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GUIDELINES FOR THE
HARMONIZATION OF ENERGY
AND MOBILITY PLANNING

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FOREWORD

ENERGY PRODUCTION AND CONSUMPTION, **TRANSPORT** AND **MOBILITY** ARE CRUCIAL, TRANSVERSAL ELEMENTS AFFECTING ALL ASPECTS OF SOCIO-ECONOMIC DEVELOPMENT IN EUROPE, CENTRAL TO EACH EUROPEAN CITIZEN'S QUALITY OF LIFE AND ESSENTIAL IN ANY **URBAN DEVELOPMENT PLANNING** IN A CONTINENT CHARACTERIZED BY GROWING URBANIZATION.

European policies have set ambitious sustainability targets for all levels of governance for 2020 and the coming decades, expecting important reductions in GHG emissions, a significant increase in energy efficiency and in production from renewable sources, and a dramatic reduction of Europe's dependence on imported oil. The role of local authorities through their local strategic energy, transport and mobility plans is pivotal to meet these targets. However, individual sectoral plans dealing with energy, transport and mobility separately have often proved inefficient to provide effective, long-term solutions.

The SIMPLA project (www.simpla-project.eu/en) offers local authorities an innovative, comprehensive approach to harmonize energy, transport and mobility planning in the frame of wider urban development and land-use planning, providing a step-by-step methodology described in the chapters of these guidelines.

The guidelines are the outcome of a preparatory process entailing extensive consultations in the territories of the SIMPLA partnership. An acknowledgement goes to the over 350 stakeholders, institutional and non-institutional actors involved, including local, regional and national authorities, academy and research centres, national and local energy agencies, utilities, associations, environmental NGOs. Their feedback was elaborated by an international team of energy, mobility and climate change experts to come up with the concept underpinning the SIMPLA methodology.

Based on the guidelines, the 6 SIMPLA National Focal Points established in Austria, Bulgaria, Croatia, Italy, Romania, and Spain, are going to implement an extensive capacity building action involving several local authorities in the six countries. The local authorities selected to be piloting the scheme are going to develop harmonized strategic energy and mobility plans using the step-by-step methodology for the development, review, update and upgrade of their plans in the frame of wider-reaching sustainable urban development schemes.

The guidelines' development process entails two further revisions of this first version of the document, encompassing feedback collected during the capacity building activities.

All versions of the document are freely available for consultation in the project website and can be used by any local authority for the harmonization of local strategic energy and mobility plans, provided the project and the authors of the guidelines are mentioned.

SHAPING THE ENERGY AND MOBILITY FUTURE OF EUROPEAN CITIES

ALMOST THREE QUARTERS OF THE EUROPEAN POPULATION LIVES IN URBAN AREAS AND, ACCORDING TO OFFICIAL ESTIMATES, THIS SHARE IS GOING TO INCREASE IN THE COMING YEARS, REACHING 80% AROUND 2050 AND **MAKING EUROPE ONE OF THE MOST URBANIZED CONTINENTS** IN THE WORLD.

European cities, small and large, are faced with a growing number of challenges on their path to a more sustainable and inclusive development, including:

The impacts of demographic trends and population change on lifestyles, social cohesion, productivity, economic growth, and quality of life in the urban areas;

Fast technological development challenging operational scenarios at unprecedented pace;

Adapting to and mitigating the effects of climate change, balancing ambitious environmental impact reduction targets and the need to guarantee affordable, secure and sustainable energy.

Local authorities are called to adopt strategic visions and offer convincing solutions to citizens' needs when planning urban development. Energy production and consumption, mobility and transport are crucial, transversal elements with multifold repercussions on any European citizen's life and on the overall management of cities. Focusing on individual, separate sectoral policies does not seem to pay off: the solution is to be sought in a holistic approach to urban development planning. Moreover, a harmonized strategic planning process for energy, mobility, transport and land use policies provides decision makers, technical

departments, public and private stakeholders with a better, integrated and synergistic view of actions needed to build the European cities of tomorrow.

Cities in Europe are urged to do their share through integrated strategic planning for their urban environments to implement the main EU energy and mobility policies:

The White Paper on Transport 'Roadmap to a Single European Transport Area - Towards a competitive and resource efficient transport system';

The Urban Mobility Package;

The 2030 Framework for Climate and Energy;

The 2050 Energy Roadmap.

LOCAL AUTHORITIES' ACTIONS ARE PIVOTAL FOR REACHING THE OBJECTIVES SET BY THE AFOREMENTIONED POLICIES:

-40% GHG emissions by 2030, **- 60%** by 2040 and **- 80%** by 2050 compared to 1990 levels;

At least **27%** energy production from renewables and **27%** energy savings compared to a business-as-usual scenario by 2030;

Dramatic reduction of Europe's dependence on imported oil, 60% reduction of carbon emissions in transport and no more conventionally fuelled cars in cities by 2050;

Increased resilience to climate change;

Building efficient and effective urban mobility and transport systems responding to the needs of all city users while balancing development and integration of the different transport modes with sustainability, economic viability, social equity, security, health and environmental quality to enhance the attractiveness of the urban environment and quality of life in European cities.

SIMPLA's solution for local authorities is a step-by-step methodology to develop, review and adapt their strategic urban development, energy, mobility and transport plans based on a set of 6 pillars:

1. a strategic vision shared within the local authority and with local partners and stakeholders;

2. increased interdepartmental, multidisciplinary cooperation within local authorities;

3. extensive involvement of local public and private actors in decision making;

4. a shared monitoring methodology based on common data sets;

5. enhanced multi-level governance;

6. qualified leadership to guide the process.

