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Covenant of Mayors: The SECAP reporting templates

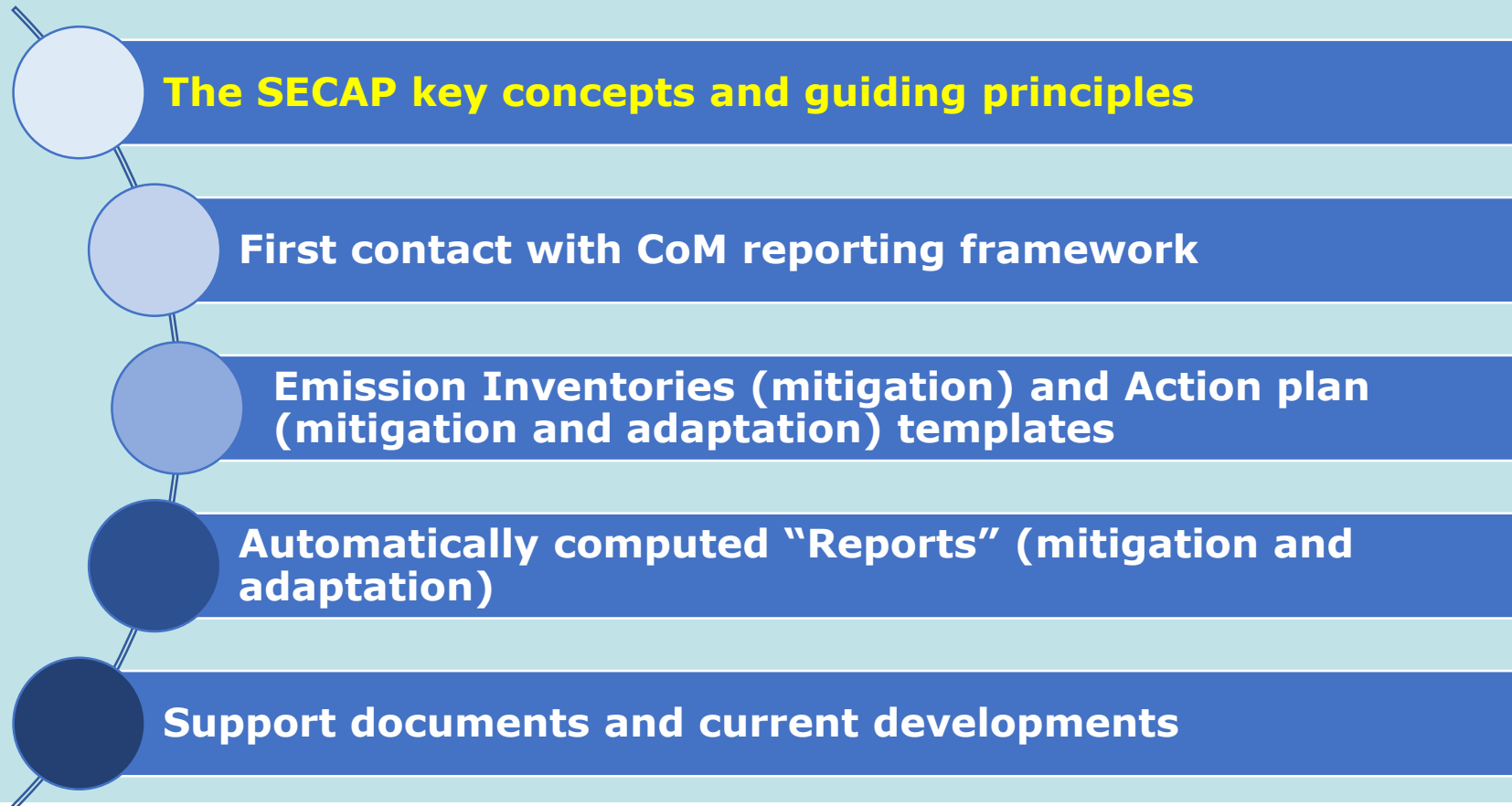
European Commission Joint Research Center (JRC)

