



Guideline for coaching on monitoring Sustainable Energy Action Plans

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CONTENTS

GUIDELINE FOR COACHING ON MONITORING SUSTAINABLE ENERGY ACTION PLANS	1
1. INTRODUCTION.....	4
2. COVENANT OF MAYORS MONITORING REPORTING: A BRIEF EXPLANATION.....	5
3. COMPACT OF MAYORS MONITORING AND REPORTING: A BRIEF EXPLANATION.....	7
4. MAIN BARRIERS FOR SIGNATORIES TO MONITOR THEIR ACTIVITIES AND POSSIBILITIES TO OVERCOME THEM	8
5. MAIN PARAMETERS TO MEASURE IMPLEMENTATION STATUS	12
6. TOOLS DEVELOPED	14
7. TRAINING FOR SIGNATORIES.....	15
8. INFORMATION TO BE INCLUDED IN THE REPORTS	17

1. INTRODUCTION

Climate change is one of the main environmental problems that we must face, together with environment pollution, extreme events, etc. In order to move towards a greener development, in 2007 the European Union adopted the “EU Climate and Energy Package” that set three key targets: ·20% cut in greenhouse gas emissions (from 1990 levels); ·20% of EU energy from renewables; ·20% improvement in energy efficiency.

In 2014, the Commission presented the “2030 climate and energy framework” which, among other things, sets new target:

- Reduction of greenhouse gas emissions, 40% by 2030 relative to 1990 levels
- at least 27% of energy consumption coming from renewable energy, with flexibility for member states to set national targets
- improved energy efficiency through possible amendments to the energy efficiency directive

In 2008, the European Commission took the unprecedented decision to directly involve local and regional decision makers in the achievement of EU objectives, setting up the Covenant of Mayors initiative. This had an unexpected huge success: in May 2016 more than 6,750 Local Authorities have signed the Covenant of Mayors and are involved actively, plus over 180 Territorial Coordinators, over 100 Supporters of the Covenant of Mayors and the cooperation of many and different actors involved in Energy policies in the territories.

The Covenant of Mayors established from the beginning several commitments in order to achieve the main goal of cutting CO₂ emissions by at least 20% by 2020 to mitigate climate change:

- Drafting a Sustainable Energy Action Plan (SEAP) for each signatory;
- Implementing the SEAP in the territory, with the involvement of citizens and stakeholders;
- Monitoring SEAP implementation every two years, to check the results and adapt the policy to the changing context.

To help municipalities meet the objectives, the Covenant of Mayors Office (CoMO), the European body which is appointed to support the activities of the initiative, developed specific methodologies, guidelines, as well as several templates and tools. Local Authorities must report their status and a minimum information is required. Monitoring and reporting the implementation of the SEAP is essential in order to strengthen the commitment of Local Authorities, to establish new or different actions or strategies and to take the appropriate decisions to achieve the Covenant of Mayors goals. Recently, the Covenant of Mayors has been upgraded to include also climate change adaptation measures. After 2015, it is called “Covenant of Mayors for Climate and Energy” with more ambitious goals: reduction of at least 40% of CO₂ emissions by 2030 and adaptation to the main impacts of climate change.

Those Local Authorities wanting to renew their commitment must monitor and report the success of their SEAP, so they can see the potential to assume those more ambitious goals and how they can do that. In sum, monitoring and reporting is essential and the role of Covenant of Mayors Coordinators and Supporters is

important to help Local Authorities in doing so. These guidelines are addressed mainly to them, with the objective of supporting them in their task. In 2014, The Compact of Mayors initiative has been launched at the United Nation Climate Summit in order to involve also non-European local authorities in the fight against climate change. In May 2016, it is a global coalition of over 500 Cities committed to reduce local greenhouse gas emissions, enhance resilience to climate change and track their progress transparently. In the framework of this initiative, the “carbonn Cities Climate Registry” (cCR) has been set up to monitor and report the results achieved.