HARMONIZED, MULTI-SECTOR PLANNING IS THE KEY FACTOR FOR HIGHER-QUALITY, EFFECTIVE IMPLEMENTATION.

It's time to act! Planning energy and mobility together:

IT'S SIMPLA!
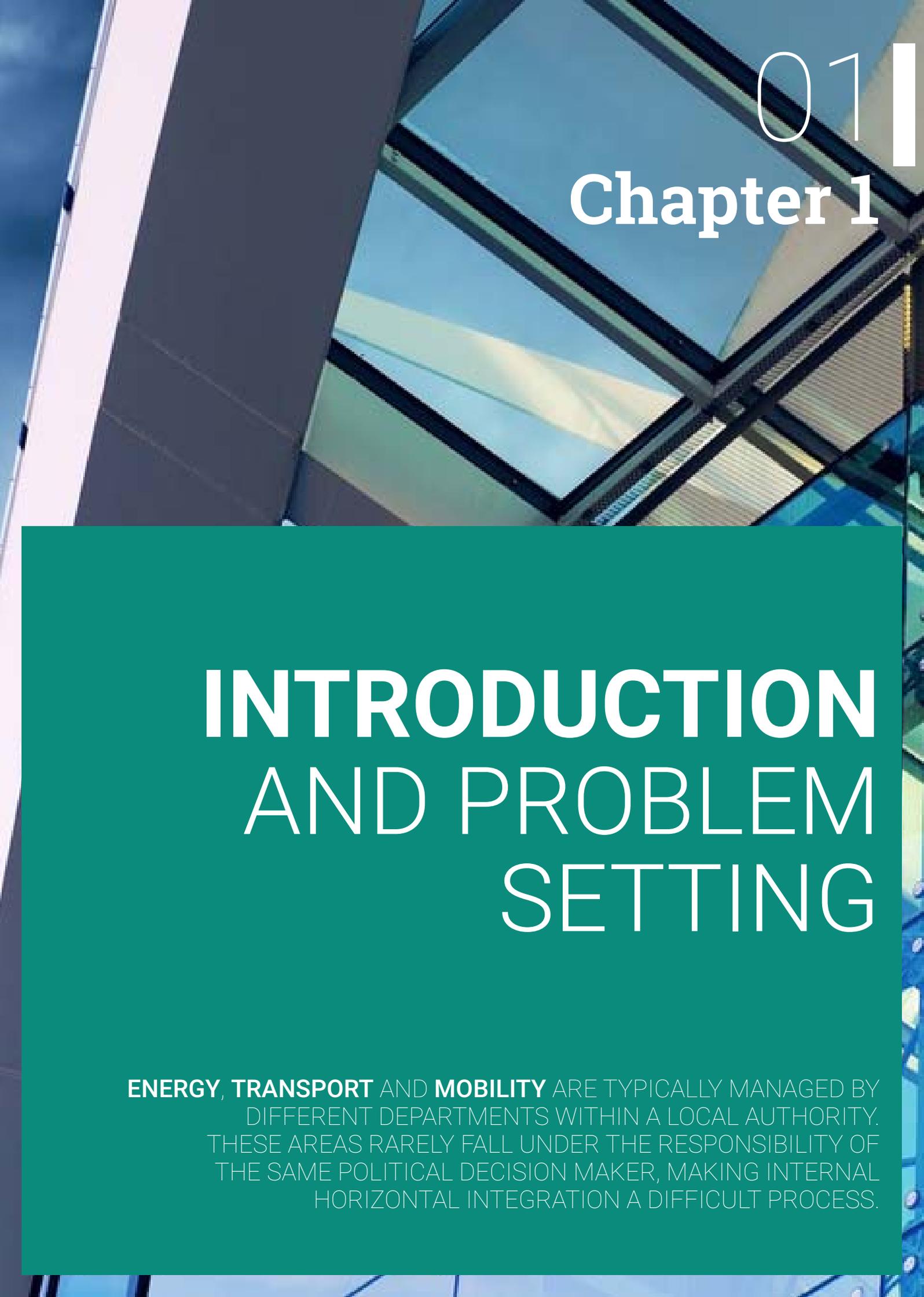
INTRODUCTION AND PROBLEM SETTING

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.

E nergy, 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, or with poorly coordinated sectoral planning tools, to the extent that they sometimes seem to be going their own separate ways.

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.

SIMPLA acts on this, offering a structured process and methodology addressed to lead the harmonization of strategic sustainable energy and mobility plans (in Europe typically SEAPs/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.

At present, a further opportunity for harmonization arises from the upcoming development of SECAPs, with local authorities called upon to integrate climate adaptation and mitigation measures in their strategic energy planning, providing the ideal chance to update and revise planning tools, looking for connections and synergies in the light of the new set of objectives.

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

For the development of SEAPs/SECAPs and SUMPs, recognized best practices and reference documents are available.

When a local authority needs to develop or revise these documents, the SIMPLA guidelines should be used as reference material to guide the reader step by step through the whole process.

Potential areas for harmonization are highlighted, opportunities deriving from harmonization explained and tools and best practice examples provided.