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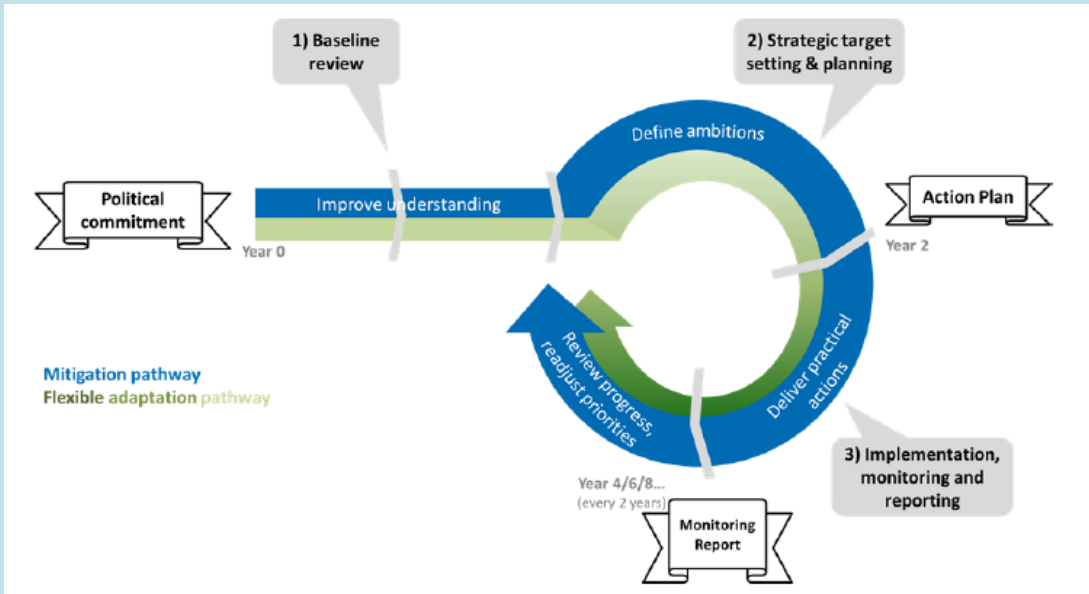
Covenant of Mayors and the role of the JRC

- **Covenant of Mayors (CoM)** gather **local governments** voluntarily committing to **achieve or exceed the EU climate mitigation target** (40% cut in Greenhouse gas (GHG) emissions by 2030 as compared to 1990 or to the closest subsequent year) and to **increase their resilience to the impacts of climate change**.
- **The JRC** provides **Scientific and Technical support**, which includes the definition of the **Sustainable Energy and Climate Action Plan (SECAP) methodology (mitigation and adaptation)** and the provision of **Guidebooks** and other support (**helpdesk, trainings**) as well as the **validation of the SECAP**.
- **The JRC** also contributes to the **definition of the reporting platform** and to the **promotion of the CoM initiative** in international events and workshops, in close collaboration with the CoMO Office located in Brussels.

Timeline of the presentation



The SECAP process



STEPS \ PILLARS	MITIGATION	ADAPTATION
1) Initiation and baseline review	Preparing a Baseline Emission Inventory	Preparing a Climate Change Risk and Vulnerability Assessment
2) Strategic target setting & planning	Submitting a Sustainable Energy and Climate Action Plan (SECAP) and mainstreaming mitigation and adaptation* considerations into relevant policies, strategies and plans_ <u>within two years following the municipal council decision</u>	
3) Implementation, monitoring and reporting	Report progress <u>every second year following the SECAP submission</u> in the initiative's platform	

Requires an on-line reporting at least every two years
(+ «scoreboard» adaptation template in Year 0)

Mitigation: Scope, sectors and principles

Scope and guiding principles of CoM Mitigation Action plan

- Focus is on the **final energy consumption** in activity sectors under the **direct influence or potential control of the Local Authority** (LA)
- **Four mandatory key sectors:** Municipal buildings and equipment/facilities, Tertiary buildings and equipment/facilities; Residential buildings; and Transport
- Geographical coverage: **Local territory** (administrative boundaries)
- **Sound knowledge of the local situation** in terms of energy and GHG emissions
- Encourages **bottom up collection of data** to build the Baseline emission inventory (**BEI**) and the Monitoring Emission Inventories (**MEIs**), as they are the ones allowing for the **monitoring** to capture the results of the **local mitigation actions**

Adaptation: Key concepts and sectors

Risk and Vulnerability Assessment

- **Climate Change hazard Risks:** Heat waves, Storms, Forest fires,..
- **Climate Change Vulnerabilities:** Socio-economic, Physical and Environmental
- **Expected Climate Change Impacts per sector** (without adaptation):
Likelihood and level
- **Pre-defined sectors:** Buildings, Transport, Energy, Water, Waste, Land use planning, Agriculture and Forestry, Environment and Biodiversity, Health, Civil Protection and Emergency, Tourism and Other.

