TOPIC GUIDE

HARMONISATION OF ENERGY AND SUSTAINABLE URBAN MOBILITY PLANNING

Imprint

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Guidelines for the harmonization of energy and mobility planning

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Guide to the reader

This document provides guidance on a specific topic related to *Sustainable Urban Mobility Planning (SUMP)*. It is based on the concept of SUMP, as outlined by the European Commission's Urban Mobility Package[1] and described in detail in the European SUMP Guidelines (second edition)[2].

Sustainable Urban Mobility Planning is a strategic and integrated approach for dealing with the complexity of urban transport. Its core goal is to improve accessibility and quality of life by achieving a shift towards sustainable mobility. SUMP advocates for fact-based decision making guided by a long-term vision for sustainable mobility. As key components, this requires a thorough assessment of the current situation and future trends, a widely supported common vision with strategic objectives, and an integrated set of regulatory, promotional, financial, technical and infrastructure measures to deliver the objectives – whose implementation should be accompanied by reliable monitoring and evaluation.

In contrast to traditional planning approaches, SUMP places particular emphasis on the involvement of citizens and stakeholders, the coordination of policies between sectors (transport, land use, environment, economic development, social policy, health, safety, energy, etc.), and a broad cooperation across different layers of government and with private actors.

This document is part of a *compendium of guides and briefings* that complement the newly updated second edition of the SUMP Guidelines. They elaborate difficult planning aspects in more detail, provide guidance for specific contexts, or focus on important policy fields. Two types of documents exist: While 'Topic Guides' provide comprehensive planning recommendations on established topics, 'Practitioner Briefings' are less elaborate documents addressing emerging topics with a higher level of uncertainty.

Guides and briefings on how to address the following topics in a SUMP process are published together with the second edition of the SUMP Guidelines in 2019:

- **Planning process:** Participation; Monitoring and evaluation; Institutional cooperation; Measure selection; Action planning; Funding and financing; Procurement.

- **Contexts:** Metropolitan regions; Polycentric regions; Smaller cities; National support.

- **Policy fields:** Safety; Health; Energy (SECAPs); Logistics; Walking; Cycling; Parking; Shared mobility; Mobility as a Service; Intelligent Transport Systems; Electrification; Access regulation; Automation.

They are part of a growing knowledge base that will be regularly updated with new guidance. All the latest documents can always be found in the 'Mobility Plans' section of the European Commission's urban mobility portal Eltis (*www.eltis.org*).

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[1] Annex 1 of COM(2013) 91

[2] Rupprecht Consult - Forschung & Beratung GmbH (editor), 2019 Guidelines for Developing and Implementing a Sustainable Urban Mobility Plan, Second Edition.

1. Introduction and problem setting

Energy, **transport** and **mobility** are typically managed by different departments within a local authority. These areas rarely fall under the responsibility of the same political decision maker, making internal horizontal integration a difficult process.

Energy, transport and mobility planning processes in themselves are often a challenge for local authorities, because these processes entail the participation of stakeholders and the local population, vertical integration with other governance levels and a long-term vision, trying to balance costs and benefits and to achieve and maintain consensus.

As a result, local authorities often come up with individual separate sectoral policies and measures (urban planning, parking, cycling, public transport, production from renewables, energy efficiency in buildings, etc.), lacking a common strategic vision, and with poorly coordinated sectoral planning tools, to the extent that each plan seems to be going its own separate way.

Coordination and integration in strategic planning is important for the effectiveness and efficiency of any local authority's action. They will lead to economies of scale, harmonization and synergies between individual policies and measures. A harmonized approach resting upon a solid knowledge base, furthermore, offers political decision makers and technical officers crucial coordinated support for their actions[3].

SIMPLA acts on this, offering a structured process and methodology addressed to lead the harmonization of strategic sustainable energy, climate adaptations and mobility plans (in Europe typically SECAPs and SUMPs, although some countries prefer to refer to different working frames), coordinated with the main relevant local strategic documents, especially land use planning tools.

These guidelines aim to provide a description of the harmonization process leading to the formal approval of two harmonized plans (a SECAP and a SUMP) and their harmonized implementation and monitoring.

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[3] At present, a major debate is going on European level: Also in the context of local governments economy of scale applies. If small municipalities each deliver their own services independently this will result in higher expenditures for the same level and quality of output than the same services delivered by fewer larger councils, therefore small municipalities in the same area could aggregate to develop jointly their plans. This could also prevent from the risk of environmental dumping i.e. a municipality trying to attract businesses and residents by setting lower environmental standards than their neighbours.

The SIMPLA approach is consistent with the SUMP principle of "Cooperation across institutional boundaries" since the planning of sustainable mobility is required to be coordinated with energy and land use planning (see also activity 2.3 link with other planning processes of SUMP guidelines), the harmonization process is the operational description of how this integration could be achieved. Also SECAP guidelines require a harmonization of the SECAPs with other existing plans and urban policies including therefore also SUMPs.

The participatory approach is a common pillar of both SECAPs and SUMPs, and the active involvement of stakeholders is planned also during the harmonization process.

The assessment of the current and present performance is a common principle since both plans are requested to set objectives and SMART indicators.

Regular monitoring, review and reporting are a critical area of the harmonization, as later described in details, a monitoring process is envisaged by both SUMPs and SECAPs, but the way the monitoring plan is structured is significantly different and specific actions are required to harmonize the monitoring plans.

1.1. Definitions

1.1.1 What is a SECAP?

Following the adoption of the European Union's Climate and Energy Package in 2008, the European Commission launched the Covenant of Mayors, to endorse and support the efforts deployed by local authorities in the implementation of sustainable energy policies addressing climate mitigation by means of a reduction in fossil fuels consumption.

In October 2015, following a consultation process on the future of the Covenant of Mayors, the European Commission launched the new integrated Covenant of Mayors for Climate and Energy, which goes beyond the objectives set for 2020. The signatories of the new Covenant commit to reduce their CO2 emissions (and possibly other GHG) and to adopt a joint approach to tackling mitigation and adaptation to climate change.

Signatories of the Covenant of Mayors for Climate and Energy have committed to prepare and implement a Sustainable Energy and Climate Action Plan (SECAP) before 2030.

Adaptation to climate change is required. The task is to anticipate the adverse effects of climate change and to take appropriate actions to prevent or minimise the damage it can cause. It has been shown that well planned, early adaptation actions save money and lives later.

As SEAP does, SECAP includes an assessment of the geographical, demographical and energy local context, a Baseline CO2 Emission Inventory (BEI) referring to a specific base year, a clear identification of the emissions reduction target, and the actions planned together with time frames, assigned responsibilities and estimated impacts and costs. Thus the SECAP retains the same outline procedure used for SEAPs but differs in:

Target: a SECAP is aimed at defining mitigation actions that allow cutting down at least 40% of CO2 emissions; Timeframe: a SECAP is expected to achieve the objective of 40% reduction by the year 2030;

Development time: a SECAP has to be submitted within two years of joining the Covenant.

Guidelines on how to develop a SEAP are available at: *http://www.simpla-project.eu/media/32996/seap_guidelines_en-2.pdf*

Guidelines on SECAP reporting are available at: *https://www.covenantofmayors.eu/IMG/pdf/Covenant_ReportingGuidelines.pdf*

In addition to the differences listed above, the Covenant of Mayors for Climate and Energy requires members to develop a risk and vulnerability assessment of the effects of climate change, in order to highlight strengths and weaknesses of a territory. This is to determine the nature and extent of risk by analysing potential hazards and assessing vulnerability that could pose a potential threat or harm to people, property, livelihoods and to the environment on which they depend. This will allow the definition of appropriate adaptation strategies, which will translate into the SECAP's actions and contribute to improve the resilience of the territory.

The Urban Adaptation Support Tool (Urban-AST) provides guidelines on how to develop an adaptation plan. The tool is available at:
http://climate-adapt.eea.europa.eu/knowledge/tools/urban-ast

This tool provides relevant information, data, tools and guidance specifically tailored for urban environments in Europe. It includes procedures for the assessment of risks and vulnerabilities to climate change, the identification assessment and selection of adaptation options, their implementation monitoring and evaluation.

The SECAP format basically consists of two parts, "Mitigation" and "Adaptation", which can be developed following the SEAP guidelines, and the Urban-Adaptation Support Tool (Urban-AST) respectively.

The plans have to be approved and adopted by the Covenant signatories' city councils and then submitted to the Covenant of Mayors Office (CoMO) for a review process which ends with the acceptance of the plan. After the formal acceptance by the CoMO, the implementation of the plan has to be monitored every two years, following the monitoring guidelines available at the CoMO website (*www.covenantofmayors.eu*).

In order to identify all energy consumers, the Covenant of Mayors' commitments concern the entire geographical area of the local authority, taking into account the energy consumed in all sectors of activity the local authority can influence.

The Covenant's key sectors are the following:

• Municipal buildings, equipment and facilities;

• Tertiary (non-municipal) buildings, equipment and facilities;

• Residential buildings;

• Transport.

The whole initiative is implemented by means of both public and private actions, and is mainly aimed at raising awareness among stakeholders on energy issues, through the promotion of successful projects and the launch of new actions.

SECAPs (Sustainable Energy and Climate Action Plans) are strategic plans that local authorities develop and adopt after joining the Covenant of Mayors for Climate and Energy.

1.1.2 What is a SUMP?

Promoted by the European Commission in the White Paper on Transport (2011) and the Urban Mobility Package (2013), Sustainable Urban Mobility Plans (SUMPs) are one of the main tools available at EU level to tackle transport and mobility in urban and suburban areas.

A SUMP has as its central goal improving accessibility of urban areas and providing high-quality and sustainable mobility and transport to, through and within the urban area. It responds to the needs of the 'functioning city', a region which is connected by traffic flows, and its hinterland rather than a "CLASSICAL" municipal administrative region[4].

SUMPs are strategic plans based upon a long-term vision, with the main goal to provide integrated solutions to transport and mobility needs of people and goods, guaranteeing technical, economic, environmental and social sustainability[5].

The pillars underpinning the process leading to a SUMP are:

• Building on existing practices and regulatory frameworks in Member States;

• Defining a clear long-term vision, objectives, measurable targets and a suitable, regular monitoring and evaluation system ensuring quality of implementation and a cyclical approach;

• Pledge for economic, technical, environmental, social sustainability;

• Participatory approach involving stakeholders and population in decision making;

• Vertical and horizontal integration to foster cooperation and coordination between different levels of government and different departments within a local authority;

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[4] COM(2013) 913 final 'Together towards competitive and resource efficient urban mobility'.

[5] Source: Guidelines 'Developing and implementing a Sustainable Urban Mobility Plan' 2nd edition, European Commisson (2019).

• Review of costs and benefits of transport, including an assessment of direct and indirect, internal and external cost.

A SUMP's objectives include:

• Guaranteeing accessibility to all road users, with a focus on the so-called "vulnerable users", namely pedestrians, cyclists, children, disabled persons, etc.;

• Fostering an integrated development of all transport modes with the aim to shift towards sustainable modes, tackling public and private, motorized and non-motorized transport, intermodality, urban logistics, mobility management and ITS systems;

• Reducing environmental impacts (primarily air and noise pollution) rationalizing efficiency and cost-effectiveness;

• Optimizing the use of functional urban areas leading to a cleaner urban environment and consequently more attractive cities and better quality of life for all citizens;

•Improving road safety and security.

Adopting a SUMP offers a local authority several opportunities, since it paves the way to a new culture for urban mobility based on a participatory approach, increases the liveability of urban spaces and consequently citizens' quality of life, creates a favourable environment to attract investors and boost economic development and increases chances to access EU funds.

Two portals supported by the European Commission provide extensive information, reports, news and case studies for local authorities and transport and mobility experts to refer to:

• Eltis - The urban mobility observatory (*www.eltis.org*)

• CIVITAS - Cleaner and better transport in cities (*www.civitas.eu*)

The Eltis platform (*http://www.eltis.org/mobility-plans/ sump-concept*) also offers a tool dedicated to self-assessment of any urban mobility plan to determine whether it meets all the criteria making it a SUMP, taking as main reference the guidelines 'Developing and implementing a Sustainable Urban Mobility Plan', available online in the same section.

1.1.3 Differences between SEAP, SECAP and SUMP

A fundamental prerequisite for a proper harmonization of SEAPs/SECAPs and SUMPs is an in-depth understanding of the features of each plan.

The following table compares the respective approaches (Table 1).