1.1 **BACKGROUND**

1.1.1 WHAT IS A **SEAP**?

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. Signatories of the Covenant of Mayors have committed to prepare and implement a Sustainable Energy Action Plan (SEAP) before 2020, addressing climate mitigation by means of a reduction in fossil fuels consumption.

A **SEAP** IS A KEY PLANNING DOCUMENT AIMED AT PROMOTING ENERGY EFFICIENCY AND THE USE OF ENERGY FROM RENEWABLE SOURCES IN A LOCAL AUTHORITY'S TERRITORY.

The plan identifies areas and activities that are most responsible for CO2 emissions and, on the basis of the obtained results, defines actions that contribute to achieving the overall objective of reducing CO2 emissions by a minimum of 20% by the year 2020.

A SEAP 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.

Guidelines on how to develop a SEAP are available at: www.covenantofmayors.eu/IMG/pdf/seap_guidelines_ en-2.pdf

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.

Currently (January 2017), the number of approved SEAPs is 4,432.

SEAPs can include commitments related to 2020 emissions reduction targets and adaptation to climate change.

From 2016, signatories of the Covenant of Mayors are required to submit a SECAP (see the following section) with new commitments for 2030 and an additional focus on climate change impact mitigation.

1.1.2 WHAT IS A **SECAP**?

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.

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.

As a consequence, a new, upgraded version of the SEAP was conceived, namely the SECAP.

Adaptation means anticipating the adverse effects of climate change and taking appropriate action to prevent or minimise the damage they can cause, or taking advantage of opportunities that may arise. It has been shown that well planned, early adaptation action saves money and lives later.

The SECAP retains the same outline procedure used for SEAPs but differs in:

Target: a SECAP is aimed at defining 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.

It should also be mentioned that existing SEAP actions, with new reduction targets, become SECAP "Mitigation Actions".

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:

www.climate-adapt.eea.europa.eu/knowledge/tools/urban-ast

After 2020, it will only be possible to join the Covenant of Mayors for Climate and Energy by establishing the objectives for reducing CO2 emissions by 2030, planning actions for climate mitigation and for adaptation to climate change, based on the analysis of local energy consumption and environmental risks and vulnerability assessment.

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.

1.1.3 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 REGARDS THE NEEDS OF THE 'FUNCTIONING CITY' AND ITS HINTERLAND RATHER THAN A MUNICIPAL ADMINISTRATIVE REGION[1]

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.

The pillars underpinning the process leading to a SUMP are[2]:

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;

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1. COM(2013) 913 final 'Together towords competitive and resource efficient urban mobility'
2. Source: Guidelines 'Developing and implementing a Sustainable Urban Mobility Plan' European Common (2014)

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;

Review of transport costs and benefits, including direct and indirect, internal and external.

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 a balanced development of all transport 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 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 livability 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 (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.

1.1.4 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 equipment/facilities • Tertiary {non-municipal) buildings equipment/ facilities • Residential buildings • Transport • Public lighting • Green public procurement • Local electricity production • Local heat/cold production • Others (e.g. industry, agriculture, forestry, fisheries)	• Municipal buildings equipment/facilities • Tertiary (non-municipal) buildings equipment/ facilities • Residential buildings • 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 ('functioning cities')

RELEVANCE OF A LOCAL AUTHORITY'S TERRITORIAL SIZE	No technical relevance, however complexity increases with the size of the local authority's territory		Urban contexts of such a size where a balanced development of all transport modes is feasible and realistic (typically the population of the functioning area is usually around or above 100.000, even though cases of smaller areas are known)
NEED FOR VERTICAL AND HORIZONTAL INTEGRATION	Highly relevant, as different departments of the local authority will be involved (esp. relevance of horizontal integration)		Highly relevant, as different levels of governance can be involved in planning (esp. relevance of vertical integration)
PROCESS STEPS	• Political commitment • Start of stakeholder involvement process • Planning • Baseline definition • Adapting administrative structure • Establishment of a long-term vision with clear objectives • SEAP eleboration • Actions implementation • Monitoring and reporting progress		• Politica! commitment • Start of stakeholder involvement process • Definiti on of vision,objectives, indicators, measures • Ex-ante evaluation • Definition of scenarios • Implementation • Monitoring and ex-post evaluation
OBJECTIVES	(At least) 20% CO2 emissions reduction by 2020	(At least) 40% CO2 emissions reduction by 2030 and climate adaptation	• Accessibility • Balanced development of all transport modes • Reduced environmental impacts • 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 transport infrastructure, mobility, and socioeconomic data