2. COVENANT OF MAYORS MONITORING REPORTING: A BRIEF EXPLANATION

The Covenant of Mayors Office has developed, together with the Joint Research Center (JRC), specific on line templates to monitor SEAPs. Each Covenant signatory has its own profile in the Covenant extranet, where they can upload documents (like the SEAP), fill in the SEAP template and the SEAP monitoring template. While the SEAP is drafted in the language spoken in the Country of the Municipality, the templates are in English. Covenant Territorial Coordinators and Supporters have their own profile too, with which they can access the information related to their supported Local Authorities, modify values and their signatories profile, in order to help them and facilitate the introduction of data and information needed. The Reporting Guidelines on Sustainable Energy Action Plan and Monitoring developed by the CoMO and JRC explain in detail how to access and fill in the on line templates.

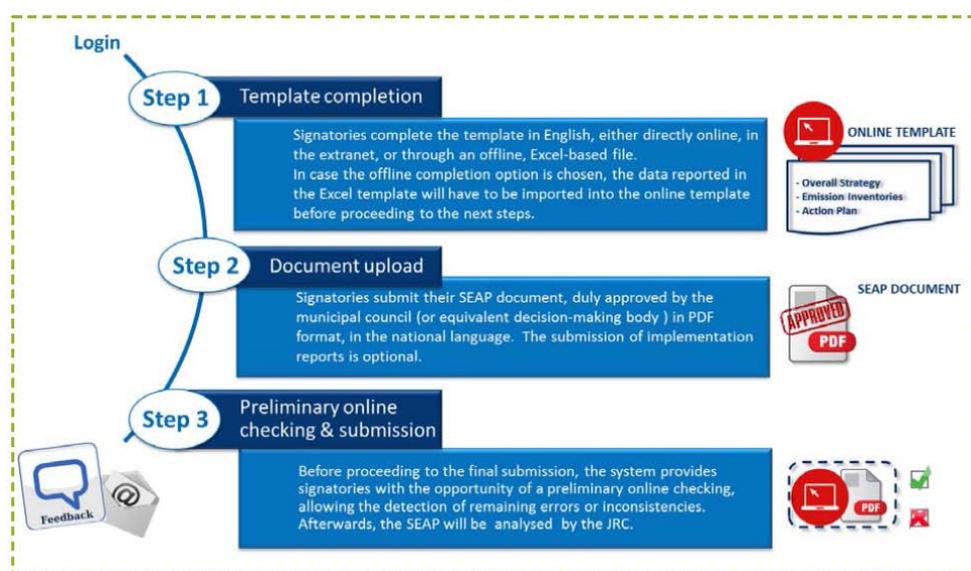


Figure 1. Overview of the reporting process to the Covenant of Mayors. Source: Reporting Guidelines on Sustainable Energy Action Plan and Monitoring. Covenant of Mayors Office and Joint Research Centre of the European Commission

There are two monitoring approaches:

- every two years: which can be done without a monitoring emissions inventory (MEI) and is just reporting the status of implementation of the actions and reviewing the overall strategy
- every four years: full monitoring report, where the MEI is compulsory.

The table 1 below resumes the main steps of reporting.

Approach	When?	Part	What?
Action reporting	At least every two years	Part I. Overall strategy	Specifies any changes to the overall strategy and provides updated figures on the attribution of staff and financial capacities
		Part III. Sustainable Energy Action Plan	Outlines the status of implementation of your actions and their effects
Full reporting	At least every four years	Part I. Overall strategy	Specifies any changes to the overall strategy and provides updated figures on the attribution of staff and financial capacities
		Part II. Emission inventories	Provides an Monitoring Emission Inventory (MEI)
		Part III. Sustainable Energy Action Plan	Outlines the status of implementation of your actions and their effects

Table 1. Description of the two reporting approaches for monitoring SEAP implementation. Source: Reporting Guidelines on Sustainable Energy Action Plan and Monitoring. Covenant of Mayors Office and Joint Research Centre of the European Commission

Right now, the template can only be filled in online, it is foreseen that in the future there will be the possibility to have a downloadable excel file to simplify the introduction of data online.

The on line monitoring and reporting are in English. After a signatory has reported the situation of its SEAP, a series of graphs are automatically generated and are visible in its public profile in Covenant of Mayors website, but they cannot be downloaded.