ISSUE	SEAP	SECAP	SUMP
Time-span	**To 2020**	**To 2030**	**Long term (min. 10 years)**
Fields of action	- Municipal buildings (energy, heating and cooling plants); - Tertiary (non-municipal) buildings (energy, heating and cooling plants); - Residential buildings (energy, heating and cooling plants); - Transport - Public lighting - Green public procurement - Local electricity production - Local heat/cold production - Others (e.g. industry, agriculture, forestry, fisheries)	- Municipal buildings (energy, heating and cooling plants); - Tertiary (non-municipal) buildings (energy, heating and cooling plants); - Residential buildings (energy, heating and cooling plants); - Transport - Public lighting - Green public procurement - Local electricity production - Local heat/cold production - Others (e.g. industry, agriculture, forestry, fisheries) - Land Use Planning - Environment & Biodiversity	Mobility and transport of people and goods in urban and sub-urban environments ('functional urban area')
Relevance of a local authority's territorial size	No technical relevance, however complexity increases with the size of the local authority's territory		Complexity increases with the size of the local authority's territory, while limited planning capacities can be a challenge for smaller local authorities. Suitable measures differ depending on territorial size and density.
Need for vertical and horizontal integration	Highly relevant, as different levels of governance and different departments of the local authority should be involved in planning for an effective and satisfactory action		
Process steps	- Political commitment - Involvement of stakeholders - Planning - Baseline definition - Adapting administrative structure - Establishment of a long-term vision - Identification of clear objectives - SEAP elaboration - Actions implementation - Monitoring and reporting progress		- Set up working structure - Determine planning framework - Analyse mobility situation - Build and jointly assess scenarios - Develop vision and objectives with stakeholders - Set targets and indicators - Select measure packages with stakeholders - Agree actions and responsibilities - Prepare for adoption and financing - Manage implementation - Communicate, monitor and adapt - Review and learn lessons

ISSUE	SEAP	SECAP	SUMP
Objectives	(At least) 20% CO2 emissions reduction by 2020	(At least) 40% CO2 emissions reduction by 2030 and climate adaptation	- Accessibility - Integrated development of all transport modes prioritizing the more sustainable ones - Reduced environmental impacts (including, among others, CO2 reduction) - Improved road safety and security - Optimized land use in urban areas - More attractive cities - Better quality of life for citizens
Relevance of participatory approach	Highly relevant to inform, trigger activities and guarantee acceptance of stakeholders		
Definition of baseline	Comprehensive overview of energy generation and consumption in the municipality	Comprehensive overview of energy generation and consumption Risk and vulnerability assessment	Context analysis mainly based on socioeconomic data, transport infrastructure, mobility, supply-demand interactions

ISSUE	SEAP	SECAP	SUMP

Indicators	A SEAP must include the following indicators:
	• % Reduction of CO2 emissions
	• Energy use, generation from RES and savings indicators for each action [MWh]
	Moreover, a SEAP should include customized "activity indicators" to monitor actions, e.g.:
	• Energy delivered by electrical vehicles charging stations [kWh/year]
	• Public lighting systems electrical consumption [kWh/lighting pole/year]
	• Litres of water delivered by public water houses [L]
	• Photovoltaic systems electricity production [kWh/year]
	• Amount of ligneous biomass consumed [kg/year] and thermal power delivered to district heating final users [kWh/year]
		A SECAP must include the following indicators:
		• % Reduction of CO2 emissions
		• Energy use, generation from RES and savings indicators for each action [MWh]
		• Vulnerability-related indicators, e.g.:
		  - length of transport network (e.g. road/rail) located in areas at risk (e.g. flood / drought/ heat wave / forest or land fire)
		  - number of consecutive days/nights without rainfall
		• Impact-related indicators, i.e.:
		  - % of habitat losses from extreme weather event(s)
		  - % of livestock losses from pests/pathogens
		• Outcome-related indicators, i.e.:
		  - % of transport, energy, water, waste, ICT infrastructure retrofitted for adaptive resilience
		  - % of coastline designated for managed realignment
		  - % of forest restored
		Moreover, a SECAP should include customized "activity indicators" to monitor actions (see SEAP column on the left).
			A SUMP should include environmental/energy indicators (e.g. reduction of CO2, CO, NOx, SOx, PM10, PM 2.5, VOC, fuel consumption, increase in number of vehicles running on alternative fuels). Each SUMP measure, moreover, requires specific indicators. A few examples are provided of the most common indicators used:
			- Public transport: network size, bus Km/year, passengers/year
			- Cycling: network size, trips per year, bikes and stations for bike sharing
			- Transport system: limited traffic areas (extension);
			- Car sharing: cars, Km/year;
			- Traditional vehicles trips/year;
			- Freight traffic in peak time;
			- Parking policies: park and ride places; pay and display areas; fare system;
			- Motorization rate;
			- Modal split;
			- Road safety: accidents/year; fatalities/year.
			- Public administration transport costs (investments and running costs per year);

Elaboration of scenarios	Limited relevance: there's a single scenario: 2020 compared to the baseline year (Baseline Emission Inventory - BEI)	Limited relevance: initial and final (2030) scenarios and optional "long term scenario" beyond 2030	The elaboration of scenarios (1, 2 and 3) is a distinctive feature of SUMP elaboration
Centralized monitoring	Report to Covenant of Mayors Office		Each local authority responsible for its own monitoring and evaluation
Cost & benefit analysis	Recommended but not mandatory		Recommended when selecting actions
Report	Monitoring Emission Inventory (MEI) every four years, standardized and mandatory report submitted every two years		Not formalized

Table 1: Main differences between SEAP/SECAP and SUMP

1.2 Definition of harmonization

The differences between SECAPs and SUMPs highlighted in the previous paragraph should not lead the reader to the conclusion that their harmonization is not viable. Harmonizing, furthermore, does not mean unification of activities or the mere inclusion of sections of one plan into the other.
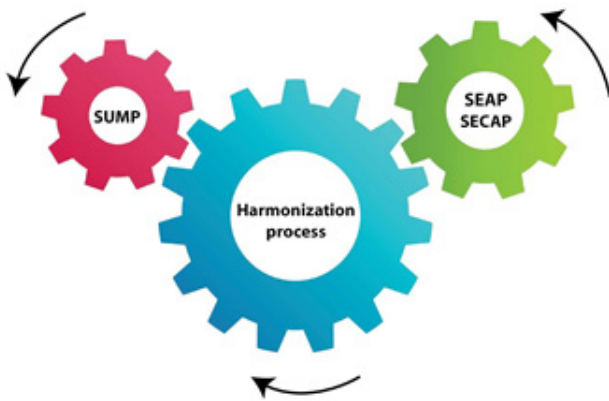

Fig 1: Harmonized framework for action

Harmonization means working on those areas which are complementary in order to have the plans working together for the achievement of an overall strategic objective. Harmonization helps different departments in local authorities share the same vision, work together and optimize the use of resources.

Figure 1 illustrates the idea of harmonizing the activities of a SECAP and a SUMP into one single framework by the analogy of meshed gears.

Note: Making an analogy between a gearing system and the harmonized development and implementation of SECAP and SUMP, we could come up with two considerations:

1. The lack of activity in one of two plans or in their harmonization forcedly stops the other two;

2. Once started, the wheel representing the harmonization process, showing an inertia and a diameter far more significant than the other two, easily drags the smaller wheels representing the SECAP and the SUMP.

The areas of potential cooperation to focus on during the harmonization process are the following:

- Strategic vision: both SUMPs and SECAPs (in particular considering the new elements added by SECAPs) aim at improving citizens' quality of life and minimizing impacts on the environment.

- Baseline: all plans rely on a thorough definition of the baseline against which the progress in achieving the plans' objectives is to be measured. Defining common databases leads to more coherence and a more efficient use of resources.

- Participation of stakeholders: the successful development of both a SECAP and a SUMP depends upon the active involvement of stakeholders. A coordinated management of the stakeholders' involvement process helps in the definition of a single vision and a better use of resources.

- Common actions: low carbon mobility actions contribute to the achievement of the goals of both plans by targeting improved mobility and energy efficiency or renewable energy. Therefore the development of coordinated actions is crucial.

- Monitoring and controlling: checking progress towards the goals is common to SECAPs and SUMPS, as well as the identification of new challenges. So both plans should be monitored and controlled in a harmonized way.

Local authorities initiating their harmonization process may have different starting scenarios:

- They may already have both a SECAP and a SUMP, needing harmonization;

- They may already have either a SECAP or a SUMP, needing to develop the other in such a way that it is harmonized with the existing plan;

- They may have to develop both plans. Possible starting scenarios are shown in Figure 2

Fig 2: Starting scenarios for the harmonization process

Fig 3: Steps of the harmonization process

In terms of management, four operational principles should guide the harmonization process:

1. Shared vision: all departments taking part in the process (mobility, environment, energy, land use planning etc.) should share the same vision and strategic objective.

2. Cooperation: all departments taking part in the process (mobility, environment, energy, land use planning etc.) should work jointly and actively cooperate.

3. Leadership: a single, qualified and capable project manager should lead the process.

4. Project management techniques: the harmonization process is a complex task, requiring coordination of different activities, multidisciplinary teams and compliance with several, and sometimes contradicting, regulations and guidelines. Defining a work plan, attributing tasks and setting milestones are therefore necessary steps.

In operational terms, the harmonization process can be summarized into four main steps briefly presented in figure 3 and described in details in chapter 2.

The process is conceived as circular, with the outcome of the monitoring leading to a review and update of the plans.

2. The Harmonization Process

2.1 Step One: **Initiation**

2.1.1 Political commitment

Relationships with SUMP guidelines

As for all the harmonization process, the actual implementation of this step crucially depends on the starting context – i.e. Whether the city has, is developing or intends to develop a SUMP.

According to the individual situation, the SIMPLA guidelines interact with the sump guidelines in a specific and more definite way. That is to say that, since sump guidelines describe the process to develop a (new) SUMP where one does not exist, in case the situation falls into one of the other two general categories (existing sump or at some point in its development), the instructions and suggestions contained in the sump guidelines may be used to adjust and fine-tune the plan towards harmonization with a SECAP.

Looking at the SUMP guidelines, step 2.1.1 is connected to phase 'Preparation and analysis' – step 1 'Set up working structures" activity 1.3 Ensure political and institutional ownership' and step 2 'Determine planning framework' - activity 2.2 'Link with other planning processes' – and phase – 'Strategy development' - step 5 ' Develop vision and strategy with stakeholders' – activity 5.1 'Agree common vision of mobility and beyond'. The latter is further developed and implemented under step 2.3.1 'harmonization of vision' of these guidelines.

Relationship with SECAP guidelines

As for all the harmonization process, the actual implementation of this step crucially depends on the starting context – i.e. whether the city has a SECAP, it is developing a new one from scratch or based on a previous SEAP. Specifically, the Covenant of Mayors offers a growing range of "technical documents" to guide Municipalities in drafting a SEAP, implementing specific parts such and monitoring the plan.

Looking at the SEAP/SECAP guidelines (How to develop a Sustainable Energy Action Plan Guidebook part I) the whole Chapter 2 is devoted to "Political Commitment", therefore is connected to Step 2.1.

This chapter explains how to establish political commitment for the harmonization process.

SUMPs and SECAPs are based on formal political commitment from the local authority's political decision makers. Therefore, all necessary activities for the harmonization will be triggered by the decision makers, typically the Mayor, who should be informed about the potential and benefits of harmonization by informed stakeholders and by senior officers working for the local authority.

POLITICAL SUPPORT TO THE HARMONIZATION PROCESS IS PARAMOUNT

To ensure the success of the harmonization process, sufficient empowerment and support need to be provided by the local authority's key decision makers, by allocating adequate human resources with a clear mandate and sufficient time and budget to prepare the local authority's harmonized SECAP and SUMP.

To start the harmonization process, a meeting is to be held with the local authority's key decision makers and senior officers to discuss the goals of the harmonization process and the advantages of a harmonized SECAP and SUMP. It is essential to provide convincing information regarding the practicalities of the harmonization process (see par. 1.2).

As an output of this meeting, formal political commitment regarding the harmonization process should be announced in the form of an overarching vision including and merging the specific visions of SECAP and SUMP. It is an opportunity to improve each plan, for example:

• Update the SECAP and/or the SUMP including new actions;

• Harmonize the SECAP and SUMP with other plans (e.g. land use plan, regional mobility plan, etc.);

• Involve stakeholders.

The political commitment clearly states the objective of harmonization and the planned deadline. It appoints a "project manager" in charge of the harmonization process. It also includes a commitment to regular information on the follow-up of the implementation process.

Expected output document: *formal political commitment setting the objective to harmonize SECAP and SUMP, with a "harmonized vision on sustainable mobility, energy and climate adaptation" and appointment of a "harmonization coordinator" as project manager.*

2.1.2 Setting up the harmonization team

Relationships with SUMP guidelines	**Relationship with SECAP guidelines**
Looking at the SUMP guidelines, Step 2.1.2 is connected to Phase 'Preparation and analysis' - Step 1 'Set up working structures' – Activities 1.1 'Evaluate capacities and resources' and 1.1 'Create inter-departmental core team' and Step 2 Determine planning framework Activities 2.1 'Assess planning requirements and define geographic scope', 2.2 'Link with other planning processes' and 2.3 "Agree timeline and work plan'.	Looking at the SEAP/SECAP guidelines (How to develop a Sustainable Energy Action Plan Guidebook part I), Chapter 3 is focused on "Adapting administrative structures", therefore is connected to Step 2.1.2. Moreover, 'Adapting city structures, including allocation of sufficient human resources' is a formal commitment of those signing the Covenant of Mayors.

The project manager summons a kick off meeting, involving the local authority's department directors. In this meeting the members of the harmonization team and their degree of involvement need to be defined. Departments to involve may include: urban planning, environment, transport and mobility, statistics, ICT, public procurement, PR, etc.

IT IS PARAMOUNT TO INVOLVE IN THE HARMONIZATION TEAM THE KEY PERSONS IN CHARGE FOR THE EXISTING SECAP AND/OR SUMP WHEN APPLICABLE.