Adaptation plan and actions per sector:

- Risk or Vulnerability tackled, outcome reached, costs, related-impact indicators

The CoM reporting framework

Added values of an harmonized data reporting and compilation framework

- SECAP compliance with CoM principles, data accuracy and coherence
- Support to the definition of the action plans
- Monitoring and Self assessment of the progress of the action plans
- Validation (SECAP eligibility criteria) and feedbacks from JRC
- Overall assessment of the CoM initiative by the JRC and CoMO

Main sections and “templates”:

- 9 templates to be filled-in: “Strategy”, Mitigation (“BEI”, “MEI”, “Action Plan”, “BoE”) and Adaptation (“Scoreboard”, “Risk and Vulnerabilities”, “Adaptation actions”, “Adaptation Indicators”)
- 3 computed ones: “Mitigation Report”, “Monitoring report”, “Adaptation report”

Type of data: quantitative and qualitative, mandatory and optional

SECAP templates*

Templates Color codes

- Blue: Strategy
- Green: Mitigation
- Blue-Green: Adaptation
- Yellow: Automatic reports



Commitments:

- ☐ [2020 CO₂ reduction](#)
- ☐ [2030 CO₂ reduction](#)
- ☐ [Long-term CO₂ reduction](#)
- ☐ [Climate Adaptation](#)

Fields Color codes

- Mandatory input cells
- Optional input cells
- Output cells
- Pre-filled cells
- Definitions (visible when clicking)
- Monitoring Fields

Template formats:

- **Excel-based Offline 2016 Working version***
- Official on-line templates (to be soon implemented on the Covenant web site)

Template Structure & Minimum Reporting Requirements:

Template Structure		Minimum Reporting Requirements			Link to Tab
		At the registration stage	Within 2 years	Within 4 years (and then every 2 years)	
Mitigation	Strategy	optional	*	*	↔
	Emission Inventories	optional	*	*	↔
	Mitigation Actions	optional	*	*	↔
	Mitigation Report				↔
	Monitoring Report				↔
Adaptation	Adaptation Scoreboard	*	*	*	↔
	Risks and Vulnerabilities	optional	*	*	↔
	Adaptation Actions	optional	optional	*	↔
	Adaptation Report				↔
	Adaptation Indicators				↔

* mandatory

Objectives

- IDENTIFY & ASSESS local climate and energy challenges and priorities
- MONITOR & REPORT progress towards commitments
- INFORM & SUPPORT decision-makers
- COMMUNICATE results to general public
- ENABLE self-assessment & FACILITATE experience-sharing with peers
- DEMONSTRATE local achievements to policy-makers

Developed by: Covenant of Mayors & Mayors Adapt Offices, Joint Research Centre of the European Commission