After the new release of the Covenant of Mayors for Climate and Energy, the CoMO is working on new templates adapted to the new commitments:

- at least 40% reduction by 2030 and adaptation actions: this might involve some changes into the overall strategy and into the actions template,
- adaptation to climate change: introduction of new fields into the overall strategy and new parts, related to the vulnerability assessment, to its results and to actions established in the SECAP

3. COMPACT OF MAYORS MONITORING AND REPORTING: A BRIEF EXPLANATION

The carbonn Cities Climate Registry (cCR) is the main monitoring tool foreseen by the Compact of Mayors initiative for its signatories. The Local Authority involved needs to set up an online profile and fill in the data and information either directly online or via an offline excel file to be later uploaded. The platform developed has four reporting areas: City information, Commitments, Performances and Actions. Table 2 below provides an overview of the content of each section. Energy consumption and emissions generated are divided into two main sectors: Government and Community.

City information	Commitments	Performances	Actions
Local Government name	City commitments	Inventory year	Measure title
Population	Boundary	Administration information	Focus of the action
Census year	Type	Community information	Type of Actions
Population forecast	Target value (%)	Emission sectors	Boundary
City budget	Base year	Document upload	Action sectors
Region	Target year	Confidentiality of data	Methods
Geography	Target adopted in	Scope 3 analyses	Finance
Predominant economy sector	Total final energy consumption	Software tool use	Status
Community type		Expert	Adoption year project
Location and size		Has the GHG inventory been verified?	Anticipated delivery year
Affiliations			Quantified achievements of the action
Background information			Summary
			Document upload
			Co-benefits

Table 2. Overview of the content of each section. Source: carbonn Climate Registry User Manual. ICLEI-Local Governments for Sustainability.

4. MAIN BARRIERS FOR SIGNATORIES TO MONITOR THEIR ACTIVITIES AND POSSIBILITIES TO OVERCOME THEM

The acknowledgment of all possible barriers that Local Authorities face to monitor and report is crucial for C&S and similar Supporting structures to help overcoming them.

The experience from several partners of the Mayors in Action Consortium, mostly experienced on the Covenant of Mayors, might be useful to highlight common barriers encountered by Local Authorities and useful and successful solutions given by C&S.

Lack of English language skills

It is obvious that when involving Municipalities from different countries in a single initiative you need to choose a common language to communicate, but this turned to be a real barrier for many Municipalities.

Managers and technicians from many Local Authorities might not know English or not be fluent enough to use it in the templates and report.

Possible solutions

- Organization of specific workshops to monitor SEAPs for Local Authorities. In these workshops municipalities must bring all their data concerning the SEAP. The Coordinator or the Supporting Structure (C&S) can help the municipality's technicians to fill in the online template, helping them with the English translation of the information when needed. C&S can prepare specific excel files to be filled in advance by the Municipality, so that automatic reports in English can be drafted and the online compilation is easier.
- Organisation of specific English courses for technicians of the Local Authorities working with the Covenant of Mayors.

Difficulties in collecting energy consumption data from all buildings, facilities, public lighting and municipal fleet

There are still many Local Authorities which haven't implemented any kind of energy accounting yet. Therefore, gathering data on energy consumptions of the Local Council is hard and very time consuming.

Drafting a SEAP proved to be really useful to improve this: many Local Authorities began to install energy accounting and monitoring systems. In this way, developing a monitoring emission inventory for those cities would be easier than drafting the baseline emission inventory.

Possible solutions

- Development of specific excel files to facilitate data collection (i.e: estimations on energy consumption can be made out of money spent) and instructions on how to collect the data.
- Promotion of Energy Accounting and remote measurement and management systems, directly or through Local Energy Agencies.
- Signing a Memorandum of Understanding (MoU) with other C&S to exchange data, like CRES did with the Technical Chamber of Greece.
- Involvement of energy suppliers in order to establish a database, that can be useful for the administrative staff to monitor the energy performance of the LG structures monthly.
- Development of precompiled letters to request the data to the energy providers.

Limited human resources in municipalities

Many Local Authorities are medium to small size and therefore they do not have enough human resources, plus their technical skills are not always high level on Energy management.

Possible solutions

This barrier is one of the toughest. Here is where C&S have a special added value.

- Development of specific tools which minimize data gathering efforts and which make data collection more homogeneous
- Organisation of specific training for technicians involved and direct technical support.