To avoid the perception that one of the two plans prevails over the other, it is advisable not to appoint the SECAP or the SUMP coordinator as manager of the harmonization team. All the required technical and communication skills to develop the SECAP and SUMP should be well represented. Not all the team members need to be permanent members of the team; some might be

required for limited tasks or on an ad-hoc basis. The time of involvement into the harmonization process needs to be defined.

EXAMPLE: CITY OF AREZZO (Italy)

The development of the city's SEAP started after the adoption of the SUMP draft by the Mayor's Cabinet in January 2015. The SEAP, passed by the Council in July 2016, benefitted from a series of interdisciplinary meetings to coordinate the two plans, led by the Department for the environment and the Department for urban planning and land use. A multidisciplinary team was created, involving political decision makers (2 deputy mayors, for environment and urban mobility and traffic, respectively). Technical officers were involved from the urban mobility unit and the environment protection unit. External consultants were involved for the development of both SEAP and SUMP. The SUMP and SEAP teams cooperated in the collection and elaboration of data regarding transport.

Arezzo's SEAP and SUMP are now aligned in terms of actions contained in the two plans.

EXAMPLE: CITY OF PORDENONE (Italy)

Exploiting the major opportunity offered by the need to fully revise the city's land use and development plan, Pordenone's SEAP and SUMP were developed in parallel and in the overall framework of the abovementioned plan, in a process started in 2014 and completed in 2016. A multidisciplinary team was set up to align contents and approaches in SEAP and SUMP, involving partners and stakeholders internal and external to the local authority.

In particular, overall coordination was entrusted to the Department of land management, infrastructure and environment. Political decision makers were actively involved (3 deputy mayors for environment, urban mobility, urban planning and land use planning, respectively). Technical officers were involved from the urban mobility and traffic unit, the environment unit, the complex operative unit for land policies. External consultants were involved for the development of three plans (land use and city development, SEAP and SUMP). Data collected for overlapping areas (particularly traffic) were used jointly for the development of SEAP and SUMP and overlapping actions aligned and shared between the two plans.

The team may be composed of a small number of members during step 2 (planning of the harmonization process), and be supplemented by more members in step 3 (implementation). External consultants might be useful to support the process or individual tasks. Typical tasks to commission to external consultants are tasks for which the municipality lacks own resources, like data collection or the facilitation of the participatory process.

At this stage, a preliminary estimate of the required resources including time spent by the team and budget required for external consultants is done to provide a framework for further planning. It has proven practical to create a shared folder for data on the municipal server, accessible to all the SEAP/SECAP, SUMP and harmonization teams. A common database might be considered, including the rules for data collection, storage and updating.

Expected outputs
1. *Document: outline of skills required, preliminary budget, assessment of staff and consultants required for the harmonization process.*
2. *Appointment of the initial harmonization team and outline of the full team*
3. *Shared folder for data storage during the harmonization process*

2.2 Step Two: **Planning**

2.2.1 Initial assessment

Relationships with SUMP guidelines

Looking at the SUMP guidelines, Step 2.2.1 is connected to Phase 'Preparation and analysis' - Step 1 'Set up working structures' – Activities 1.1 'Evaluate capacities and resources' and Step Determine planning framework Activities 2.1 'Assess planning requirements and define geographic scope', 2.2 'Link with other planning processes', 2.3 'Agree timeline and work plan' and 2.4 "Consider getting external support".

Relationship with SECAP guidelines

Looking at the SEAP/SECAP guidelines (How to develop a Sustainable Energy Action Plan Guidebook part I), Chapter 5 deals with Assessment of the current framework therefore is connected to Step 2.2.1.

This chapter explains how to produce a complete and consistent initial assessment.

The harmonization team firstly needs to analyse the current way of working on the SECAP and SUMP processes. The purpose is gaining an understanding of the quality and efficiency of current operations and evaluating their performance. The benefits of this assessment are:

- Developing a common understanding of the current processes;

- Describing the inputs, sequence (work flow) of steps, hand-offs/transfers, approvals, people, technology, and rules involved in producing outputs;

- Identifying opportunities for improvement;

- Creating a report on the state of the art of the measures (progress in relation to objectives, incurred costs, consumed resources, etc.) describing current performance;

- Identifying the gaps between stakeholders' needs and current performance;

- Identifying parts of the current process that are non-value adding from the stakeholders' perspective.

FACTORS WHICH POTENTIALLY HAVE AN IMPACT ON THE HARMONIZATION PROCESS

Legal requirements;

Organizational structure and responsibility for energy planning, environment, and mobility;

Physical distance between departments;

Personal differences (individual interpretations of rules and procedures, personal preferences, knowledge sharing, cultural factors);

Organizational culture (communication, coordination and consensus-building procedures)

Quite frequently, data collection and evaluation are outsourced to external consultants. The following documents should be reviewed:

- Relevant legislation and documents with an impact on SECAP and SUMP (for example municipal budget, land use plan, city council decisions, etc.);

- Sources of information used in the SECAP (energy consumption of residential buildings, energy consumption of public and private tertiary buildings, transport, local production from RES etc.) and SUMP (mobility), availability of data, correctness of data, accessibility, consistency of data, completeness, procedures to update the data regularly;

- Other relevant plans (e.g. urban development plan, traffic plan, regional mobility plan...) that may be used as a source of data or may somehow influence or constrain SECAP and SUMP.

Initially, in a SECAP a baseline needs to be drawn regarding the emissions of carbon dioxide in the area of the municipality. This includes the collection and evaluation of data.

DATA	Characterizing the number, size, energy consumption of **Private Buildings**
	Characterizing the number, size, energy consumption of **Public Buildings**
	Characterizing the number, size, energy consumption of **Public Lights**
	Characterizing the number, size, energy consumption of **Public Undertakings** (water supply, waste water treatment, waste management, recreation and sports facilities...)
	Characterizing the energy consumption of **Public Transport**

During the initial assessment, as a preparation for the actual harmonization, the harmonization team identifies sources for these data, data acquisition methods, access to the data, data accuracy, completeness and consistency.

For a SUMP, an initial context is defined, including data on mobility demand, accessibility, modal split, socio-demographic and economic features, fuel consumption and emissions.

Overlapping areas regarding data in SECAPs and SUMPs are mainly those regarding transport. If these data are collected for a SUMP, the team might make them available to support a SECAP extrapolating data on fuel consumption and carbon dioxide emissions. Vice versa, SECAP data on fuel consumption in the region can be made available for a SUMP.

Tools specific for this phase are available in the appendices.

2.2.2 Involvement of partners and stakeholders

Relationships with SUMP guidelines	**Relationship with SECAP guidelines**
Looking at the SUMP guidelines, Step 2.2.2 is connected to Phase 'Preparation and analysis' – step 1 'Set up working structures" activity 1.4 'Plan stakeholders and citizens involvement' as well as Phase – 'Strategy development' Step 4: 'Build and jointly assess scenarios' - Activity 4.2: 'Discuss scenarios with citizens and stakeholders'	Looking at the SEAP/SECAP guidelines (How to develop a Sustainable Energy Action Plan Guidebook part I), Chapter 4 'Building support from stakeholders' deals with identification, engagement and communication with relevant stakeholders, and is consistent with Step 2.2.2.

The number of stakeholders can be very large, therefore you should first identify the various types of stakeholders that need to be involved in the harmonization process.

A good starting point is asking decision makers, the harmonization team members and other interested parties the following questions:

• Who will be affected by the success or failure of the harmonized SECAP and SUMP?

• Who will evaluate and sign off on the harmonized SECAP and SUMP when they are delivered and implemented?

• Are there any other internal or external contributors to the SECAP and SUMP whose needs must be addressed?

• Who will develop the harmonized SECAP and SUMP?

• Who will implement and manage the harmonized SECAP and SUMP?

• Who will support harmonized SECAP and SUMP?

• Is there anyone else?

After the stakeholders for the harmonization process have been identified, it is time to start recruiting the stakeholder representatives who will actively participate in the harmonization process. Of particular interest are those who will be directly involved in the harmonization activities. Before approaching any individuals to become stakeholder representatives, you should attempt to define exactly what their roles and responsibilities are.

WHEN DEFINING STAKEHOLDERS' ROLES, BE SURE TO CAPTURE THE FOLLOWING INFORMATION:	
Name	Name the stakeholder's role.
Brief description	Briefly describe the stakeholder's role and what it represents with respect to the harmonization process.
Responsibilities	Summarize the role's key responsibilities with regard to the harmonization process. Capture the value the role will be adding to the harmonization team.
Involvement	Briefly describe how they will be involved.

The following questions can help you define the stakeholders' roles:

• Is every stakeholder type represented?

• Is every affected business unit and department represented?

• Who will take the responsibility for the requirements specification?

• Who will attend the use case modelling and other requirements workshops?

• Who will provide the domain knowledge required to develop a successful solution?

• Who will be invited to participate in market research undertaken to justify and validate the product?

• Which stakeholder types are the most important?

• Who is the target group for the product under development?

There are some stakeholders that, because of their specific duties and institutional functions, may have access to data and information which may prove essential in the development and harmonization of strategic energy and mobility plans. These stakeholders should be considered as partners in operations and the exchange of information and knowledge with other parties may prove as beneficial to them.

Various techniques can be used to involve the stakeholder representatives in the harmonization process. They include the following:

Interviews

Interviews are among the most useful techniques for involving stakeholders in a harmonization process. If you have a good understanding of a stakeholder's role, you can keep the interview focused on the issues at hand.

Questionnaires

Questionnaires are a very useful technique, particularly when a large number of stakeholder representatives are involved. Low return rates should however be considered.

Focus groups

Focus groups are used to collect specific feedback on specific topics. Sets of stakeholder representatives are combined into a focus group to get their perspective on specific aspects of the system.

Advisory boards

The establishment of an advisory board provides a way to collect stakeholders' perspectives without the overhead of a focus group. The disadvantage compared to a focus group is that the composition of the advisory board cannot be varied according to the topic.

Workshops

Workshops can provide a supportive environment to capture requirements, build teams, and develop their understanding of the system. Successful workshops require a defined agenda that is sent to participants beforehand along with any background reading material.

Reviews

Reviews are formal or informal meetings organized with the specific intent to review something, be it a document or a prototype.

Role playing

This is a facilitation technique that is typically used in

conjunction with workshops to elicit specific information or feedback.

The choice of the technique to be implemented is very closely coupled with the definitions of the stakeholders' roles and the availability of actual individuals to take on the responsibilities defined by the roles. There is no point in deciding that a project will have full-time ambassador users attending weekly workshops if there are no experienced stakeholders in a position to take on this level of commitment.

From the moment the engagement has been achieved, the harmonization team has to assume this engagement will last until the end of the harmonization process, implying regular communication and update on progress, even when the stakeholders' participation is over. It is convenient to keep a record of all communications and activities related to stakeholders, as well as to let them see their input and opinions have been considered by providing feedback even in case their suggestions cannot be implemented.

Tools specific for this phase are available in the appendices.

METHODS FOR ACTIVELY INVOLVING STAKEHOLDERS
Ensure that the intended message is understood and the desired response achieved
Early consultation helps get useful information and ideas, so ask questions!
Careful planning with experienced people, who know the issues, has significant payoff
Consultations help build trust with the stakeholders
Stakeholders can be treated as risk and opportunities that have probabilities and impact
Stakeholder involvement helps understand an action's success rate

2.2.3 Work plan

Relationships with SUMP guidelines

As for all the harmonization process, the actual implementation of this step crucially depends on the starting context – i.e. whether the city has, is developing or intends to develop a SUMP.

According to the individual situation, the SIMPLA guidelines interact with the SUMP guidelines in a specific and more definite way. That is to say that, since SUMP guidelines describe the process to develop a (new) SUMP where one does not exist, in case the situation falls into one of the other two general categories (existing SUMP or at some point in its development), the instructions and suggestions contained in the SUMP guidelines may be used to adjust and fine-tune the plan towards harmonization with a SECAP.

Looking at the SUMP guidelines, Step 2.2.3 is connected to Phase 'Preparation and analysis' - Step 1 'Set up working structures' – Activities 1.1 'Evaluate capacities and resources' and Step 2 Determine planning framework Activities 2.1 'Assess planning requirements and define geographic scope', 2.2 'Link with other planning processes' and 2.3 "Agree timeline and work plan', as well as Phase 'Measure Planning' in Step 7 'Select measure packages with stakeholders' Activity 7.3 'Plan measure evaluation and monitoring' and in Step 8 'Agree actions and responsibilities', Activity 8.2 'Estimate costs and identify funding sources', Activity 8.3 'Agree priorities, responsibilities and timeline'.

Relationship with SECAP guidelines

Development of a work plan for a SEAP/SECAP is addressed to in the guidelines 'How to develop a Sustainable Energy Action Plan Guidebook part I', chapters 1.1 (process) and 1.5 (financial resources).

The work plan for the harmonization of SECAP and SUMP should be developed to address all objectives and targets, detailing how and when they are to be met. A clear structure will subsequently facilitate monitoring the progress towards meeting the objectives and achieving the targets. The action plan should include schedules, resources and responsibilities, yet it should be flexible enough to be revised if necessary to reflect the evolution of objectives and targets.