	SEAP	SECAP	SUMP

INDICATOR	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, i.e.:
	• 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, i.e.:
		  • number of consecutive days/nights without rainfall
		  • 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. reductions of CO2, CO, NOx, SOx, PM10, PM 2.5, VOC, fuel consumption, increase in number of vehicles running on alternative fuels)
			• Each measure of the SUMP requires specific indicators. A few examples are provided of the most common indicators used:
			• Public transport: network size, bus Km/year, no. passengers/year
			• Cycling: network size, trips per year, no. bikes and stations for bike sharing
			• Transport system: limited traffic areas (no., extension);
			• Car sharing: no. cars, Km/year;
			• Traditional vehicles trips/year;
			• Freight traffic in peak time;
			• Parking policies: no. park and ride places; no. pay and display places; fare system**;**
			• Motorization rate;
			• Modal split;
			• Road safety: no. accidents/year; no. 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	Highly relevant, is one of the key steps of the SUMP process
CENTRALIZED MONITORING	Report to Covenant of Mayors Office		Each local authority responsible for 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 SEAPs/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.
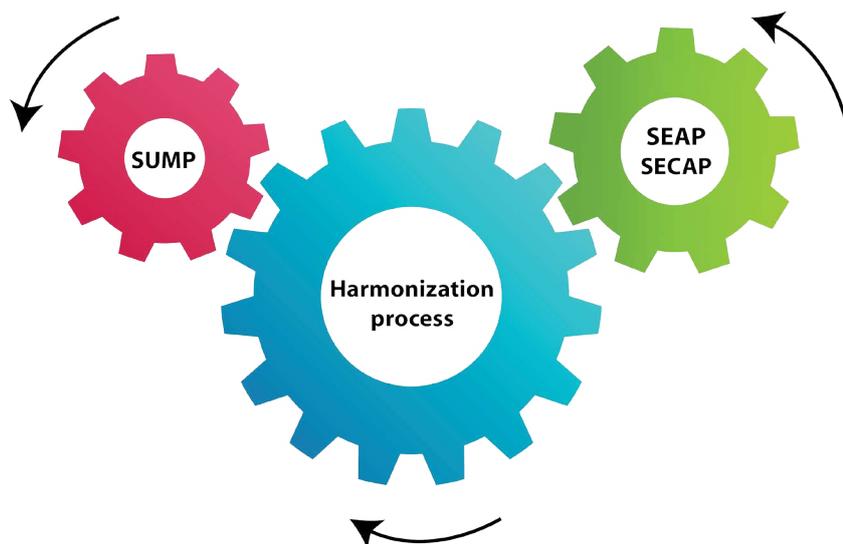
Fig 1: Harmonized framework for action

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 SEAP/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 SEAP/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 SEAP and the SUMP.

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

Strategic vision: both SUMPs and SEAPs (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 development of both plans relies upon the active engagement 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: all actions related to low carbon mobility contribute to the achievement of the goals of both plans, therefore the need for coordinated actions is crucial.

Monitoring and controlling: the regular and transparent check of progress towards achieving the objectives, as well as the identification of new challenges, are common to both plans and should be also performed in a harmonized way.

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

They may already have both a SEAP/SECAP[3] and a SUMP, needing harmonization;

They may already have either a SEAP/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.

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3. Only few local authorities have a SECAP at present, since the process to develop guidelines and templates for SECAP elaboration is still underway. In the near future, it is likely that local authorities with a SEAP will increasingly decide to evolve their plans into SECAPs, which is an excellent opportunity for harmonization with a SUMP, be it existing or to be developed.

Possible starting scenarios are shown in Figure 2:

01

The local authority has both a SEAP/SECAP and a SUMP and wants to harmonize them

02

The local authority has a SEAP/SECAP only and wants to develop a SUMP harmonized with the SEAP/SECAP

04

The local authority has neither a SEAP/SECAP nor a SUMP and wants to develop both of them harmonized with each other

03

The local authority has a SUMP only and wants to develop a SEAP/SECAP harmonized with the SUMP
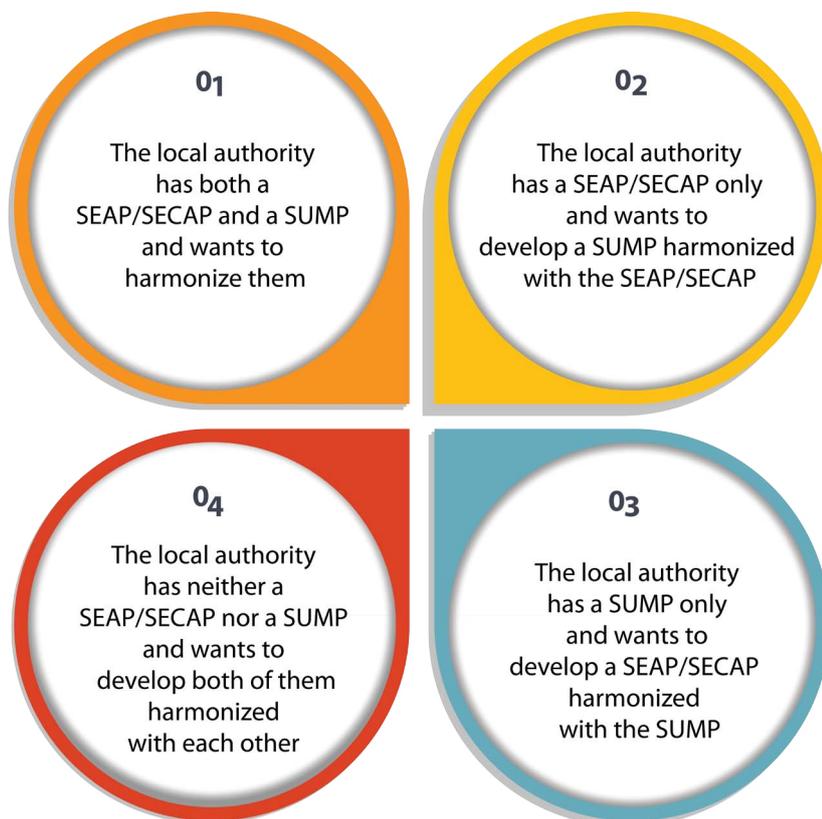
Fig 2: Starting scenarios for the harmonization process

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.