Lack of information on actions developed by third parties (not under the municipality control)

SEAP scope includes several sectors which are strongly influenced by other stakeholders within the public and private sector such as: transport, residential sector, renewables regulations, tertiary sector...

Some of the actions proposed are meant to be developed by third parties and, when monitoring the status of the actions, sometimes Local authorities are not aware of how the action has been implemented.

Possible solutions

- Helping gathering and centralizing data collection from other Public Administrations, when the action is meant to be developed by another Authority.
- Helping municipalities to calculate estimations of the performance indicators by using the Monitoring Emissions Inventory results.
- Set up a data collection platform, like in Greece where data on private building refurbishment is available through the Buildingcert platform operated by CRES.

- Organising specific round tables and public events in the Municipalities support by the Project activities. The main topics analyzed were sustainable mobility, energy consumption of the residential sector, and best practices available, like the opportunity to develop energy audits in the industrial companies operating in the territory.
- Specific data consumption information can be collected in collaboration with the DSO operating in the territories by using a bottom up approach, in order to collect real data consumption in natural gas and electricity sectors.
- Identification of an external consultant which can help collecting data provided by third parties.
- Organising specific training and workshops involving both the external consultants and the offices in charge of SEAP monitoring in the Municipality.

Difficulties to calculate energy and emission savings

The estimation of energy and emission savings related to developed actions are not always easy to calculate by the Municipality.

Data collection from energy providers is crucial yet very difficult to obtain, due to privacy rules and willingness of the companies to collaborate. This is also time consuming and many technicians from Local Authorities cannot do that.

In some actions, really specific ones such as those done in municipal buildings or public lighting, energy savings are more or less easy to obtain from the energy accounting systems and from the Local Authorities energy invoices. But energy savings from other actions might be more difficult to estimate.

On top of the data collection, also practical calculation issues arise, like which formulas and emission factors are the best applicable in the Municipality's case.

Possible solutions

- Covenant of Mayors guidelines are available to help about these issues.
- C&S can provide common criteria for data collection.
- Development of specific excels files to collect data and estimate energy savings and emissions automatically.
- In some countries specific tools have been developed to calculate energy savings, such as the TEE KENAK tool for the building sector in Greece.
- C&S can establish common emission factors for their Signatories and according to what is used in their countries; i.e. in Greece decision will be made about new electricity emission factor and how this will affect SEAP monitoring and revision, since the electricity emission factor according to Greek Regulation of Energy Performance of Buildings (KENAK) is lower than the one used for the BEI.
- Specific tools developed like IBE in Italy (IPSI ITALIA) corresponding to the Covenant and JRC guideline or the specific software developed in Veneto, that has been integrated with some excel files specifically developed with the purpose of calculating the actions out of the standard ones.

- Staff involved in SEAP monitoring activities of municipalities gather all information often in collaboration with external technical consultants
- C&S might gather all information and centralize this task,

Difficulties in reporting

Once calculations are made and the status of the action are defined, many Local Authorities feel the need of having a specific report which communicates the main results, to be disseminated among politicians, citizens and stakeholders.

Few Local Authorities have enough human resources and technical capacity to draft their own monitoring reports, many other make use of the tools provided by their C&S, others are directly helped and supported by a third party. Most municipalities are medium to small size and their human resources are limited.

Possible solutions

- Development of specific templates with automatic formulas and graphs to facilitate reporting, with already established parameters

The role of C&S is essential for Local Authorities during the monitoring phase, especially for small and medium sized municipalities.

The availability of specific tools and criteria and the support on data collecting are key factors in their success to monitor and manage their energy policies

5. MAIN PARAMETERS TO MEASURE IMPLEMENTATION STATUS

There are different things to be measured and evaluated to include in a monitoring report for energy action developed in a territory, the main points to be remembered are:

- (1) Status of the actions
- (2) Changes arisen in the actions
- (3) Acknowledgment of the results:
- (4) Budget spent
- (5) Adaptation to climate change

Status of the action

According to CoMO and JRC's guidelines, the "status of the action" should be completed, ongoing or not initiated, considering the percentage of actions falling in each status and the percentage of implementation for the ongoing actions.

Changes in the actions

Action plans must be dynamic, since technology, legislation and society frameworks change very fast. Actions foreseen and established at a point might become obsolete or not useful few years later. Some actions can be modified, others might be discarded and new ones might be included.