Based on the analyses done in the chapter 'Initial assessment' the opportunities for harmonization are identified and a corresponding work plan to exploit them should be designed. The following table lists potential areas for harmonization between the procedures to develop a SECAP and SUMP and potentially applicable activities for harmonization in the work plan (Table 3).

A monitoring plan should be part of the work plan, because it provides the harmonization process of the systematic approach to assess the impact of implemented measures and to evaluate the performance indicators set in the plan. The monitoring plan outlines the key evaluation and monitoring questions and describes how, which and when monitoring and evaluation activities will be carried out, who is responsible for them, what resources are necessary and who will participate. This helps enable sufficient allocation of resources, avoids unnecessary effort for data collection, improves acceptance and contributes to good project management during the implementation of the harmonization process

STEP	HARMONIZATION STRATEGY INCLUDES MAINLY
INITIATION (stakeholders´ involvement, resources)	**Replication activities** Replication is relevant for independent but similar units working on the elements of a SECAP and SUMP, with autonomous managers, data, which are locally owned, and with limited access across departments
PLANNING (initial assessment, vision, objectives, financing)	**Coordination activities** Coordination is applicable when there are individual, separate administrative units responsible for the formulation of a SECAP and SUMP, who need to know each other, who do shared transactions with an impact on each other.
ACTION PLAN	**Coordination activities**
IMPLEMENTATION OF MEASURES	**Variation activities** Targeted variation will relate specific measures to the individual administrative units, working with various clients, autonomous managers, and little data standardisation.
MONITORING AND CONTROLLING	**Unification activities** Unification can be considered if the same administration unit does the corresponding activities within the formulation of a SECAP and SUMP; when there are common standards available (e.g. for data collection) an integrated procedure is possible.
UPDATE AND CONTINUATION	Replication activities

Table 3: Potential areas for harmonization
.

How to write a work plan

1. Identify the areas for harmonization

2. Determine your goals and objectives
Goals and objectives relate to results to accomplish through the work plans in SECAPs and SUMPs.

3. Organize your work plan by "SMART" objectives
Smart targets are:

- Specific: Describing the desired results in quantitative and qualitative terms which will be clear to all stakeholders.

- Measurable: The current baseline has been established by measurements and the desired change is defined. Measurement methods and resources are in place to monitor the changes that occur.

- Achievable: Goals and objectives are based on the technical, operational and financial competencies available and stakeholder agreements/commitments that have been made

- Relevant: Most important is to choose targets that matter, that improve urban mobility and that are synchronised with other urban planning targets

- Time-bound: key dates are given for the achievement of the targets to allow timely monitoring of the desired progress

4. List your resources
The workplan includes resources that will be necessary to achieve your goals and objectives. Resources will depend on the purpose of your work plan.

5. Identify any constraints
Barriers for achieving goals and objectives are identified and corresponding countermeasures defined...

6. Define who is accountable
Accountability is essential for a good plan. Who is responsible for completing each task? There can be a team of people working on a task (see resources) but one person has to be answerable for the timely completion of a given task.

7. List specific action steps
Identify what needs to happen to complete your objectives.

8. Create a schedule
Unexpected problems will happen. Space needs to be built into the schedule to allow for correction.

GANTT CHART

A Gantt chart is a bar chart representing the sequence of activities in a project schedule. Gantt charts show the start and finish dates of the elements of a project. Gantt charts also show the dependency between activities. Gantt charts are often used to show the current status of a project using percent-complete shadings and a vertical today line.

Gantt Project: Free project scheduling and management app for Windows, OSX and Linux. Download Link: *http://www.ganttproject.biz/*

Expected outputs Document: *work plan for the harmonization process*

2.3 Step Three: Implementation

2.3.1 Harmonization of vision

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SUMP relationships with SUMP guidelines

Looking at the SUMP guidelines, Step 2.3.1 is connected to Phase : 'Strategy Development' - Step 5 'Develop vision and strategy with stakeholders' - Activity 5.1 'Agree common vision of mobility and beyond' and Activity 5.2 'Co-create mobility strategy and agree objectives for all modes with citizens and stakeholders'

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Relationship with SECAP guidelines

Looking at the SEAP/SECAP guidelines (How to develop a Sustainable Energy Action Plan Guidebook part I), chapters 6.1 and 6.2 call for a vision and specific objectives towards a sustainable energy future.

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The vision guiding the harmonized drafting/re-elaboration of strategic energy, transport and mobility plans in any local authority should reflect a clear political statement, a route to steer strategic as well as operational choices.

Defining a strategic vision of what the city should look like in ten years' time generates a common framework in which SECAPs' and SUMPs' visions contribute to the achievement of the same strategic goals.

This is why the elaboration of such a vision needs to take into account the views of stakeholders and main territorial actors and strive to provide an overarching, common orientation for policies and measures, encompassing bipartisan consensus as much as possible to guarantee ample, long-lasting ownership of the plans.

Defining a vision for the harmonization of SECAPs and SUMPs may draw from previous political statements which decision makers prompted, for instance during

their electoral campaign (such as a mandate program or similar) or may provide the opportunity to design a wider, more comprehensive orientation, encompassing a whole set of policies and measures in several inter-related fields besides energy and mobility (e.g. urban planning, city logistics, city's quality and attractiveness for citizens and visitors). The "vision" chapter of SECAP and SUMP has to be consistent with the Vision produced in Step1.

If necessary, in order to successfully perform the harmonization of the programmatic vision to be included in the plans, it is possible to compare the strategic objectives based on the results obtained comparing the data contained in both plans. Looking at both plans, the joint analysis of data, identified and read with different planning purposes, could bring out some critical issues in the city leading to a review of both vision and strategic objectives.

2.3.2 Sharing common data sets and data collecting methods for BEI/MEI and for context analysis Harmonization of vision

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Relationships with SUMP guidelines[6]

Looking at the SUMP guidelines, Step 2.3.2 is closely related to Phase 'Preparation and analysis' - Step 3 'Analyse mobility situation' - Activity 3.1 'Identify information sources and cooperate with data owners' and Phase 'Strategy Development' in Step 6 'Set targets and indicators' activities 6.1 ''Identify indicators for all objectives' and 6.2 'Agree measurable targets'.

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Relationship with SECAP guidelines

Data collection of data is a critical part of SEAP/SECAP, as described in the guidelines 'How to develop a Sustainable Energy Action Plan Guidebook part 2', chapters 4.2.2.

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[6] Please take into consideration also the guide "The role of real time data in SUMPs" available at
https://www.eltis.org/guidelines/second-edition-sump-guidelines.

Sharing data among departments within the same local authority may appear obvious, however experience shows that creating a common data repository (with a more or less complex form, ranging from a shared folder system to a proper database) and common standards for data collection and storage may well prove a challenge and a very much needed procedural innovation. Lack of coordination among different departments in the same city quite often leads to collecting the same data twice, using different measurement units and standards for data storage. Collecting data for the elaboration and/or monitoring of SECAPs and SUMPs presents common, often overlapping fields and actions as well as significant differences related to procedures and methodologies (e.g. gathering data from existing sources rather than implementing direct measurements on the ground). This translates into the opportunity to exploit economies of scale, avoid duplications and use more refined data when available.

A typical example is collecting traffic-related CO_2 emissions in an area using actual vehicle counting data, which is typical for the elaboration of a SUMP or data on fuel sold in a specific territory, often available only at a county level (as typically used in SECAP elaboration). The comparison of two sets of data, acquired by different methods, can help to identify e. g. discrepancies between fuels sold and vehicles actually circulating in an area. In case of significant discrepancies, a choice may be made to opt for the more detailed and reliable information, which may be the one gathered on the ground. Different techniques and methodologies typically have (sometimes significantly) different costs. Exploiting interdepartmental synergies and choosing wisely where to invest for data gathering may help choose the least cost-intensive way to retrieve reliable data.

One additional feature related to data gathering and sharing is the opportunity to have relevant support from a range of local actors and stakeholders, providing data and information they may have due to their institutional functions. In return, the exchange of information and knowledge provided by other parties may prove as beneficial to the stakeholders involved in the process.

The data on energy consumption used to define the BEI (Baseline Emission Inventory) in SECAP have to be consistent with data identified in SUMP's initial assessment (Step1). More specifically, data on energy consumption for vehicles have to be consistent with the empirical and simulation results typically available and necessary for SUMP's elaboration and monitoring.

SIMPLA, therefore, suggests to compare CO_2 emissions resulting from both SECAP and SUMP data collecting methods. The output of this comparison process should be a common methodology to evaluate CO_2 emissions, ensuring the same CO_2 emissions values in the same year in the two plans at least for the overlapping sectors (e.g. private transport CO_2 emissions). Taking into account that the BEI defined at the time of the submission of the SECAP to the CoMO cannot be changed and has to be the baseline for the following emission inventories in the monitoring process, for the purpose of the harmonization process an alternative new BEI can be defined, choosing a base year coinciding with the year of the initial scenario of the SUMP.

In order to obtain a correct emissions evaluation for both plans, the same set of CO_2 emission factors should be used. Whether you decide to use standard IPCC (based on the carbon content of each fuel), or LCA emission factors (taking into consideration the overall life cycle of the energy carrier), SIMPLA suggests to use the "CoM Default. for the Member States of the European Union"[7],

In order to optimize data collection needed to elaborate context analyses, BEI/MEI, actions' impacts, initial and future scenarios, a shared database of mail contacts and site links should be created by the harmonization team. This database should be made available to the various departments, putting each of them in charge of specific data collection, saving time and trying to avoid duplications.

One possible technique to tackle this step is the following. Identify the reference years of the data contained or cited in the plans; evaluate the congruence of data (if referring to comparable periods); compare data sources and processing methods where available. Formulate written proposals for alignment of datasets reference years and sources; if necessary modify data values in the plans. Produce an activity report, including a table compiled on the basis of the indications above.

Based on the results of this step, it is possible to re-address the previous step involving policy-makers.

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[7] Make reference to version 2017 downloadable at *http://data.jrc.ec.europa.eu/dataset/jrc-com-ef-comw-ef-2017* (please check JRC website for future updates)

EXAMPLE: SYSTEMATIC APPROACH FOR TRACKING ENERGY EFFICIENCY

Croatia has introduced two national internet platforms for monitoring energy efficiency development: one is ISGE, a dynamic software for measuring actual energy consumption in public buildings, and the other is SMIV, a monitoring platform intended for registering all savings. ISGE, or in English EMIS – Energy management information system – was developed under the United Nations Development Programme in Croatia, which undertook the first brave steps into a more energy efficient public sector. ISGE was introduced to all public buildings and monitors their energy consumption through energy bills for electricity, heating and water. The system is currently run manually, meaning that each public building has a designated person who enters the bills on a monthly basis.

Municipalities use this platform widely when developing SECAPs.

The other Internet platform that has been introduced is the National System for Monitoring, Measuring and Verifying Energy Savings (Croat. SMIV), through which all realized energy savings are monitored at a national level. Croatia is one of the first EU countries that have a system for planning and monitoring the implementation and notification on the realization of all savings. SMIV is being used by state institutions, local and regional governments, energy service providers and the Environmental Protection and Energy Efficiency Fund. SMIV monitors the implementation of projects and energy efficiency measures in all sectors of final consumption (households, utility, transport, industry) and the realization of energy savings and greenhouse gas emissions reductions set in the national and local energy plans.

2.3.3 Harmonization of reference years and monitoring timeframe

Relationships with SUMP guidelines

Looking at the SUMP guidelines, Step 2.3.3 is closely related to Phase 'Strategy Development' in Step 4 'Build and jointly assess scenarios' activity 4.2 'Discuss scenarios with citizens and stakeholders' and in Step 6 'Set targets and indicators' activities 6.1 ''Identify indicators for all objectives' and 6.2 'Agree measurable targets' and Phase 'Measure Planning' in Step 7 'Select measure packages with stakeholders' Activity 7.3 'Plan measure evaluation and monitoring'.

Relationship with SECAP guidelines

The reference year is referred to as 'baseline year' in guidelines 'How to develop a Sustainable Energy Action Plan Guidebook part 2' and dealt with in chapter 2.1.

A SECAP provides for the definition of a baseline year to be used as the reference point to draw the Baseline Emission Inventory (BEI).

The baseline year could be much earlier than the SECAP's approval year (the guidelines suggest that it should be 1990 or - if the local authority does not have data to compile an inventory for 1990 - the closest subsequent year for which the most comprehensive and reliable data can be collected.). A SUMP foresees instead the definition of a "state of the art" at the time of the plan initiation.

Once the baseline year has been selected SECAPs aim at decreasing them by at least 40% by 2030.

The approach used in SUMPs is less defined. Each SUMP sets its time horizon to implement actions and achieve targets independently. Such time horizon is usually fixed at 10 years after the time of approval of the plan. Moreover, while SEAPs define the reduction of CO_2 emissions as the only target, each SUMP defines its own set of objectives, indicators, approach for their definition and deadline for their achievement.

For example, it is possible to define the reduction of the use of private conventionally fuelled vehicles in favour of low carbon modes (public transport, cycling, walking etc.) as a specific objective and to define the related impact indicator in terms of modal split evolution (for example by increasing walking & cycling from 17% to 23% in 5 years).