Fig 3: Steps of the harmonization process

THE
HARMONIZATION
PROCESS

2.1 STEP ONE: INITIATION

2.1.1 **POLITICAL** COMMITMENT

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

SUMPs and SEAPs/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 SEAP/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 SEAP/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 SEAP/SECAP and SUMP. It is an opportunity to improve each plan, for example:

Upgrade a SEAP into a SECAP

Update the SEAP/SECAP and/or the SUMP including new actions

Harmonize the SEAP/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 SEAP/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**

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 SEAP/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 SEAP or the SUMP coordinator as manager of the harmonization team. All the required technical and communication skills to develop the SEAP/SECAP and SUMP should be well rep-

resented. 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 ur- ban planning and land use. A multidisciplinary team was created, involving political decision makers (2 deputy mayors, for environment and urban mobility and traf-

fic, 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

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 SEAP/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;

*C*reating a "status" of measures (progress in relation to objectives, incurred costs, consumed resources, etc.) describing current performance;

*I*dentifying the gaps between stakeholders' needs and current performance;

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

FACTORS WHICH POTENTIALLY HAVE AN IMPACT ON THE HARMONIZATION PROCESS

*L*egal requirements;

*O*rganizational structure and responsibility for energy planning, environment, and mobility;

*P*hysical distance between departments;

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

*O*rganizational culture (communication, coordination and consensus-building procedures)

Quite frequently, data collection and evaluation is out-sourced to external consultants. The following documents should be reviewed:

*R*elevant legislation and documents with an impact on SEAP/SECAP and SUMP (for example municipal budget, land use plan, city council decisions, …)

*S*ources of information used in the SEAP/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.

*O*ther 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 SEAP/SECAP and SUMP.

Initially, in a SEAP/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 EVALUATION	
	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 SEAPs/ 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 SEAP/SECAP extrapolating data on fuel consumption and carbon dioxide emissions. Viceversa, SEAP/SECAP data on fuel consumption in the region can be made available for a SUMP.

TOOLS

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 SEAP/ 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 FACILITATION TIP: **MAPPING THE WAY THINGS** ARE TODAY

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

The team should write the different process steps on the 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. Place the post-its from left to right so as to reflect the sequence of the steps.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. An example of such a process map using post-its is provided below.
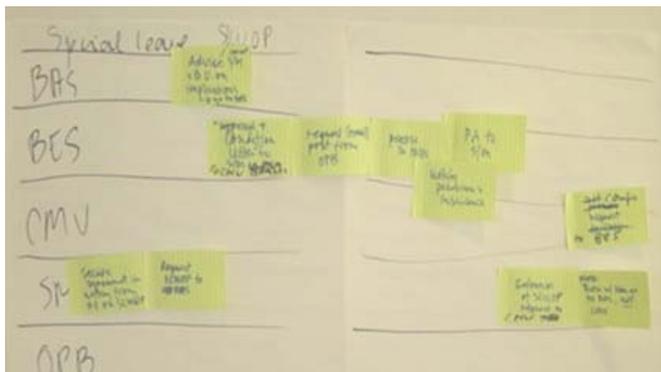

Fig 4: Example of a swim lane diagram

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?

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 we minimize the number of interconnections and dependencies?

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.

EXPECTED OUTPUT DOCUMENT: INITIAL ASSESSMENT OF AVAILABLE DATA OPPORTUNITIES FOR THE IMPROVEMENT OF THE SEAP/SECAP AND SUMP PROCESSES.

2.2.2 INVOLVEMENT OF **PARTNERS** AND **STAKEHOLDERS**

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 SEAP/SECAP and SUMP?

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

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

Who will develop the harmonized SEAP/SECAP and SUMP?

Who will implement and manage the harmonized SEAP/SECAP and SUMP?

Who will support harmonized SEAP/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.
Responsabilities	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 evaluate and sign off on the requirements specification?

Who will attend the usecase modelling and other requirements workshops?

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

Who will be involved in any market research undertaken to justify and validate the product?

Which stakeholder types are the most important?

Who is the target audience for the release of 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

A focus group allows you to sample sets of stakeholder representatives to get their perspective on what the system must do. Focus groups tend to be used to gather specific feedback on specific topics.

ADVISORY BOARDS

An advisory board is a kind of standing focus group. It provides a way to gather stakeholders' perspectives without

the overhead of establishing 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 be a very useful way to capture requirements, build teams, and develop their understanding of the system. They should be well planned with 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.

METHODS FOR ACTIVELY INVOLVING STAKEHOLDERS
Ensure that the intended message is undestood 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

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

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 SEAP/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, 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 energy sink, energy supply has information on energy consumption	Technical input, suggestions, resources	Working groups	In meetings, e.g. every two months
NGOS (energy agency)	Reach out to citizens, have technical knowledge	Technical input, suggestions, 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 sink	Technical input, suggestions	Working groups	In meetings, e.g. every two months
UNIVERSITY	Academic background, reflection, monitoring	Vision, technical input, suggestions	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	Questionnaires, workshops	Meetings for information, meetings during initial assessment
CHAMBER OF COMMERCE	Link to enterprises	Technical input, suggestions	Working groups	In meetings, e.g. every two months

Table 2: Stakeholders and their involvment

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 repeatedly, targeting those who walk and cycle regularly, as well as those who primarily drive their 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

MODERATION METHODS
FOR STAKEHOLDER MEETINGS

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 strategy is based on three main stages; the dreamer, the realist and the critic. Each stage represents a style of thinking and should be applied in the same sequence:

THE DREAMER

Usually, any creative idea starts with a dream full of passion and enthusiasm. In ordinary meetings, this dreaming style is halted by reality 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 helps to build a pool of creative ideas. Some of these ideas are viable and others are not.