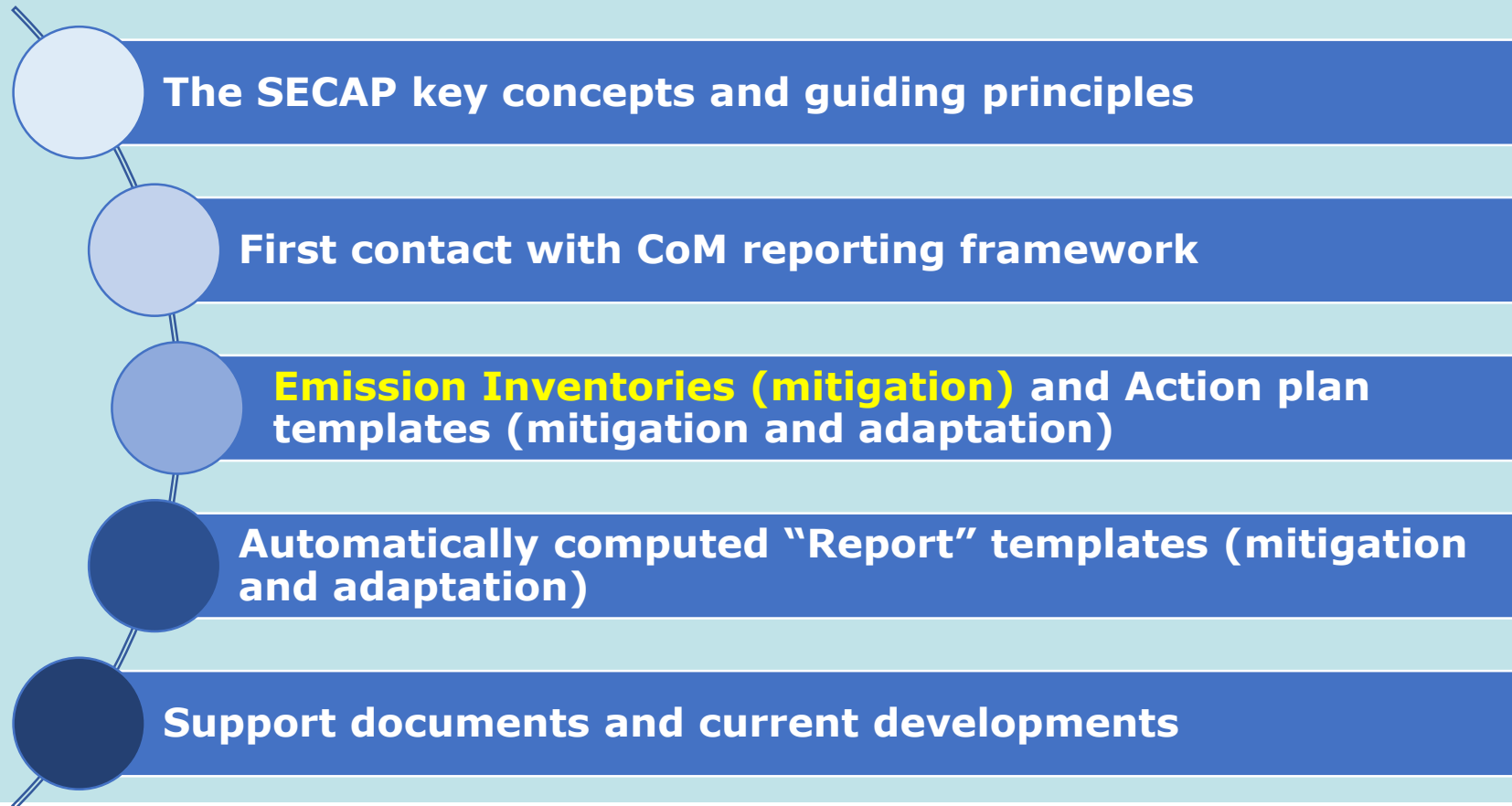
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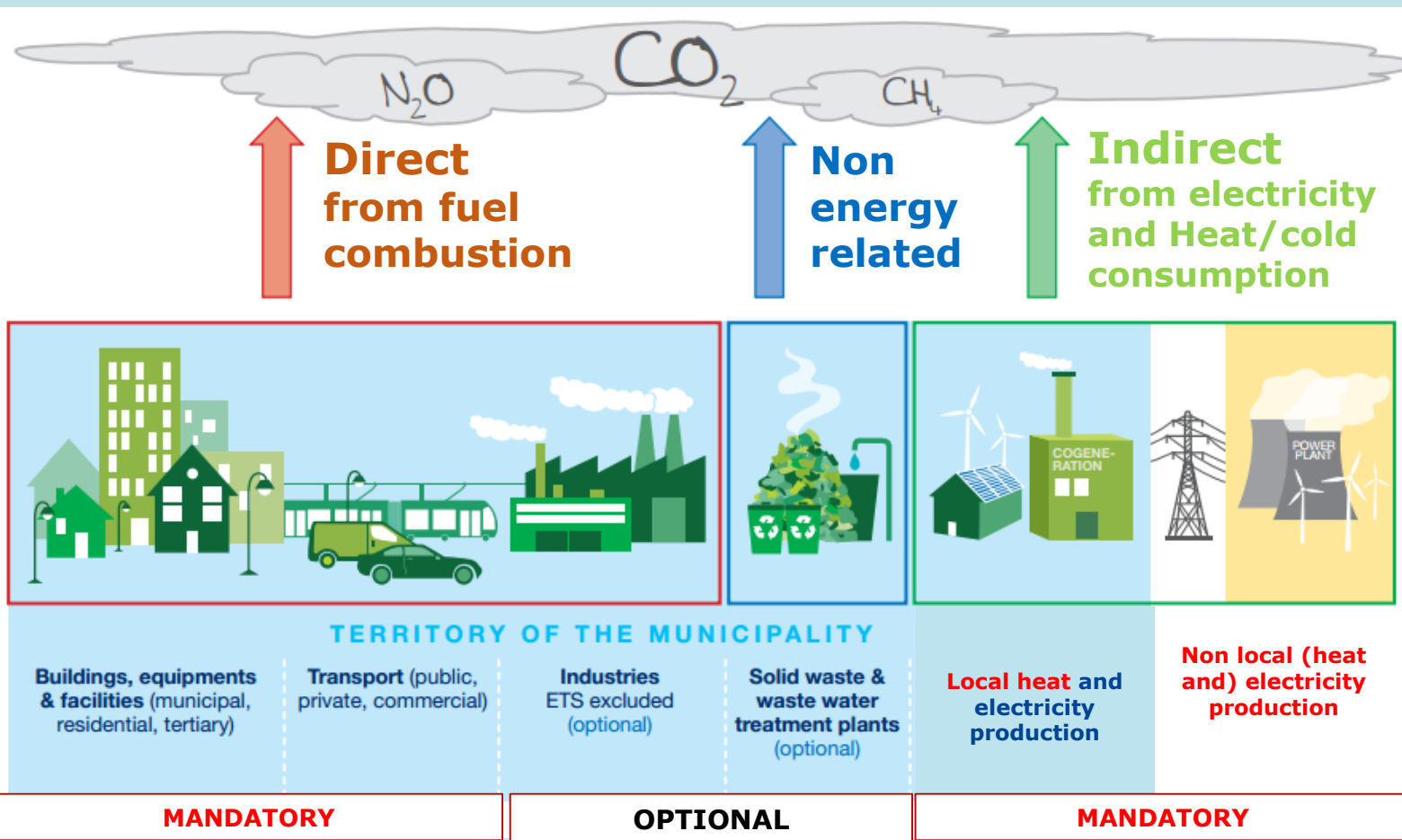
Home / Strategy / BEI / MEI1 / MEI2 / Mitigation Actions / BoE / Mitigation Report / Monitoring Report / Adaptation Scoreboard / Risks & Vulnerabilities / Adaptation Actions / Adaptation Report / Adaptation Indicators