SIMPLA suggests introducing in SUMPs also a 2030 scenario and defining also for the SECAPs a scenario in line with the SUMP timeframe. Drafting these scenarios could at first sight appear to be an unnecessary burden, yet this is the only way to achieve the harmonization and the comparability of both plans' objectives as a prerequisite for the setting up of a joint monitoring

procedure of results and the consequent revision of the plans' objectives.

The SECAP monitoring procedures entail monitoring the achievements in two ways: every two years, at least the progress made by the actions should be assessed; every 4 years, besides monitoring the actions an update of the CO2 Monitoring Emissions Inventory – MEI is required (the MEI has the same structure of the BEI, but the data are referred to the most recent available data).

The SUMP guidelines suggest monitoring the progress made towards the achievement of the plan's objectives every 1-5 years. The suggestion for harmonization is updating MEI and assessing the progress made by the SECAP actions every two years and revise SUMP objectives and actions at the same time, as shown in Figure 4:
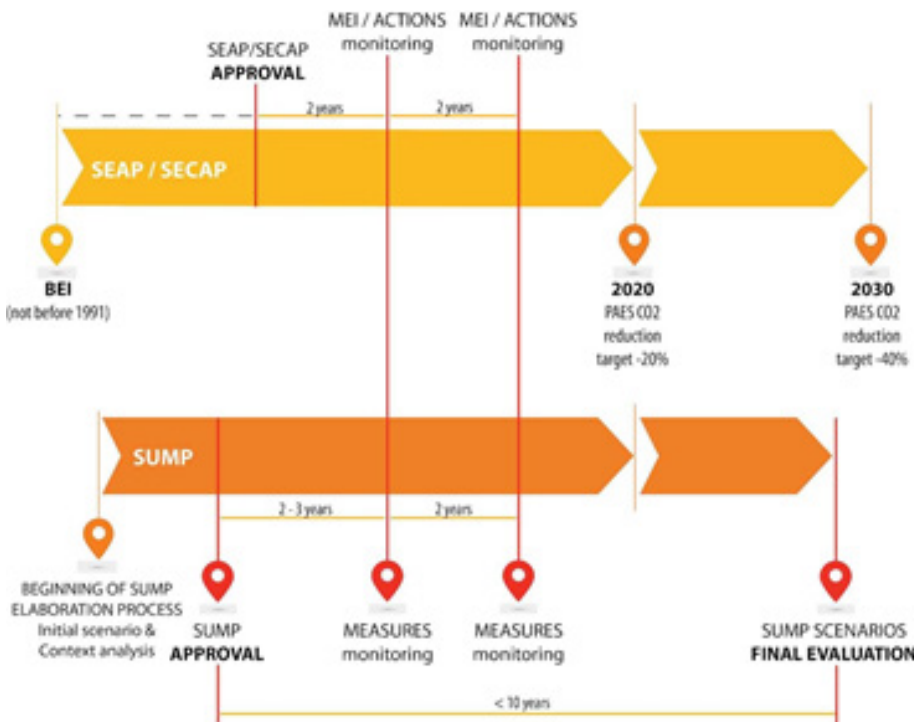

Fig 4: Schedule for harmonized monitoring of SECAPs and SUMPs

2.3.4 Harmonization of actions

SUMP relationships with SUMP guidelines

Looking at the SUMP guidelines, Step 2.3.4 is closely related to and Phase 'Measure Planning' in Step 7 'Select measure packages with stakeholders' Activity 7.1 'Create and assess long list of measures with stakeholders' and in Step 8 'Agree actions and responsibilities' Activity 8.1 'Describe all actions' and Activity 8.3 'Agree priorities, responsibilities and timeline'.

Relationship with SECAP guidelines

Looking at the guidelines 'How to develop a Sustainable Energy Action Plan Guidebook part 1', relevant actions are dealt with in chapters 8.2 'transport'

One of the intervention areas of a SECAP is mobility. The harmonization process should therefore lead to a total correspondence between the mobility actions included in SECAP and the actions described in the SUMP.

The harmonization team is advised to refrain from just copying and pasting the actions described in the existing SUMP into the SECAP and vice-versa. First of all, the

consistency of the sections described in SUMP should be checked against the new harmonized objectives and some of the mobility actions included in the SECAP could be included in the SUMP.

But this is just the starting point of the harmonization of actions. Synergies and correlations between different actions should be checked and could require some

additional measures. In general terms, SECAPs and SUMPs should be thoroughly revised in order to identify repercussions on and connections to mobility aspects in energy actions and vice-versa.

Analysing the objectives in both SECAP and SUMP will help the harmonization team in the identification of joint actions that can be beneficial to both plans. The following is a possible operational methodology to address this step.

Verify that all the actions contained in the SUMP have a correspondence in the SECAP in the section Transport & Mobility and vice versa. In case of total absence of one or

more actions or differences with respect to the description of similar actions, propose modifications and additions in order to make the plans aligned.

Analyse all the actions of the SECAP, trying to understand which (especially outside the Transport & Mobility section) can have significant impacts on the SUMP and the related indicators. On the basis of previous analysis results, propose changes and additions to the SUMP so that the plan can take into account these influences. If necessary, propose also a reformulation of the actions contained in the SECAP, so that the relevance for the SUMP is more accentuated. Report a brief summary of the activity in to the policy-maker.

2.3.5 Harmonization of reference years and monitoring timeframe

Relationships with SUMP guidelines	Relationship with SECAP guidelines
This step goes in the direction of searching for synergies and mutual improvement in the monitoring processes conducted for the measures contained in (typically existing) SUMPs and SECAPs, yet without prejudice to standard monitoring procedures normally used for SUMPs (and SECAPs). Looking at the SUMP guidelines, Step 2.3.6 is closely related to Phase 'Implementation and monitoring' - Step 11 'Communicate, monitor and adapt' - Activity 11.1 'Monitor progress and adapt'	Step 2.3.5 is related to chapter 11 of the general guidelines 'How to develop a Sustainable Energy Action Plan Guidebook part 1' and also to the 'Quick Reference Guide Monitoring SECAP implementation'.

Harmonization of two different CO2 emissions evaluation processes is not the only technical aspect to deal with.

In order to monitor progress, both SECAP and SUMP utilize several indicators (as described in par. 2.3.1), which are usually directly related to specific actions. A common set of indicators, based on the same database, with a shared methodology for updating, should be used as a reference for monitoring and evaluating actions and scenarios. The methodology for collection and sharing of data is closely linked to a constant and productive dialogue among the staff operating in different departments and responsible for the implementation of actions, both inside and outside the local authority (e.g. public and private partner companies).

It is particularly important to plan a periodic review and a potential adaptation of SECAPs and SUMPs based on their harmonized monitoring results. It could happen that some of the measures of one plan affect measures of the other (e.g. the traffic is jammed in a street due to the refurbishment of a large building or renovation of

street lighting to improve energy efficiency). Thus, it could be necessary to review the impact of such action by implementing a joint review of the two plans, recalculating the indicators and planning further and alternative measures to overcome the problem in order to reduce pollutant emissions and improve citizens' quality of life.

Please note: it is important that the results of the review are documented. Table 4 shows an example of how to summarize the results of the review. SIMPLA suggests to include the following aspects into the summary:
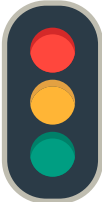
• Why actions need to be improved

• How they will be improved

• Who is in charge of the improvement

• When the improvement will be implemented

• When the next review will be done

ACTION	WHY	HOW	PERSON IN CHARGE	DUE DATE	REVIEW DATE

Table 4: Summary sheet

Rate your performance

For a clear outlook of results, SIMPLA suggests to use a colour code to signal urgency of action when completing the table above, as described in the box shown below.

	Red Urgent attention needed
	Orange Some work to do
	Green Going well

2.3.6 Formal approval of plans

SUMP relationships with SUMP guidelines

Looking at the SUMP guidelines, Step 2.3.7 is closely related to Phase 'Measure planning' – Step 9 'Prepare for adoption and financing' - Activity 9.1 'Finalise and assure quality of Sustainable Urban Mobility Plan document'.

Relationship with SECAP guidelines

Step 2.3.6 is related to the general guidelines 'How to develop a Sustainable Energy Action Plan Guidebook part 1' chapter 1.4, where the formal approval phase is defined and set into context.

After the end of the harmonization process, the revised SECAP and SUMP are submitted for approval by the City Council (or other relevant decision maker according to national law) possibly in the same session to underline their connection and to have a joint political debate.
In order to keep the harmonized plans coherent, it is indeed important that the discussion in the city council

(which in some countries includes also a public consultation) and the possible amendments are focused on both plans whenever a change in one plan affects also the other. To achieve this, it is crucial to raise bipartisan consensus on the relevance of the harmonization process and the need to keep the two plans coordinated.

2.4 Step Four: **Monitoring and controlling of the harmonization process**

2.4.1 How to assess progress in the harmonization

Relationships with SUMP guidelines

The harmonization process has as a typical project cycle structure (see section 1.2 'Definition of harmonization' and in particular figure 3 'Steps of the harmonization process'). While steps 1 ('Initiation'), 2 ('Planning') and 3 ('Implementation') have several direct connections with individual actions related to SUMP (and SECAP) elaboration, Step 2.4.1 is strictly related to the running of the harmonization process in itself (in particular it regards monitoring and evaluation of process implementation). Although this may well have indirect repercussions on the subsequent adaptation/revision/updating of the plans (step 12 'Review and learn lessons'), it has no direct connections with the SUMP guidelines used for the elaboration of the mobility plans.

(these considerations apply also to the next step)

Relationship with SECAP guidelines

Step 2.4.1 is strictly related to the running of the harmonization process in itself (in particular it regards monitoring and evaluation of process implementation). Although this may well have indirect repercussions on the subsequent adaptation/revision/updating of the plans, it has no direct connections with the SECAP guidelines used for the elaboration of the mobility plans.

(these considerations apply also to the next step)

This chapter explains how to monitor the harmonization process and perform an assessment of the work done before the formal approval of the harmonized SECAP and SUMP.

The main topics are:

- Use the "SELF ASSESSMENT QUESTIONNAIRE" (attached)

- Check the results with stakeholders

- Check the results with the decision maker issuing the initial political commitment statement

- Write the harmonization report (see 2.4.2)

- Discuss "lessons learned" with the harmonization team to improve the process for the next time.

The harmonization process monitoring and controlling activities take place in parallel with the implementation process. While the harmonization work-plan is being executed, its progress is being monitored and controlled by overseeing actions' implementation and taking corrective action if necessary.

The harmonization process is monitored and measured regularly against the work-plan to ensure that it is within

acceptable variance of costs, schedule and scope, and that risks and issues are continually monitored and corrective action taken as needed.

The main purpose of monitoring and controlling activities is to be proactive in identifying (potential) issues ahead of time and taking corrective action. Corrective action has the ultimate goal of bringing the project back in line with project objectives and constraints and improving future execution to avoid repeating the same procedures. Monitoring and controlling the process collects performance information and assesses measures and trends to forecast potential items requiring corrective action. This includes monitoring risks and ensuring that they are being managed according to the harmonization process' risk register.

Outputs Include
Recommended corrective actions
Recommended preventive actions
Forecasts
Recommended defect repair
Requested changes

The schedule control process monitors whether activities are in line with the planned timeline and identifies measures to bring the project back to schedule.

Outputs Include
Updates to the schedule model data and baseline
Requested changes
Recommended corrective actions
Updates to organizational process assets
Activity list and activity attribute updates
Updates to the Project Management Plan

The cost control process monitors deviations of costs from planned expenses which might require changes in the project budget. Where possible, measures are identified to bring the expenses back into the planned budget.

Outputs Include
Cost estimate updates
Cost baseline updates
Performance measurements
Forecast completion
Requested changes
Recommended corrective actions
Updates to organizational process assets
Updates to the Project Management Plan

The quality control process checks whether the activities and outputs are meeting the required quality standards.

Outputs Include
Quality Control measurements
Validated defect repair
Updates to the quality baseline
Recommended corrective and preventive actions
Requested changes
Recommended defect repair
Updates to organizational process assets
Validated deliverables
Updates to the project management plan

The performance reporting process collects and distributes information whether the performed activities met their goals - including status reports, progress reports and forecasts.

Outputs Include
Performance reports
Forecasts
Requested changes
Recommended corrective actions
Updates to organizational process assets

This process manages stakeholder communications and work with stakeholders to ensure that requirements are satisfied and issues are proactively resolved.

Outputs Include
Resolved issues
Approved change requests
Approved corrective actions
Updates to organizational process assets
Updates to the Project Management Plan

The following table shows an example of how to briefly summarize monitoring activities (Table 5).

Yes	No	Status Summary
Project Name:		**Project Manager:**
Reporting Period: Month of		**Today's Date:**
		Scope
		1. Has the scope changed or are there changes pending?
		2. Have the deliverables/objectives changed?
		3. Is the quality of the deliverables being affected?
		Time
		4. Is a deliverable/milestone about to be missed?
		5. Has the estimated schedule changed?
		6. Are there new problems or risks which might impact on the schedule?
		Cost
		7. Are there any changes in the estimated costs?
		8. Are there any issues affecting the team's performance?
		9. Is there a problem with resources?
Explanation of "Yes" items: (For every question answered "yes", provide an explanation and think about countermeasures.)		

Table 5: Example of a monitoring report

2.4.2 How to draft the harmonization report

The harmonization report is a document describing the harmonization process.