Determining the viable creative concepts comes later as a result of the second and third thinking styles. The dreamer asked 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

Now, subsequently, the realist style follows. The team switches the place and mode to think in a more logical planning style. Based on the first stage, the attendees pretend that the dream is possible 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**

After having an action plan to turn the idea into reality, the critic thinking mode tends to discover the barriers of applying the idea and how to overcome them. In this session, the team provides a constructive critique 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 main stages of the Disney's Creative Strategy, the team reaches a solid creative idea with an action plan to apply it.

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

The second stage focused on reality and how to turn the idea into an action plan and finally the third stage aimed at identifying the weakness in the idea and overcome it in the final plan.

WORLD CAFÉ

The World Café is a whole group interaction method focused on conversations. A Café Conversation is a creative process for leading collaborative dialogue, sharing knowledge and creating possibilities for action in groups of all sizes. The environment is set up like a café, with paper-covered tables supplied with refreshments. People sit four to a table and hold a series of conversational rounds lasting from 20 to 45 minutes about one or more questions which are personally meaningful to them. At the end of each round, one person remains at each table as the host, while the other three travels to separate tables. Table hosts welcome newcomers to their tables and share the essence of that table's conversation so far. The newcomers relate any conversational threads they are carrying and then the conversation continues, deepening as the round progresses.

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

- **C**larify the context
- **C**reate a hospitable environment
- **E**xplore questions that matter
- **E**ncourage everyone's contribution
- **C**onnect diverse perspectives
- **L**isten together for insights and deeper questions
- **G**ather 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.

2.2.3 WORK **PLAN**

The work plan for the harmonization of SEAP/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 SEAP/SECAP and SUMP and potentially applicable activities for harmonization in the work plan (Table 3):

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 SEAP/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 SEAP/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	**Diversification activities** Diversification will apply to different administrative units, working with different clients, autonomous managers, and few data standards.
MONITORING AND CONTROLLING	**Unification activities** Unification can be considered if the same administration unit does the corresponding activities within the formulation of a SEAP/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

A monitoring plan should be part of the work plan, because a monitoring plan provides the 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.

HOW TO WRITE A WORK PLAN

1	**Identify the areas for harmonization**
2	**Determine your goals and objectives** Goals and objectives are related in that they both point to things you hope to accomplish through your work plan.
3	**Organize your work plan by "SMART" objectives** Smart targets are: • Specific – precisely described using quantitative and/or qualitative terms that are understood by all stakeholders. • Measurable – the current situation has been measured and is known. Resources are also in place to measure the changes (qualitative and quantitative) that occur. • Achievable – based on the technical, operational and financial competencies available and stakeholder agreements/commitments that have been made • Relevant – stresses the importance of choosing targets that matter, that drive urban mobility forward and that support or are in alignment with other targets • Time-bound – key dates for the achievement of the target are clearly defined
4	**List your resources** Include anything that will be necessary for you to achieve your goals and objectives. Resources will vary, depending on the purpose of your work plan.
5	**Identify any constraints** Constraints are obstacles that may get in the way of achieving your goals and objectives.
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** Though you can create a tentative work schedule, realize that unexpected things happen and you need to build space into your schedule to prevent falling behind.

GANTT CHART

A Gantt chart is a type of bar chart that illustrates a project schedule. Gantt charts illustrate the start and finish dates of the terminal elements and summary elements of a project. Terminal elements and summary elements comprise the work breakdown structure of the project. Gantt charts also show the dependency relationships between activities. Gantt charts can be used to show current schedule status using percent-complete shadings and a vertical today line.

GanttProject: 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**

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 SEAPs' 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 SEAPs/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 interrelated fields besides energy and mobility (e.g. urban planning, city logistics, city's quality and attractiveness for citizens and visitors). The "vision" chapter of SEAP/SECAP and SUMP has to be consistent with the Vision produced in Step1.

2.3.2 **SHARING** DATA

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 SEAPs/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 elaborating traffic-related CO_2 emissions in an area using actual vehicle counting data (typical of SUMP elaboration) or data on fuel sold, often available only at a county level (as typically used in SEAP elaboration). A possible solution is comparing the two sets of existing data, once the necessary preliminary considerations have been made, since the comparison may in itself provide interesting conclusions, highlighting for instance 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.

2.3.3 COMMON DATA SETS AND **DATA COLLECTING METHODS** FOR BEI/MEI AND FOR CONTEXT ANALYSIS

The data on energy consumption used to define the BEI in SEAP/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 CO2 emissions resulting from both SEAP/SECAP and SUMP data collecting methods. The output of this comparison process should be a common methodology to evaluate CO2 emissions, ensuring the same CO2 emissions values in the same year in the two plans at least for the overlapping sectors (e.g. private transport CO2 emissions). Taking into account that the BEI defined at the time of the submission of the SEAP/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 (Baseline Emission Inventory) 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 CO2 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 those defined by the European Joint Research Centre and presented in the SEAP Guidebook, Part II [1].