Timeline of the presentation



Mitigation: which sectors?

Direct and Indirect sources of Greenhouse gas emissions



Focus on energy-related sources

Mandatory:

- **“Buildings”**: Energy consumption in Buildings, equipment, facilities
- **Transport**: Energy consumption in road and rail transport
- **Heat and electricity consumption** in all included sectors (indirect emissions)
- **Local heat production (if any)**

Optional: Local electricity production, non key sectors, non-energy related sources

(adapted from CoMO material)

Mitigation: which energy data?

Renewable and non renewable energy sources

Non renewable energy sources (fossil fuels)

EU most commonly used:

- Natural gas
- Liquid gas
- Heating oil
- Diesel
- Gasoline
- Lignite
- Coal
- Waste (non-biomass fraction)

Nuclear is excluded

Renewable Energy Sources (RES)

- Biofuels
- Plant oil
- Other biomass
- Solar thermal
- Geothermal
- *Wind power (indirect emissions)**
- *Hydroelectric power (indirect emissions)**
- *Photovoltaic (indirect emissions)**

***Electricity (from fossil fuels and RES)**
Heat/Cold (from fossil fuels and RES)

Mitigation: BEI and MEI emission inventories

Calculation of GHG **direct emissions** from the **local energy data**

Example 1: Natural gas consumption in “Buildings”

Table A “Final Energy Consumption”

Table C1

Table C “Emissions”

Activity Data

*

Emission factors

=

Emissions

Natural gas
consumed in
buildings [MWh]

CO₂ emitted per MWh
of fuel [tCO₂/MWh]

CO₂ emitted from the specific fuel [tCO₂]



Find the proper **data on specific fuel consumption in all “Buildings”**



Find the fuel specific
emission factor (EF)
(0.202 tCO₂/MWh)

CoM Default Emission Factors
for energy carriers the most commonly used
in EU (IPCC and LCA)

[Link to on-line COM EF \(Koffi et al. 2017\)](#)

Local Emission Factor?

Fossil fuels, standard approach: no (IPCC,
2006)

**LCA approach and Bioenergy: local EF
might be more adapted**

Mitigation: BEI and MEI emission inventories

Calculation of GHG **indirect emissions** from **local and national data**

Example 2: Electricity consumption in “Buildings”

Table A “Final Energy Consumption”

Table C1

Table C “Emissions”

Activity Data	*	Emission factors	=	Emissions
Electricity consumed in municipal buildings [MWh _{electricity}]		CO ₂ emitted per MWh electricity [tCO ₂ /MWh _{electricity}]		CO ₂ emitted from electricity consumption [tCO ₂]



Find the proper data on **local consumption of electricity**



Emission Factor for Electricity consumption

National EFE (NEFE)
[Link to on-line COM EF](#)
(Koffi et al. 2017)


Similarly, a **local specific EFH** is calculated in case of heat consumption from the local production and the import/export (if any) of heat.

