private Transport	
Cleaner/efficient municipal vehicles	Number of vehicles replaced [-]
Municipal fleet - efficient driving behaviour	Example: no. of courses given on total planned (%)
Cleaner/efficient public transport	Number of new buses purchased [-]
Public transport infrastructure, routes and frequency	Network extension (km) / Number of services per day [-]
Electric vehicles infrastructure	Number of charging points [-]
Car sharing	Number of car share vehicles and locations [-]
Walking &cycling	Number of bicycle parking spaces [-]
ICT	Number of roads with Variable Speed Limits (VSB) introduced [-] / Number of teleworking schemes in place [-]
Efficient driving behaviour	Example: no. of courses/campaigns realised on total planned (%)

To conclude…

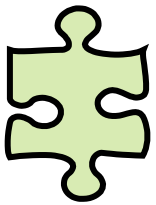
A long term commitment

European Commission

The SEAP is only one step to meet the CoM targets:

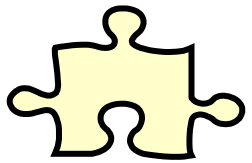


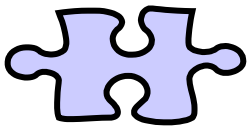
Implementing a SEAP is a challenging and time-demanding process



Strong political support has to be guaranteed also after the SEAP approval by the municipal council

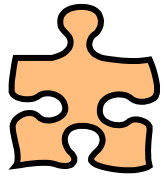
Clear organisational structure and assignment of responsibilities to different departments are prerequisites



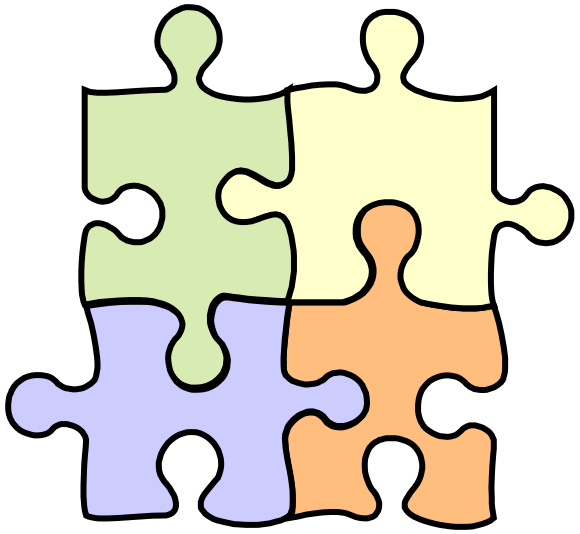


High level of participation from external stakeholders should be ensured in the implementation phase

Available financial resources and mechanisms to finance SEAP actions should be identified



All these aspects are key to successfully implement a SEAP and reach the target!



Constant support provided by supporting structures e.g. CTCs, is an advantage especially for smaller municipalities

Covenant of Mayors
Committed to local sustainable energy

Joint Research Centre

Thank you!

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