It does not need formal approval, but it is signed by the harmonization process' project manager. The report must describe the changes and improvements made on both SECAP and SUMP and the reason why they have been made. The report will be useful internally for the further reviews of the harmonization process and externally for sharing with all stakeholders the achievement of the harmonization process. The report should be written during the process, and finalized after completing step 4. A template of the harmonization report is provided. The main chapters are the following:

- **Chapter 1:** step 1 = description of what you did to initiate the harmonization process

- **Chapter 2**: step 2 = description of what you did to plan the harmonization process

- **Chapter 3**: step 3 = description of how you modified your SECAP and SUMP

- **Chapter 4**: step 4 = description of what you did to monitor the harmonization process

- **Chapter 5**: step 5 = actions planned for updating and continuing harmonization in 2 years' time.

Expected output Document: harmonization report

2.5 Step Five: **Updating and continuation**

Relationships with SUMP guidelines

Independently from the starting context, any harmonization process should result in two aligned and homogeneous plans (a SUMP and a SECAP), along with the necessary elements and prescriptions to stay harmonized over time, during their implementation and monitoring/evaluation phases. As for all processes, this needs to be attentively observed and controlled in order to avoid dis-alignments (e.g. one of the plans being modified without the subsequent modifications occurring in the other).

Looking at the SUMP guidelines, Step 2.5 is closely related to Phase 'Implementation and monitoring' - Step 12 'Review and learn lessons' - Activity 12.1 'Analyse success and failures', Activity 12.2 'Share results and lessons learned' and Activity 12.3 'Consider new challenges and solutions'.

Relationship with SECAP guidelines

Step 2.5 is closely related to the 'review' of a SEAP/SECAP referred to as 'review' in the guidelines 'How to develop a Sustainable Energy Action Plan Guidebook part 1' chapter 1.4.

This chapter explains how to plan for updating and continuation.

Every 2 years (according to the SECAP and SUMP harmonized monitoring plan) a joint review of the plans should be done by the harmonization team, following the same steps described for the initial harmonization.

The actual frequency depends on the land use planning, political, legislative, and technical context. The rationale is to focus on reviewing the achievements of the SECAP and SUMP assessing both the broader impact on energy sustainability and mobility and the effectiveness of the planning process itself. This helps to provide a sound basis for the next planning cycle.

The aims of this step are:

• Assessment of the broader impact of the measures implemented (when a sufficient number of results is available).

• Analysis of the planning process, the actual plans and their implementation with an eye to success stories and failures.

• Enhancement of the understanding of the planning process and overall impact of implemented measures.

• Documentation of lessons learned to prepare for the next SECAP or SUMP generation.

• Listing of objectives that could not be reached, but are still on the agenda.

• Communication of the "lessons learnt" to the harmonization team and key stakeholders.

• Consolidation of planning framework.

The experience from countries where sustainable urban mobility planning has been mandatory for some years shows that each planning cycle helps improve the expertise on sustainable urban mobility planning and to increase the effectiveness of the next planning cycle.

The process evaluation can use participatory observation, focus groups, and interviews. The updating phase for either SECAP or SUMP is the suitable stage to undertake the harmonization activity with the other plan.

Expected output document: plan for communication

3. Appendices

3.1 Funding opportunities

3.1.1 Established financing mechanisms

An action plan for SEAP and SUMP cannot be implemented without financial resources.

The identification of key financial resources is necessary to finance the defined actions. Most local authorities will face the problem of scarce available funds, so it is paramount to be open to use the available resources of the local authority in a targeted plan and to be creative and cooperative to gather additional funds at a national or European level. The Commission Green Public Procurement Handbook[8] is a key document to be considered when planning a public procurement related to sustainable energy and mobility. Detailed guidance on funding SUMPs is provided by the SUMP Topic Guide on Financing available on Eltis platform[9].

The financing mechanisms typically used by local authorities can be broadly grouped into four categories.

These categories describe an increasing transition from public sources of funding to commercial ones:

• Budget financing. Direct financing from local authority's budgets, the use of external grants, and the use of budget capture mechanisms.

• Funds developed specifically to address energy efficiency or sustainable urban mobility. Revolving funds are funds which are initially established from e. g. from a general budget or donor funds and become self-sustaining by returning back payments into the fund.

• Public support to leverage commercial financing. Public sector financing mechanisms, provided by donors and/or national or regional governments to local authorities, to help support or leverage commercial financing.

• Commercial financing. Commercial loans can be raised from banks or funds securing them by issuing municipal bonds.

The advantages and limitations of various financing mechanisms are summarized in Table 6.

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[8] *http://ec.europa.eu/environment/gpp/buying_handbook_en.htm*
[9] *https://www.eltis.org/guidelines/second-edition-sump-guidelines*

Mechanism	Main features	Advantages	Limitations	Performance Risk Allocation
Budget financing				
Grants	Investment costs funded by grant(s) from donor or national government	Indefinite term No financing costs	Limited grant funding available May encourage non-viable projects Not sustainable or scalable	Donor or government providing the grant
General budget	Investment costs funded from general municipal revenues	Can build market capacity No additional financing costs	Budget resources often limited Sustainability not assured	Municipality
Budget Capture	Financing to municipalities for projects from MoF, with repayment	Makes viability clearer Builds market capacity	Can be difficult to ring-fence May require recourse to budget	Municipality or financier, depending on extent of recourse
Energy efficiency funds				
Energy efficiency funds	Independent, publicly owned entity provides financing for EE to public clients, with repayments based on estimated energy cost savings	Financially self-sustaining Can finance municipalities that are not able to borrow Can leverage funds by pooling or bundling of projects and develop simple ESCO models	Recovering operating costs may be difficult in early funding years Reliance on good fund manager Needs municipal repayment mechanism	Fund in the first instance Ultimately, sponsors of the fund
Public support for commercial financing				
Dedicated Credit Lines	'Soft' public loans to commercial institutions for on-lending to municipalities for EE or sustainable mobility projects	Allows municipalities to undertake own procurement/ implementation Can be scalable Funds can revolve	Serves creditworthy municipalities only Requires strong and willing bank partners to develop project pipeline	Entity providing the credit line, commercial financier and municipality, depending on sharing of losses
Credit and Risk Guarantees	Risk sharing guarantee from donor or national government that covers part of commercial lenders' loss from loan defaults	Allows leverage of public funds Addresses risk perception of commercial lenders regarding EE and sustainable mobility projects	Can serve only a limited number of municipalities Requires strong and willing bank partners to develop project pipeline	Guarantor for the covered part of the loan and commercial financier for the uncovered part

Mechanism	Main features	Advantages	Limitations	Performance Risk Allocation
Commercial financing				
Vendor Credit	Equipment vendor supplies equipment with payments spread over a period of time	Little or no requirement for collateral or recourse limit Mobilizes commercial financing Does not count against borrowing	Limits choice of equipment to that offered by vendor Financing only available for short terms	Vendor and/or municipality, depending on what collateral and recourse is provided
Lease of Assets	Financing of equipment under lease contract, usually with lease payments (in case of EE this could be based on estimated energy savings)	Provides a means of paying the costs of equipment over time Lease may not count against borrowing limit	Relies on local banks and leasing companies for reasonable cost financing and to assume credit risks Serves creditworthy municipalities only	Lessor and/or municipality, depending on what collateral and recourse is provided
Commercial Loans	Commercial financing institutions lend money to municipalities for EE projects either directly or through ESCOs using the ESPC mechanism	Mobilizes commercial financing Can be scalable and sustainable Full project cycle is financed With ESPC, risks are transferred to the ESCOs	Banks or ESCOs exposed to bear credit risk Serves creditworthy municipalities only ESCO industry hard to develop High due diligence costs	Commercial financier, municipality, or ESCO
Municipal Bonds	Municipality issues bonds to private parties and use proceeds to finance EE or mobility projects	Mobilizes commercial financing Allows municipalities to undertake own procurement/ implementation Can be scalable and sustainable	Can have high transactions costs Requires a developed municipal bond market Limited to large and highly creditworthy municipalities	Commercial financier

Table 6: Advantages and limitations of various financing mechanisms[10]

3.2 Innovative financing opportunities[11]

3.2.1 Crowdfunding

Crowdfunding means to fund a project by raising money from a large number of people. Crowdfunding is a form of alternative finance. Several models of crowdfunding exist. They can be classified in two main categories, which differ in respect to the relationship between the funders who provide financial resources and those that receive the funds to implement a project.:

1. In donation crowdfunding, the contributions of the funders are not connected to a financial return;

2. In investing crowdfunding, financial instruments are sold which can be shares, shares in assets or returns depending on the financial performance.

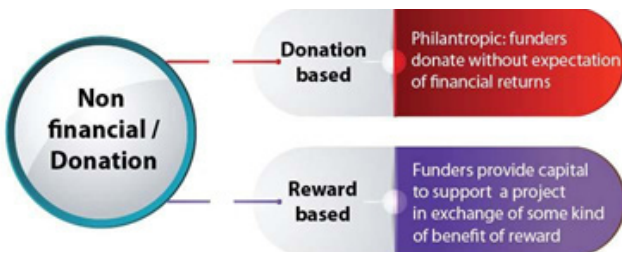Figures 5 and 6 below show an overview of major crowdfunding models:

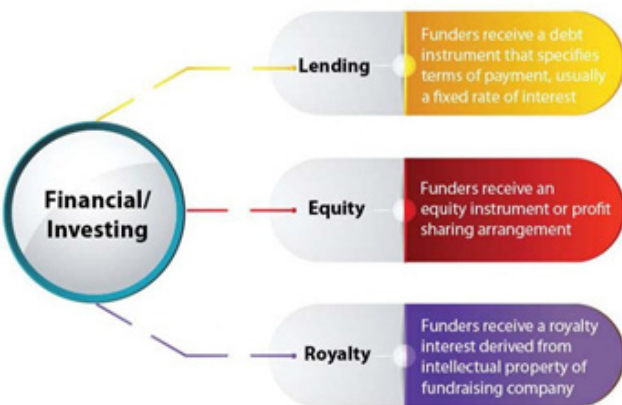Fig 5: Overview of major non-financial/donation crowdfunding models

Fig 6: Overview of major financial/investing crowdfunding models

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[11] For more information on innovative financing option for investments in mobility please make reference to the guide "Innovative financing alternatives and procurement procedures" by S. Werland and F. Rudoplh. Also the SUMP Topic Guide on Financing can provide insights on funding mobility infrastructures and services.

Non-financial crowdfunding can be calls for donations which are requested without any financial returns. They rely on altruistic motives. This includes donations for charitable or public interest causes. A variation of this model is civic crowdfunding, where citizens' contributions are used to finance public works or services for communities.

Another form of non-financial crowdfunding is the reward based model where individuals provide capital to support a project in exchange for some kind of benefit or reward.

In lending crowdfunding funders receive usually a fixed rate of interest. Lending can be peer-to-peer or peer-to-business. With equity crowdfunding funders receive an equity instrument or a profit sharing arrangement. A third model is the royalty based model, where funders receive a royalty derived from intellectual property developed by the fundraising company.

Non-financial crowdfunding can be pure calls for donations which are given without expectation of any financial returns or benefit, thus relying on altruistic motives. Typical donation campaigns are run for charitable or public interest causes. A declination of such model is civic crowdfunding, where citizens' contributions are used to finance public works or services for communities.

Another form of non-financial crowdfunding is the reward based model where individuals provide capital to support a project in exchange for some kind of benefit or reward.

With lending crowdfunding funders receive a debt instrument that specifies future terms of payment, usually a fixed rate of interest. Lending platforms can be peer-to-peer or peer-to-business. With equity crowdfunding funders receive an equity instrument or a profit sharing arrangement. A third less common model which is gaining traction more recently is the royalty based model, where funders receive a royalty interest derived from intellectual property of the fundraising company.

3.2.2 Public-private partnership (PPP)

Public-private partnership (PPP) is a model to fund public infrastructure projects, e.g. a new telecommunications system, roads, sewers, waste water treatment, airport or power plant in which public partners and private partners cooperate The public partner is represented by the public organisation, e. g. government at a local, state and/or national level. The private partner can be a privately- owned business, public corporation or consortium of businesses. Depending on different roles in owning and maintaining assets, different PPP models exist:

Design-Build (DB): The private-sector partner designs and builds the infrastructure to meet the public-sector partner's specifications, often for a fixed price. The private-sector partner assumes all risk.

Operation & Maintenance Contract (O & M): The private-sector partner, under contract, operates a publicly-owned asset for a specific period of time. The public partner retains ownership of the assets.

Design-Build-Finance-Operate (DBFO): The private-sector partner designs, finances and constructs a new infrastructure component and operates/maintains it under a long-term lease. The private-sector partner transfers the infrastructure to the public-sector partner after the expiry of the agreement.

Build-Own-Operate (BOO): The private-sector partner finances, builds, owns and operates the infrastructure component in perpetuity. The public-sector partner's constraints are stated in the original agreement and through on-going regulatory authority.

Build-Own-Operate-Transfer (BOOT): The private-sector partner is granted authorization to finance, design, build and operate an infrastructure component (and to charge user fees) for a specific period of time. After this period, the infrastructure is transferred to the ownership of the public sector partner.