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.

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 eng. 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 SEAPs.

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.

2.3.4 **HARMONIZATION** OF REFERENCE YEARS AND **MONITORING** TIMEFRAME

A SEAP/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 SEAP/SECAP's approval year (the guidelines just mention it cannot be earlier than 1991). 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, SEAPs aim at reducing CO_2 emissions by at least 20% by 2020 whereas 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 fueled vehicles in favor 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 2020 or 2030 scenario, depending on whether the city has a SEAP or a SECAP, and defining also for SEAPs/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 SEAP/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 CO_2 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 SEAP/SECAP actions every two years and revise SUMP objectives and actions at the same time, as shown in Figure 5:
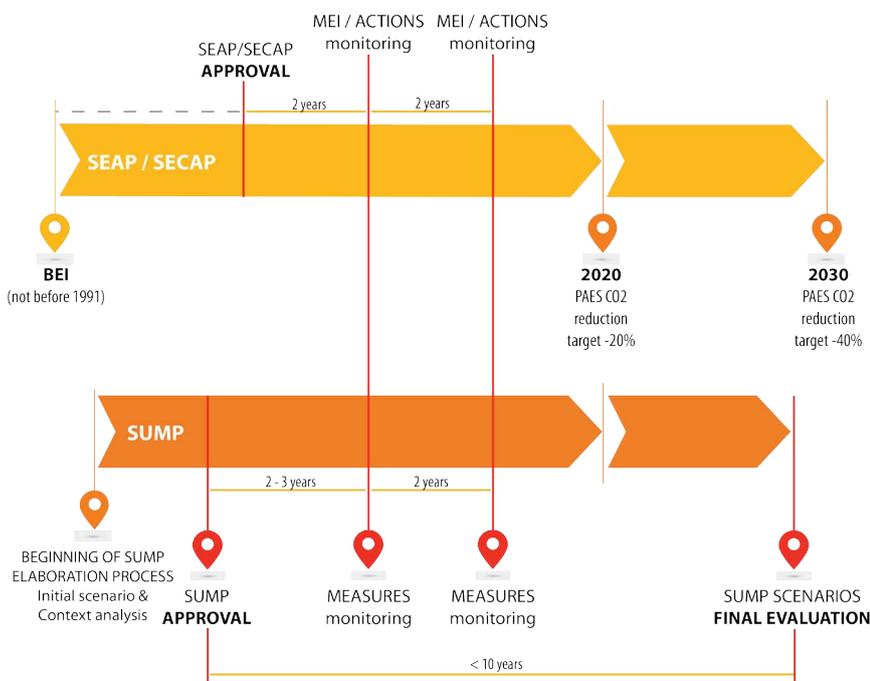

Fig 5: Schedule for harmonized monitoring of SEAPs and SUMPs

2.3.5 **HARMONIZATION** OF ACTIONS

ONE OF THE INTERVENTION AREAS OF A SEAP/SECAP IS **MOBILITY**. THE HARMONIZATION PROCESS SHOULD THEREFORE LEAD TO A TOTAL CORRESPONDENCE BETWEEN THE MOBILITY ACTIONS INCLUDED IN SEAP/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 SEAP 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 SEAP/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, SEAPs/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 SEAP/SECAP and SUMP will help the harmonization team in the identification of joint actions that can be beneficial to both plans.

2.3.6 **MONITORING** THE ACTIONS

HARMONIZATION OF TWO DIFFERENT CO2 EMISSIONS EVALUATION PROCESSES **IS NOT THE ONLY TECHNICAL ASPECT** TO DEAL WITH.

In order to monitor progress, both SEAP/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 SEAPs/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.

2.3.7 **FORMAL APPROVAL** OF PLANS

After the end of the harmonization process, the revised SEAP/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

THIS CHAPTER EXPLAINS **HOW TO MONITOR** THE HARMONIZATION **PROCESS** AND **PERFORM** AN ASSESSMENT OF THE WORK DONE BEFORE THE FORMAL APPROVAL OF THE HARMONIZED SEAP/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 and controls changes to the project schedule.

OUTPUTS INCLUDE:
Updates to the schedule model data and baseline
Performance measurements
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 and controls costs and changes to the project 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 performance process measures specific project results to determine whether the project is meeting 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 4).

PROJECT NAME:			PROJECT MANAGER:
Reporting period: Month of			Today's Date:
YES	NO	STATUS SIMMARY	
		Scope	
		1. Has the scope changed or is it about to be impacted?	
		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 any other major issues or new risks?	
		Cost	
		7. Have the estimated costs (i.e., out of pocket) changed?	
		8. Are there productivity problems affecting the team's ability to perform the work?	
		9. Is there a problem with resources?	

Explanation of "Yes" items: for every question answered "yes", give a brief explanation.

Table 4: 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 SEAP/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 SEAP/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

THIS CHAPTER EXPLAINS **HOW TO** PLAN FOR **UPDATING** AND **CONTINUATION**.

Every 2 years (according to the SEAP/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 SEAP/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 SEAP/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, interviews. The updating phase for either SEAP/SECAP or SUMP is the suitable stage to undertake the harmonization activity with the other plan (SUMP or SEAP/SECAP).

EXPECTED OUTPUT DOCUMENT: PLAN FOR COMMUNICATION

APPENDICES

A.1 FUNDING OPPORTUNITIES

A.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 financing mechanisms typically used by local authorities can be broadly grouped into four categories. These represent an increasing dependence on commercial as opposed to public sources of funding:

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. Revolving funds which, initially established from the general budget or donor funds, become self-sustaining.