~~Local production of heat~~ → **“BEI” template**

- **Green Electricity purchase by the municipality**

Mitigation: Action plan template

Summary of the action plan and of the individual mitigation measures to reduce the total GHG emissions by at least 40% by 2030 by **as compared to the Baseline year** (EU MS) [or to 2030 but following a Business as Usual (BAU) scenario, e.g. for CoM South and CoM East signatories]

- **Action plan** data fields: Title, Date of formal approval, Decision body, Web page, BAU 2020 and 2030 projections (CO₂ and Final Energy consumption) per sector (Municipal, Residential, Tertiary, Industry, Transport, Others).
- **Individual key actions** data fields (Table):  [“Mitigation Actions” template](#)
 - Qualitative: Name, Area of intervention, Policy instrument, Origin of action (LA, CTC, Other), responsible body, implementation timeframe, BoE, action also affecting adaptation.
 - Quantitative: Estimated implementation cost (Euros); **energy savings** (MWh/a), **renewable energy produced** (MWh/a) and **CO₂ emissions reduction** (tons/a)

Adaptation: Which (qualitative) information?

“Scoreboard” template: snapshot of the status of the adaptation process

- Areas of the adaptation cycle: Strengths and Weaknesses at the initial stage
- Implementation phase: Will show the overall picture of the efforts

“Risks and Vulnerabilities” assessment template (many drop-down menus)

- General Climate change Risk and Vulnerability Assessment
- Climate hazard risks (e.g. meteorological extreme events and their consequences)
- Socio-economic, Physical and Environmental Vulnerabilities
- Expected Impacts in the pre-defined sectors (“Likelihood” and “Expected-impact”)

“Adaptation Actions” template (also mainly qualitative, except costs)

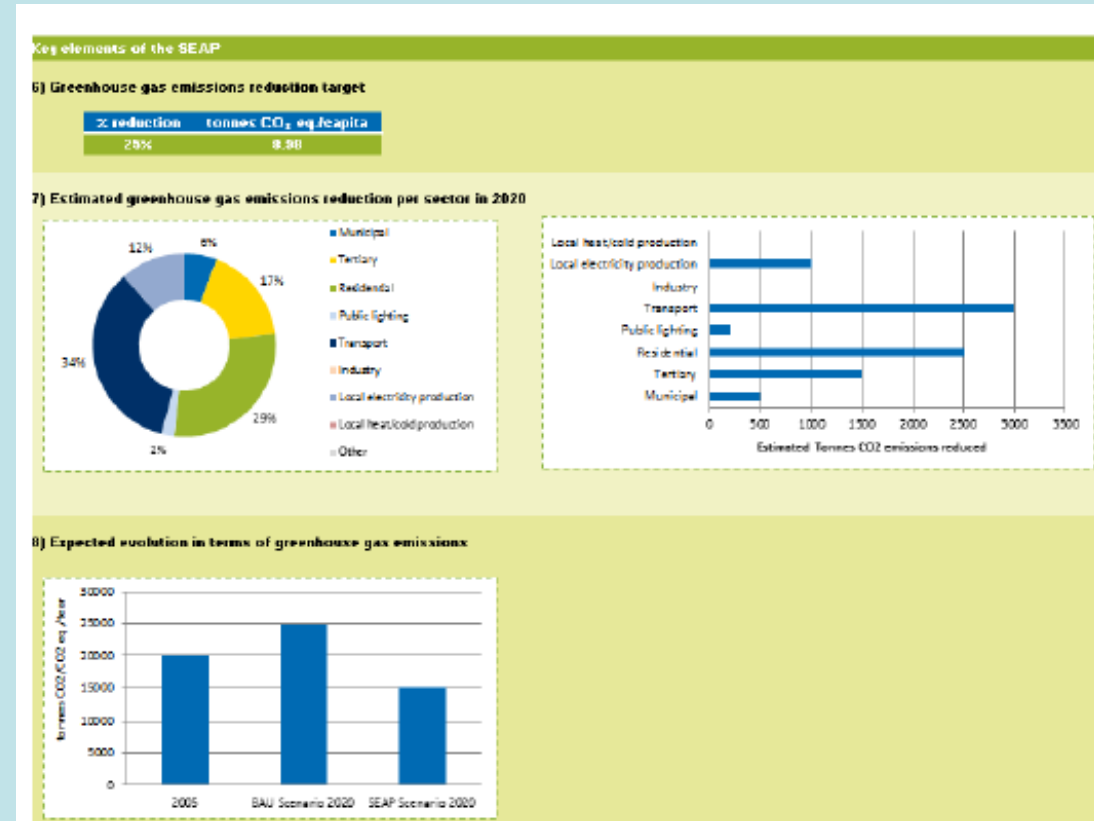
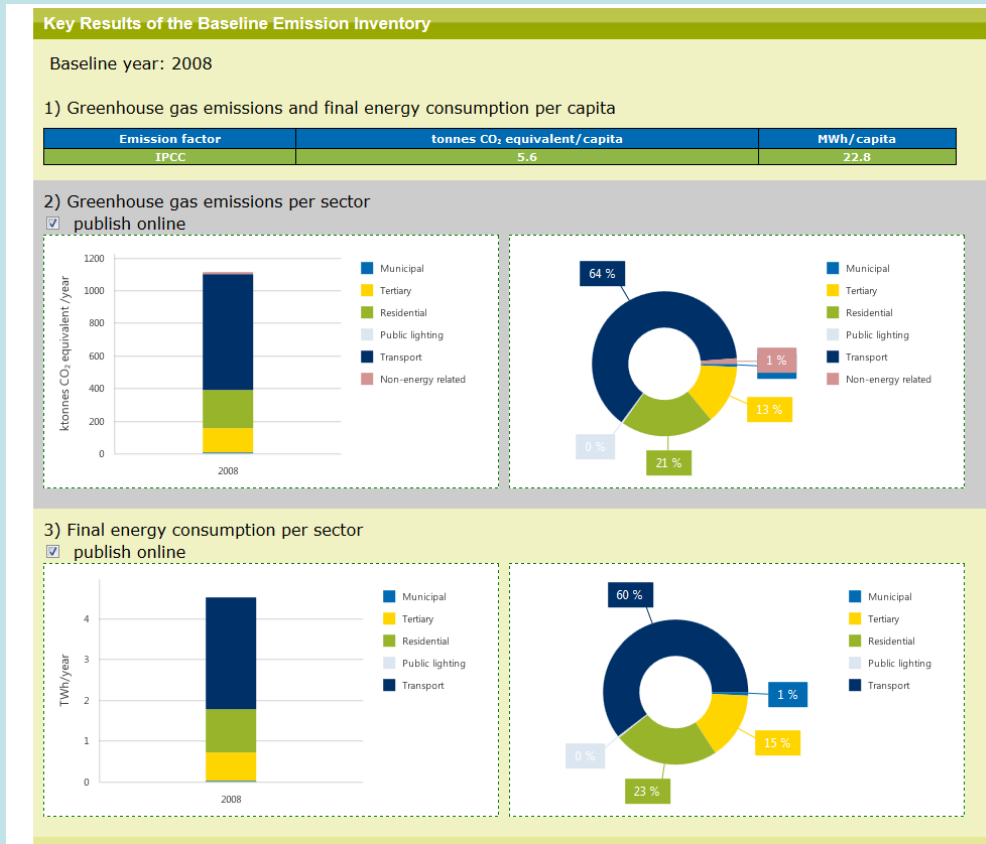
- Adaptation Action plan
 - Adaptation Actions
- ➡ [“Adaptation Actions” template](#)