Buy-Build-Operate (BBO): This publicly-owned asset is legally transferred to a private-sector partner for a designated period of time.

Build-lease-operate-transfer (BLOT): The private-sector partner designs, finances and builds a facility on leased public land. The private-sector partner operates the facility during the land lease period. After this period, assets belong to the public-sector partner.

Operation License: The private-sector partner is granted a license or other expression of legal permission to operate a public service, usually for a specified term (this model is often used in IT projects).

Finance Only: The private-sector partner, usually a financial services company, funds the infrastructure component and charges the public-sector partner interest for use of the funds.

Guidelines for successful Public-Private Partnership (European Commission, March 2003): these guidelines are designed as a practical tool for PPP practitioners in the public sector faced with the opportunity of structuring a PPP scheme and of integrating grant financing.

Resource Book on PPP Studies (European Commission, June 2004): the Resource Book is structured to present detailed case studies in the following sectors: water/wastewater, solid waste management and transport.

When preparing or reviewing PPP project documents, it is useful to have access to checklists of issues to consider: *https://ppp.worldbank.org/ppp/overview/practical-tools/checklists*

3.2.3 Pre-Commercial Procurement (PCP)[12]

In case a city finds no products available on the market that meet its requirements it can act as R&D demanding customer and launch a PCP scheme.

In PCP, public procurers buy R&D from several competing suppliers in parallel to compare alternative solutions and identify the best value for money solutions that the market can deliver to address the need targeted by the city. R&D is split into phases (solution design, prototyping, original development and validation/testing of a limited set of first products) with the number of competing R&D providers being reduced after each R&D phase. PCP can go up to the development, and possibly also the purchase, of the limited volume of first products developed in the PCP. However PCP does not cover large scale commercialisation, which is the scope of PPI.

Currently the European Commission is launching call for proposals funding up to 90% of the costs of the tender,

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[12] *https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2007:0799:FIN:EN:PDF*

but this should not be the main driver for a city, since the PCP require a long time and, as said above, will lead to the delivery of just a small number of prototypes.

3.2.4 Public Procurement of Innovative Solutions (PPI)

Public Procurement of Innovative solutions (PPI) happens when the public sector uses its purchasing power to act as early adopter of innovative solutions which are not yet available on large scale commercial basis. So in case a city is the need to use innovative solutions that are already available but not widespread on the market PPI could be the proper tendering procedure.

The first step is to set up a consortium of cities (or other public bodies) to form a critical mass of purchasing power on the demand side. Putting together several buyers is absolutely a key step since industry must be motivated to scale up the production to bring solutions

Therefore PCP should be launched only in cases there is a real need for new solutions.

to the market with the price and quality requirements for large scale deployment.

For the second step, the procurers make an early announcement of the innovation needs with a description of the key technical requirements, price range and delivery date. The procurers may wish to perform conformance testing of the solutions proposed by the suppliers.

The third step is the actual public procurement of the innovative solutions through one of the existing public procurement procedures (e.g. open/negotiated procedure, competitive dialogue etc).

3.3   Tools

TOOLS TO BE USED IN STEP 2.2.1 INITIAL ASSESMENT

3.3.1 Process Mapping

The goal of the process mapping activity is to:

• Show the actors (administration, external experts, stakeholders, coordinator)

• Show the activities (useful, targeted, unproductive)

• Show the inputs and outputs (data input, report)

for the relevant processes which lead to a SECAP and SUMP.

For the evaluation of the quality of the processes the following criteria can be used:

• Effect on tangible results

• Effect on actual implementation

• Value added from stakeholders´ point of view

• Effect on stakeholders´ satisfaction

• Time spent

• Resources spent

• Transparency of actors' roles

Practical tip: Mapping the PROCESSES HOW Plans are DEVELOPED today

A simple yet very effective tool that can be used to facilitate the discussion is to map the processes of SECAP and SUMP development using post-it notes. The facilitator sticks several large white sheets of paper (for example flipchart paper) on the wall. On these, one can then draw a number of swim lanes.

The workshop participants write the individual process steps on post-its (one process step per post-it). The team then maps the existing process using the post-it notes in

the swim lanes and subsequently discusses improvement opportunities. Placing the post-its from left to right reflects the sequence of the activities. However, do not include arrows or other links directly on the white paper since - when you change the order of the post-its - these markings will be confusing.

A good aspect of the post-it notes is that one can easily move the process steps from one swim lane (Figure 4) to another or alternatively eliminate a step by taking the post-it off the paper. Lastly, the post-it map is easily translated into a mapping software (such as Lucidchart or MS Visio) since the same logic and tools are used. Figure 7 shows a process map composed of the description of individual steps on post-its.

Reconfigure
Can we consolidate common activities? Can we eliminate non-value adding work? How can sharing information improve the process?

Reassign
Can activities be moved to different departments with better access to relevant information or to stakeholders or people with more experience on the task? Can the activity be outsourced?

Resequence
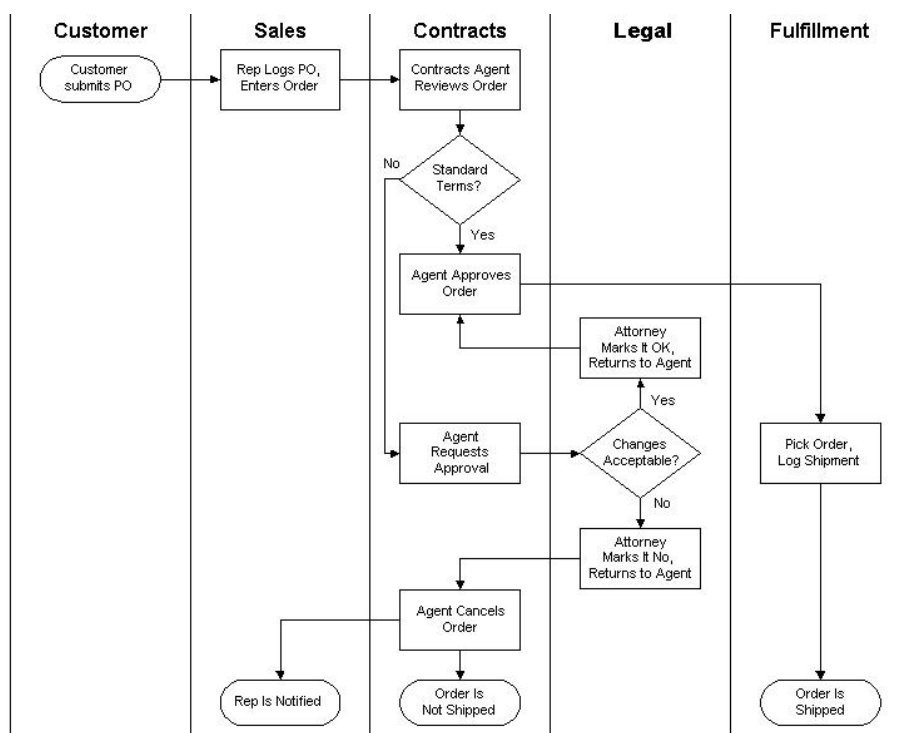Can the number of interconnections and mutual dependencies be reduced?

Fig 7: Example of a swim lane diagram

When conducting process analyses, it is important to stay focused on the goal, i.e. improving the processes, making them more efficient and effective. The result of the process needs to be in the spotlight: what is it that we want to achieve or obtain in order to satisfy the client of the process? Keeping the following approaches in the back of your mind during the exercise will help you and your team stay on track and might trigger thinking out of the box:

Rethink
Why do it this way? Is there a different way to reach the objective? Is there a better, faster, cheaper way to complete the steps?

Relocate
Can an activity be attached to related activities?

Retool
Can mutual training improve the process? Can a data bank support the process? Can coordination meetings support an easy process flow?

Reduce
How can critical resources be used more effectively? Can a stable planning process be designed with less need for detailed data? Would more information enable greater effectiveness?

3.3.2 Problem tree analyses – in a positive way

The "problem, objective and strategy tree" analysis is a participatory tool of mapping out main problems, along with their causes and effects. In Spain, a harmonization team used the problem tree in a different way: during a workshop a problem tree was developed by highlighting the positive aspects which result from harmonization as compared to the present situation of the status of separate SECAPs and SUMPs. The "leaves" show the effects or impacts. The "roots" of the tree show the causes leading to a "perfect" harmonization of SECAP and SUMP.

Representatives of the different municipalities participated in the activity, determining causes and effects according to their criteria and experience.
The activity provides guidance for the way forward to a future harmonization, highlighting the good practices and actions followed.

Fig 8: Result of a problem tree analysis from Spain

3.3.3 Six hats of thinking, by Edward de Bono

The most important elements of this method are six hats with different colours. Each colour corresponds to a character or personality. When wearing the different hats, the participants shall contribute different points of view to a problem.

The characters of the hats are:

1. **White hat**: Think in an objective and neutral way

2. **Red hat**: Express the feelings, without need for justification.

3. **Yellow hat**: Look only at the positive aspects on a certain aspect.

4. **Black hat**: Be critical in a negative way; identify why something will not go well.

5. **Green hat**: Apply creative and lateral or divergent thinking.

6. **Blue hat**: To control the rest of the hats; control the time, the order of events and collect the contributions of the participants.

Please note: A moderator of a workshop needs to have effective listening skills to guide the group. The moderator needs to be flexible to follow the participant's thoughts and feelings. Furthermore he/she should have a topical expertise to guide the discussion. The moderator needs the ability to understand language used by participants and to interpret the statements so that they always relate to the topic.

Expected output Document: initial assessment of available data opportunities for the improvement of the SEAP/SECAP and SUMP processes

3.4 Tools for stakeholders involvment and moderation methods for stakeholders meetings

TOOLS TO BE USED IN STEP 2.2.1 PARTNERS AND STAKEHOLDERS INVOLVEMENT

There are many different techniques designed to reach and enhance stakeholders' engagement, including public consultations, questionnaires, surveys, social media contributions, workshops, open debates, mass communication, participatory activities in the city, etc. (see Table 2).

Again, every technique must be adapted and designed bearing in mind which stakeholder is targeted, as well as the input we want to get through the activity.

We recommend to contact the previous teams involved in developing the existing SECAP and SUMP (if applicable) and gather as much information as possible, contact and solicit feedback from additional relevant stakeholders, and, if possible, try to assess through surveys the current public opinion and expectations to avoid missing important information and points of view.

Name of stakeholder or partner	Reason for involvement	Expected contribution	How to involve them	When to involve them
City council	Responsible for city politics	Vision, resources	Steering committee, working groups	At project start, regularly e. g. every 6 months
Different departments of city council (e.g. construction, transport, facility management, information, environmental office, land use planning etc.)	Responsible for technical aspects, involved in planning and implementation	Technical input, suggestions for improvement, resources, delegation of a project manager	Working groups	In meetings, e.g. every two months
High levels of administration (county, region, province)	Responsible for technical aspects, involved in planning and implementation	Input regarding land use planning and legal framework	Steering committee	Steering committee e.g. every six months
Public undertakings (energy supply, transport)	Public transport is one of the major areas of energy consumption, the energy suppliers can provide information on energy consumption	Technical input, suggestions for improvement, resources	Working groups	In meetings, e. g. every two months
NGOs (energy agency)	Reach out to citizens, have technical knowledge	Technical input, suggestions for improvement, resources	Steering committee, working groups	Steering committee e.g. every six months, Working group meetings, e. g. every two months
Social housing	Buildings are big energy consumers	Technical input, suggestions for improvement	Working groups	In meetings, e. g. every two months
University	Academic background, reflection, monitoring	Vision, Technical input, suggestions for improvement	Steering committee, working groups	Steering committee e.g. every six months, Working group meetings, e.g. every two months
Citizens	Early information, inclusive process, participative involvement	Detailed observations, data, suggestions for improvement	Questionnaires, workshops	Meetings for information, meetings during initial assessment
Chamber of commerce	Link to enterprises	Technical input, suggestions for improvement	Working groups	In meetings, e.g. every two months

Table 2: Stakeholders and their involvement

Civil Jury

"Civil jury" includes a number of citizens and enables the formulation of recommendations on a specific activity or a problem that needs to be solved.

Basically, the civil jury follows the model of a jury in which randomly selected citizens without special backgrounds discuss the reported evidence and come to a decision or recommendation. The debates are carried out on a predefined set of questions and are facilitated by a moderator who does not intervene in the discussion. Citizens may listen to experts who offer different perspectives. The civil jury listens to the reported evidence by the experts and has the right to ask questions for further clarification. Based on the information the jury proposes recommendations for concrete measures. Outcomes and solutions are presented in a Citizen's Report which is delivered to officials. Often the choice of experts and the range of questions that will be put forward to discussion are determined by an Advisory Board.

Visual planning

Visual planning is a method which is often applied in the urban planning process. It is a structured community-oriented process aiming at mobilizing the citizens' active involvement in the development and improvement of the urban environment. The participants in the visual planning process identify problems and barriers in the community they live in, develop ideas for improvements, to access currently not used but available funding resources.

Initially community representatives are gathered and construct a 3D model of the respective city/district/quarter, which is located at different open spaces and visible places. After that the available resources and human capacities and skills are defined and a discussion is organized to debate and trigger possible interventions. Subsequently the participants divided into working groups set priorities and develop action plans.