Even though the online template doesn't consider to specify this, for the sake of the management and local policy it can be very important to know the reasons why some actions might have been discarded, which ones have been modified and how and why new actions have been included.

In the CoM online template, in fact, discarding an action is done by simply removing it and changes in actions can also be introduced easily, without the need of motivate that or keep track of them all.

The introduction of new actions is very important, especially for those municipalities which chose to renew their commitment after the introduction of the Covenant of Mayors on Climate and Energy: they need to upgrade their emission reduction up to 40% at least, plus introduce new action related to climate change adaptation, to update their SEAP into their SECAP.

Acknowledgment of the results

The assessment of the objectives achieved is very important to monitor the situation, manage it and communicate to the wide public about the energy policy of the Municipality. How many kWh have been reduced or produced thanks to the

implementation of a specific initiative, how many tones of CO₂ have been avoided consequently, and so on. These assessments might be difficult depending on the actions and on the sectors covered. The following parameters should be considered for each action:

- Energy savings
- Renewable energy production
- Emission savings

As mentioned before, some of the actions are very specific and their energy savings or production can be easily assessed known. Some other actions, such as those related with raising awareness initiatives, it is rather difficult to estimate energy savings. Each coordinator and supporter could provide their supported municipalities with common criteria on how to estimate energy savings.

Budget spent

The Municipality should track the budget spent to develop an action.

The experienced proved that, despite it is difficult to imagine, it is not easy to have a clear idea of the budget spent by a Municipality on a specific action. Some of the budget may be spent for several measures at once, some action could be co-financed by other institutions,

When actions are fostered by the Municipality but then developed by third parties, in particular, the budget is quite difficult to be known. Still, it is important to estimate the investments generated, the jobs created and the social added value that the energy policy of the Municipality brought to the territory.

Again, also in this case the C&S role is crucial to help the Municipality establish common criteria and ways to estimate he costs.

Parameters than can be considered are:

- Money invested so far
- Annual money spent (like €/year) in case of continuous or periodic initiatives
- % of the budget spent so far;
- investment created
- jobs created

Adaptation to climate change

For Local authorities willing to renew their commitment with the Covenant of Mayors in order to assume the new goals, it might be interesting to identify which action can be also adaptation actions in order to facilitate their drafting of the SECAP .

C&S can provide tools, common criteria and methodologies to assess the implementation of energy policies in the territory

6. TOOLS DEVELOPED

From the previous chapters it can be easily concluded that there is a need on developing specific tools to help Local Authorities in their monitoring and reporting of their energy policies..

It is also clear that Supporting Structures (like Territorial Coordinators and Supporters of the Covenant of Mayors) know best the reality of their supported Municipalities and therefore they are the most indicated to help them developing or adapting specific tools.

Some of the tools that Mayors in Action project can share with you are listed below, developed or actively used by project partners.

- <https://eneldistribuzione.enel.it/it-IT/Pagine/paes.aspx> SOGESCA in collaboration with Enel DistribuzioneSpA (Meshartility Project activities)
- Monitoring tool template for the Municipality of Schio
- Environmental Criteria Scheme according with the National Law for the Municipality of Este
- Specific excel files to gather information and report at LG level:
 - Excel files to gather data on municipal buildings, public lighting and fleet energy consumptions. They can introduce energy consumption in several different units or in case they do not have this information available they can just introduce money spent.
 - Excel files with their emission inventories calculated and with the list of actions. Those excel files have an automatic report as a result, that can be completed and modified by the Local authority.
- <http://www.climatealliance.org/co2-monitoring0.html> developed by Climate Alliance
- <http://carbonn.org/> developed by ICLEI

7. TRAINING FOR SIGNATORIES

From the previous chapters, it is clear that training and specific support to fill in templates, tools and on line information is very important for Municipality's technicians and officers.

Organizing workshops proved to be one of the best solutions. The ideal size of the group is when no more than 20 Local Authorities are involved. The workshop should be very practical, to address specific needs and get to tangible results before the end of the day, like online SEAP template compiled and submitted or a draft of communication report developed.