Timeline of the presentation



Computed reports on Mitigation

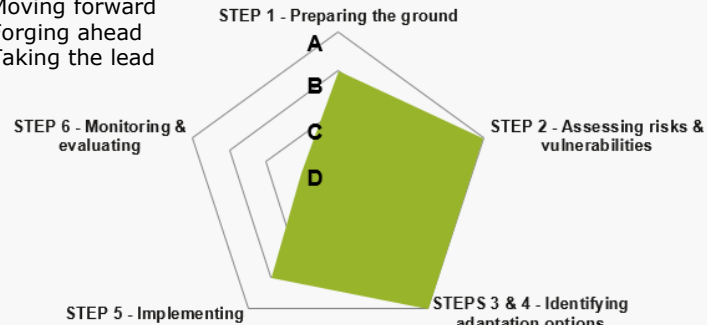
= Graphical representation of the SECAP (mitigation) and of its progress (monitoring)



Computed report on Adaptation

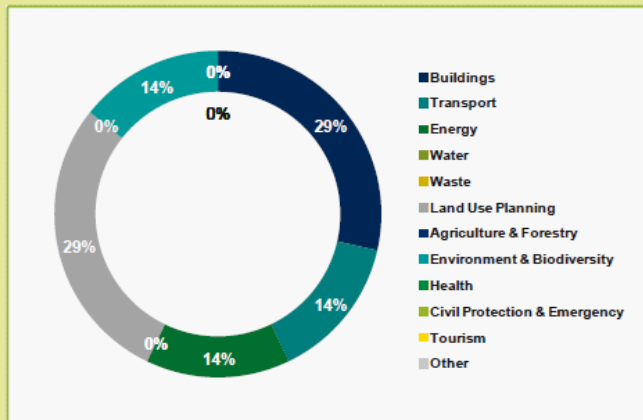
= Graphical representation of the SECAP (adaptation part) and of its progress

D: Not started or getting started
C: Moving forward
B: Forging ahead
A: Taking the lead



4) (Reported) Adaptation Actions by Sector

[Source: "Actions" tab]