EXAMPLE: SELF-ASSESSMENT TO IDENTIFY STRENGTHS AND WEAKNESSES. KOPRIVNICA. (Croatia)

The city of Koprivnica, Croatia, undertook a project to promote walking and cycling and to better incorporate them into the existing transport system. At the very beginning of the Active Access project (www.active-access.eu), a detailed status-analysis was carried out. This was based on a self-assessment carried out by the municipality itself, an extensive consultation process with a range of stakeholders, and a public survey. The public survey was conducted among citizens who use active forms of mobility walking, bicycling), as well as those who primarily use their private cars. A solid self-assessment was crucial in choosing the right focus for Koprivnica's mobility planning, and assured great public acceptance during the implementation phase.

EXAMPLE: STAKEHOLDER INVOLVEMENT PROCESS FROM AUSTRIA

During the definition of the MOMAK (Mobility Concept for the Federal State of Carinthia) more than 40 stakeholder meetings were conducted on the level of the individual district. This process created awareness, contributed to the collection of various solutions and prepared the implementation of the measures very well.

The 20 invited technical experts analysing data and developing solutions met in four additional workshops.

Source and further information are available on:
www.eltis.org/discover/case-studies
self-as-sessment-identify-strengths-and-weaknesses-koprivnica-croatia

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3.4.1 Walt Disney Method

The Walt Disney method is a creativity strategy in which a group uses three specific thinking styles in turn. It involves parallel thinking to analyse a problem, generate ideas, evaluate ideas, construct and criticize a plan of action.

In order to prepare the team for Walt Disney's creative strategy, three parts of the room are set for each thinking method. The first part is for dreaming and imagination, the second part is for realists and/or planning and the third part is for critics.

The team gathers with a target to achieve, this target can be a dream to turn into reality, a design to visualize, a problem to solve or a process to improve.

The approach is based on dividing the creative process into three main stages each using a different approach; the dreamer, the realist and the critic. Each stage represents a style of thinking and should be applied in the same sequence:

The dreamer

Any creative idea usually starts with a visionary anticipation, full of passion and enthusiasm. In ordinary meetings, this dreaming style is blocked by premature criticism and does not have the space to go further on. The first stage allows the team to share their dream without restrictions or criticism. This supports imagination and free flow of associations to generate creative ideas. Some of these ideas are feasible and others are probably not.

Separating the feasible concepts comes later as a result of the second and third stages in the approach. The dreamer asks questions that help describing ideas and thoughts such as the following:

What do we want? What is the solution? How do we imagine the solution? What are the benefits of applying this solution?

The realist

Subsequently, the realist stage follows. The team physically shifts the location (e. g. to another room) and thinking mode to think in a more logical rational style. Based on the first stage, the attendees pretend that the dream can be implemented and start making plans to achieve it. The plans aim to turn the imaginary ideas into a manageable action plan. During this stage all the thoughts should be constructive and targeted turning the idea into a real plan. This stage includes questions such as the following:

How can we apply this idea in reality? What is the action plan to apply the idea? What is the timeline to apply this idea? How to evaluate the idea?

The critic

As a third stage, the critic thinking mode shall discover the barriers of applying the idea and how to overcome them. In this session, the team provides a constructive evaluation for the idea in order to find the weak points and solve it in the final solution. In this stage, the team asks questions as following:

What could be wrong with the idea? What is missing? Why can't we apply it? What are the weaknesses in the plan?

Conclusion

As a result of the three stages of the Disney's Creative Strategy, the team reaches a solid creative idea with an action plan to apply it.

The **first stage** is focused on the creative aspect and sharing creative ideas and solutions.

The **second stage** is focused on a reality check and how to turn the idea into an action plan and finally the **third stage** is aimed at identifying the weakness in the idea and overcoming barriers and shortcomings it in the final plan.

3.4.2 World Café

The World Café is a group interaction method focused on collecting ideas from bigger groups by providing a framework for associations and combinations of ideas. A World Café conference is a creative process to support collaborative dialogue, share knowledge and spark ideas in groups. The meeting room is set up like a café, with about four tables covered with paper. The groups are supplied with refreshments. A group of four to eight participants sits at a table and holds a discussion lasting from 20 to 45 minutes about one or more predefined questions. The resulting ideas are noted on the paper. At the end of each round, one person remains at each table as the host, while the others continue to other tables. The table hosts welcome newcomers to their tables and share the essence of that table's previous conversation as a starting point for the next discussions. The new participants at one table take up the ideas noted on the paper table cloth and then the conversation continues, deepening as the rounds progress:

World Cafe events should be designed and hosted according to the following principles:

• Clarify the context

• Create a hospitable environment

• Explore questions that matter

• Encourage everyone's contribution

• Connect diverse perspectives

• Listen together for insights and deeper questions

• Gather and share collective discoveries

Further information on how to host a World Cafe is provided in "A Quick Reference Guide for Hosting World Café", 2015 The World Café Community Foundation.

3.4.3 Kahoot

Kahoot is a free response tool for administering quizzes, facilitating discussions, or collecting survey data. Questions are projected on a shared screen, while an unlimited number of players answer the questions with their smartphone, tablet or computer. This creates a social, fun and game-like environment. Kahoot allows for the design of multiple-choice quizzes as well as polls and surveys facilitating on the spot data collection; the quiz questions and polls stimulate quick instructional decisions as well as whole-class discussion.

Practical experience from a workshop in Spain: the Kahoot tool was quite useful to generate debate among the participants and this resulted in a better understanding of their needs and points of view. For this reason, the objective of the dynamics is not to compete but to promote discussion by playing with options, answers and scores.

Credits

Fig 1: Harmonized framework for action: Created by Freepik.com

Fig 2: Starting scenarios for the harmonization process: Created by Shahsoft - Freepik.com

Fig 3: Steps of the harmonization process: Created by Freepik.com

Fig 4: Schedule for harmonized monitoring of SEAPs and SUMPs: Created by Stefano Alessandrini (AREA Science Park)

Fig 5: Overview of major non-financial/donation crowdfunding models: Created by Freepik.com

Fig 6: Overview of major financial/investing crowdfunding models: Created by Freepik.com

Fig 7: Example of a swim lane diagram: http://commons.wikimedia.org/wiki/File:Approvals.jpg

Fig 8: Result of a problem tree analysis from Spain: Created by CIRCE

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Self-assessment questionnaire

Self-assessment questionnaire

The present self-assessment questionnaire is intended for teams within local authorities to independently monitor the implementation of the harmonization process, following the envisaged steps. It should, therefore, be used not at the end of the process, but rather along its development to make sure all foreseen actions have been carried out and relevant results achieved before moving on to the next stage. Applying the questionnaire is the opportunity to self-evaluate performance in implementation, decide on any adjustment needed and reset design and timing of prospective actions to be undertaken.

Step 1: Initiation

Political commitment:

Has sound political commitment been secured before embarking upon the harmonization process?

Is there a formal statement containing a harmonized vision on sustainable mobility, energy and climate adaptation and the appointment of a harmonization coordinator to manage the process?

Harmonization team:

Have the needed skills been defined to complete the harmonization process?

Has the core harmonization team been appointed?

Are external consultants needed as well as internal staff?

Has a preliminary budget for the process been drafted?

Has an outline of the full team (including contributors from a whole range of departments and units) been defined?

Has a system been defined for collecting and sharing data within the team during the harmonization process?

End of step 1, the 'Initiation' stage: if you are happy with the outcome, move to step 2, otherwise make a list of missing information and corrective actions to be taken, carry out the necessary measures and repeat the first stage in self-assessment

Step 2: Planning

Initial assessment:

Have the procedures related to the design/implementation of SEAP/SECAP and SUMP been reviewed at a satisfactorily level and efficiency and effectiveness of current performance assessed?

Has a complete review been carried out of relevant EU/national/regional legislation?

Has a complete review been carried out of external and internal sources of information used?

Has a complete review been carried out of other relevant local/regional/national plans affecting energy, mobility and climate change adaptation/mitigation?

Have opportunities for the improvement and harmonization of SEAP/SECAP's and SUMP's design and implementation been defined?

Involvement of partners and stakeholders:

Is the distinction between partners and stakeholders clear to everyone involved in operations?

Have stakeholders and possible partners been clearly identified?

Has a clear plan for their involvement been drafted?

Have times, methodology, expected outputs and solutions to transfer results from consultations into the plans been decided?

2

Have partners and stakeholders been appropriately informed of their roles and expected contributions and of the use to be made of the gathered information and data?

Work plan:

Has a complete work-plan been drafted for the harmonization process?

Does the plan contain a clear definition of objectives, actions to be implemented, responsibilities, resources needed, timelines, risks and constraints?

Have a flowchart and a Gantt chart been produced to graphically represent the process?

End of step 2, the 'Planning' stage: if you are happy with the outcome, move to step 3, otherwise make a list of missing information and corrective actions to be taken, carry out the necessary measures and repeat the second stage in self-assessment

Step 3: Implementation

Harmonization of vision:

Has a common, overarching vision for sustainable energy and mobility policies, backed by sound political commitment, been decided and shared with all relevant internal and external actors and stakeholders?

Share data:

Have appropriate procedures been established for the joint and coordinated collection, storage and elaboration of data on energy and mobility?

Has a dedicated repository been created and adequate management rules set?

Common data and data collecting methods for BEI/MEI and context analysis:

Have actions been undertaken to optimize and coordinate data collection for the definition of BEI/MEI and context analysis?

Harmonization of reference years and monitoring timeframe:

Have common scenarios been produced for SEAP/SECAP and SUMP?

Are provisions in place for the alignment of monitoring timelines and procedures?

Harmonize actions:

Are homogeneous and coherent transport and mobility actions contained both in SUMP and SEAP/SECAP?

Have all actions in SEAP/SECAP and SUMP been reviewed to assess their alignment with the harmonized vision and objectives?

Have all repercussions of mobility actions on energy and climate change adaptation and vice-versa been thoroughly examined to define actions with linking elements?

Monitoring of the actions:

Are adequate provisions in place for a periodic, joint review and potential adaptation of harmonized SEAP/SECAP and SUMP actions?

3

Formal approval of plans:

Have the plans undergone joint approval by the city council?

End of step 3, the 'Implementation' stage: if you are happy with the outcome, move to step 4, otherwise make a list of missing information and corrective actions to be taken, carry out the necessary measures and repeat the third stage in self-assessment

Step 4: Monitoring and controlling of the harmonization process

How to assess progress of harmonization:

Has the self-assessment questionnaire provided positive results?

Are there corrective and/or preventive actions to be taken?

Has a monitoring plan been produced, aligned with the work-plan?

Does the monitoring plan contain detailed reference to the project schedule, budget quality standards, performance forecast?

Is communication with stakeholders envisaged as a relevant element in monitoring procedures?

Step 5: Updating and continuation

Has a plan been produced for constant (every two years) monitoring and update of the plans?

Have measures been devised to assess both the impact on energy and mobility sustainability and the effectiveness of the harmonization process?

Harmonization report template

Harmonization Report Template

The content of this presentation reflects only the author's view and the Executive Agency for Small and Medium-sized Enterprises (EASME) is not responsible for any use that may be made of the information it contains.

1. Initiation

Describe what you did to initiate the harmonization process through the following steps:

1.1 Political commitment

Describe how political commitment was secured and which form it took.

1.2 Setting up the harmonization team

Describe how the harmonization team was set up and which members, skills and competences it included.

2. Planning

Describe what you did to plan the harmonization process through the following steps:

2.1 Initial assessment

Describe the review of relevant EU/national/regional legislation, as well as of other relevant local/regional/national plans affecting energy, mobility and climate change adaptation/mitigation, you carried out.

2.2 Involvement of partners and stakeholders

Describe which partners and stakeholders you identified and the methods and timelines you used to involve them.

2.3 Work plan

Briefly describe the actions, timelines and responsibilities included in your work plan.

2

3. Implementation

Describe how you modified your SEAP/SECAP and SUMP through the following steps:

3.1 Harmonization of vision

Describe the new overarching vision for sustainable energy and mobility policies common to both plans.

3.2 Sharing data

Describe the procedures you set up for the joint and coordinated collection, storage and elaboration of data on energy and mobility.

3.3 Common data sets and data collecting methods for BEI/MEI and for context analysis

Describe the method used to coordinate data collection for the definition of BEI/MEI and context analysis.

3.4 Harmonization of reference years and monitoring timeframe

Describe how you aligned monitoring timelines and procedures of your SEAP/SECAP and SUMP.

3.5 Harmonizing actions

Describe the linking elements you have introduced between:

A) SEAP/SECAP's actions with repercussions on mobility and SUMP's actions

B) SUMP's actions with repercussions on energy and climate change adaptation and SEAP/SECAP's actions

3

3.6 Monitoring the actions

Describe the provisions you put in place for the joint monitoring of the implementation of both plans' actions and their review when necessary.

3.7 Formal approval of plans

Describe how the harmonized SEAP/SECAP and SUMP were jointly approved by your city council.

4. Monitoring the harmonization process

Describe how you monitored progress in the harmonization process and the harmonization monitoring plan (aligned with the harmonization work-plan) you produced.

5. Updating and continuation

Describe the actions planned for the periodic harmonized revision of SEAP/SECAP and SUMP on the basis of the monitoring outcomes.

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