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 from banks or funds raised by issuing municipal bonds.

The advantages and limitations of various financing mechanisms are summarized in Table 5.

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	EE project 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 EE 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 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 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

COMMERCIAL FINANCING				
VENDOR CREDIT	Equipment vendor supplies EE 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 EE equipment under lease contract, usually with lease payments based on estimated energy savings	Provides a means of paying the costs of EE 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 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 5: Advantages and limitations of various financing mechanisms[4]

4. Source: Financing municipal energy efficiency projects, Energy management assistance program, knowledge Series 018/14 Link: htpps://www.esmap.org/sites/esmap.org/files/DocumentLibrary/FINAL_MGN1-Municipal%20Financing_KS18-14_web.pdf

A.1.2 INNOVATIVE
FINANCING
OPPORTUNITIES

CROWDFUNDING

Crowdfunding is the practice of funding a project or venture by raising monetary contributions from a large number of people. Crowdfunding is a form of crowdsourcing and of alternative finance. There exist several types of crowdfunding models, which can be grouped in two overarching categories, which differentiate themselves on the basis of the relationship between those who provide financial resources and those that receive the funds:

1. Non-financial or donation crowdfunding, where individuals' contributions are not associated with a financial return; and

2. Financial or investing crowdfunding, where financial instruments are sold in relation to companies' assets and/or financial performance.

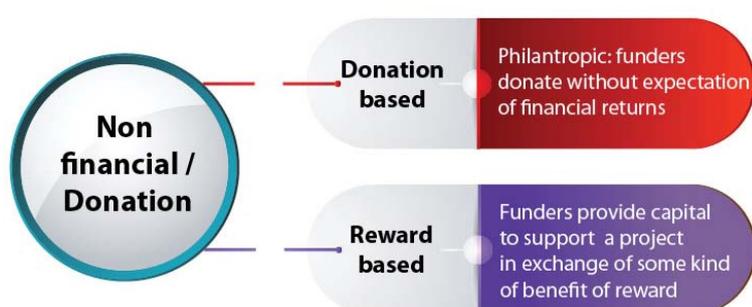Figures 6 and 7 below show an overview of major crowdfunding models:

Fig 6: Overview of major non financial/donation crowdfunding models
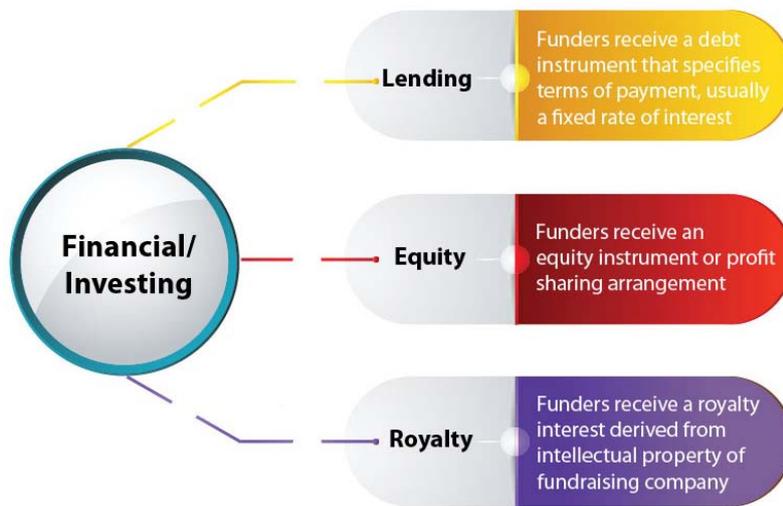
Fig 7: Overview of major financial/investing crowdfunding models

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.

PUBLIC-PRIVATE PARTNERSHIP (PPP)

Public-private partnership (PPP) is a funding model for a public infrastructure project such as a new telecommunications system, airport or power plant. The public partner is represented by the government at a local, state and/or national level. The private partner can be a privately- owned business, public corporation or consortium of businesses with a specific area of expertise. Different models of PPP funding are characterized by which partner is responsible for owning and maintaining assets at different stages of the project. Examples of PPP models include:

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 component to the public-sector partner when the lease is up.

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 which ownership is transferred back to 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 for the duration of the land lease. When the lease expires, assets are transferred 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: www.ppp.worldbank.org/public-private-partnership/overview/practical-tools/checklists

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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: The Walt Disney method: Created by designbean - Freepik.com

Fig 5: Schedule for harmonized monitoring of SEAPs and SUMPs: Created by Stefano Alessandrini

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

Fig 7: Overview of major financial/investing crowdfunding models: Created by Freepik.com

A.3 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?

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?

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?

DOWNLOAD THE SELF-ASSESSMENT QUESTIONNAIRE:

HTTP://SIMPLA-PROJECT.EU/DOCUMENT_GUIDELINES/SIMPLA_QUESTIONNAIRE.DOCX

A.4 HARMONIZATION REPORT TEMPLATE

Harmonization Report Template

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.

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

3.6 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.

DOWNLOAD THE HARMONIZATION REPORT TEMPLATE:

HTTP://SIMPLA-PROJECT.EU/DOCUMENT_GUIDELINES/SIMPLA_HARMONIZATION_REPORT.DOCX