Sector	Number of reported actions
Buildings	2
Transport	1
Energy	1
Water	0
Waste	0
Land Use Planning	2
Agriculture & Forestry	0
Environment & Biodiversity	1
Health	0
Civil Protection & Emergency	0
Tourism	0
Other	0

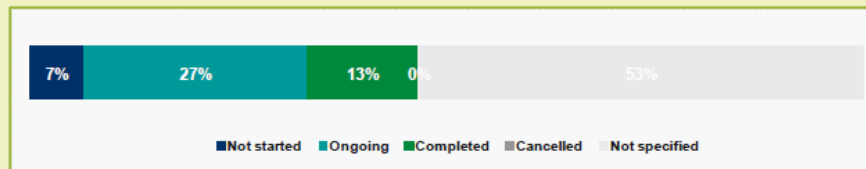
3) Impact Rating Matrix

[Source: "Risks & Vulnerabilities" tab]

Impacted Policy Sector	Likelihood of Occurrence	Expected Impact Level	Timeframe
Buildings	Possible	!!	▶▶
Transport	Likely	!!!	▶▶▶
Energy	Likely	!!!	▶▶▶
Water			
Waste			
Land Use Planning			
Agriculture & Forestry			
Environment & Biodiversity			
Health			
Civil Protection & Emergency			
Tourism	Unlikely	!	▶▶
Other			

4) Status of the (Reported) Adaptation Actions

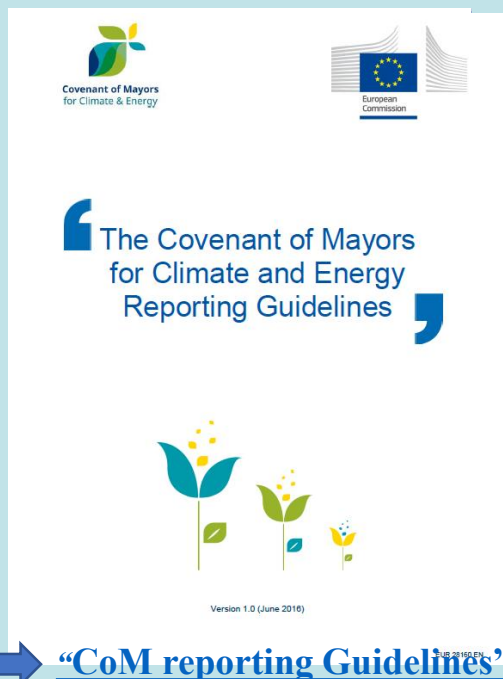
[Source: "Actions" tab]



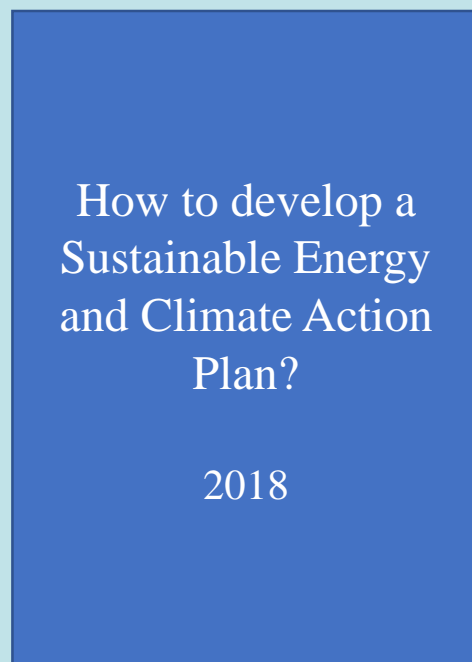
Action Status	Number of reported actions	Percentage
Not started	1	7%
Ongoing	4	27%
Completed	2	13%
Cancelled	0	0%
Not specified	8	53%
Total:	15	

CoM guidebooks and reporting guidelines

2016



2018



Guidebook 2010 [Mitigation]; Urban Adaptation Support Tool and guidelines [Adaptation]

Guidebook 2018 [SECAP, in preparation]

Update: 2030 target, inclusion of adaptation, further guidance on mitigation (e.g local energy data collection), catalogue of mitigation and adaptation actions, existing financial mechanisms and funding programs.

Reporting guidelines 2016 [SECAP]

The CoM reporting framework in **3 steps**

1. Filling in of the templates
 2. Upload of the official documents
 3. Integrated checking system and submission
- = 70 pages' report with **recommendations and examples** [available in 21 languages](#):

Helpdesks

1st line (CoMO): info@eumayors.eu

2nd line (JRC): JRC-COM-TECHNICAL-HELPDESK@ec.europa.eu

Current and future developments:

New [Covenant web site](#) and **on-line templates**, including the integrated checking system



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