Objectives of the workshops:

- Prepare Local Authorities to monitor their SEAP or SECAP
- Fill in the online monitoring template
- Send the monitoring and drafting monitoring reports
- Get advice on barriers encountered by other Municipalities and possible solutions
- Share experiences with the other participants and with the C&S.

Duration of the workshop

From 6 to 8 hours, depending on the structure of the Energy Plans, the number and former preparation of Local authorities and the specific needs.

Requirements to develop the workshop

- A room with internet connection. If possible, computers for all participants or possibility for them to connect their own.
- One or two experts from the SupC&S conducting the workshop and helping municipalities in the practical matters arising
- Prior preparation of the participants: they should have information and data like energy consumptions of their local council (municipal buildings and facilities, public lighting and municipal fleet), list of actions of their SEAP/SECAP, status of implementation,
Recommendation: The C&S can provide the participants with data collection sheets, to gather these data much in advance. The Coordinator or the Supporter can help Local Authorities providing them with their Monitoring Emission Inventory already calculated in standardized templates.

Contents of the workshop:

- Introduction to the tools provided by the Coordinator or Supporter if any
- Explanation on the online monitoring template to be compiled (Covenant of Mayors, Carbonn registry or whatever platform they are using to report Energy Plans).
- Description of the main criteria used to assess the status of implementation of the actions.
- Practical workshop: in this phase, Local Authorities work with the provided tools and the online templates. While doing so, experts support them in their calculations, English problems, criteria, budget estimations if needed.
- Comments on the barriers and opportunities encountered during the workshop.
- Production of reports and submission of the monitoring.

Recommendations for the C&S

- Provide data and information available, in particular considering those regarding actions not developed under the municipality control, emissions inventory developed, best practices from other Municipalities
- Develop tools which allow Local Authorities to make monitoring easier.
- Actively support Municipalities, in particular small and medium sized ones, in drafting their monitoring report.
- Define a way to collect data from energy plans of the supported municipalities, so helping them in the implementation and monitoring phases becomes easier.
- Establish a friendly environment during the workshop, so that Local Authorities find it easier to interact and exchange experiences.
- Make use of available tools and information, creating synergy with other C&S, participating to training sessions and exchange of information.

8. INFORMATION TO BE INCLUDED IN THE REPORTS

A report on the monitoring assessment made is very important for the Local Authority to communicate results to politician, citizens and stakeholder of the territory.

Below, there is a list of minimum contents to be include, without the fear to be more ambitious and go further.

1. Main features of the municipality and of the energy plan appointed
 - Number of inhabitants
 - Type of municipality
 - Date of adhesion to the Covenant of Mayors/Compact of Mayors
2. If the MEI (Monitoring Emission Inventory) is attached:
 - Energy consumption of the municipality: evolution in time divided per sectors
 - Energy consumption of the local council: evolution in time divided per sectors
 - Emissions of the municipality: evolution in time divided per sectors
 - Emissions of the local Council: evolution in time divided per sectors
 - Energy and emissions difference compared to the baseline year
 - Renewable energy production: evolution per source and respect to the baseline year

Assessment of the results obtained.

3. Clearly stated basic objectives of the energy plan
 - Emissions, energy consumption and renewable energy production in the baseline year
 - Estimated emissions and energy consumption reduction and energy production in the objective years
 - Emissions reduction goal
 - Number of actions proposed.
4. Status of implementation:
 - Date of the monitoring process and report
 - Energy, emissions reduction estimated according to the completion degree of the energy plan
 - Number and percentage of adaptation actions
 - Percentage of completed, ongoing and not initiated actions

- Number of modified, discarded, new and not modified actions
- Number and percentage of the status of the actions by sectors
- Estimated energy and emissions reduction according to the status of the actions by sectors
- Budget spent so far
- Budget to be spent in the future
- Main barriers and opportunities encountered

5. List of all actions divided by sectors, including their status.

CONSORTIUM:

PROVINCE OF GENOVA (Coordinator) – www.provincia.genova.it

PROVINCE OF BARCELONA – www.diba.cat

CRES – www.cres.gr

CITY OF ZAGREB – www.zagreb.hr

PNEC – www.pnec.org.pl

VENETO Region – www.regione.veneto.it

SOGESCA – www.sogesca.it

INTERLEUVEN – www.interleuven.be

ICLEI EUROPE – www.iclei-europe.org

