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SEACAP 4 SDG

Med SE(A)CAP integration through uniform adapted assessment and financing methods, mainly targeting buildings in education and health sectors, for sustainable development goals in a smart society

Reports on SEACAP SDG Living Labs (Output 4.2)

Developed by

UNIVERSITY OF PATRAS
ΠΑΝΕΠΙΣΤΗΜΙΟ ΠΑΤΡΩΝ

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SEACAP 4 SDG

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Summary

This document provides the framework for implementation of the Napoli Local Living Lab, aimed at supporting the implementation of the Sustainable Energy and Climate Action Plan (SECAP) for the Municipality of Napoli.

The Napoli SECAP aims at identifying urban governance, planning and design strategies able to integrate climate adaptation and mitigation goals. Previous and ongoing joint activities carried out by the Municipality of Napoli, PLINIVS-LUPT Study Centre of University of Napoli Federico II and ANEA within EU-funded projects provided an initial understanding of climate risks and vulnerabilities, the baseline emission inventory and a review of current and planned urban projects and initiatives to identify their potential benefits in terms of climate adaptation and mitigation.

Based on the outcomes of these activities, the Municipality of Napoli Technical Department "Environmental monitoring and SEAP implementation" will upgrade of the current Napoli SEAP into SECAP, by applying a set of legacy models and tools to support multi-hazard impact assessment (with a focus on heat waves, pluvial floods and coastal floods) and energy retrofitting of public buildings (with a focus on educational buildings and sports facilities).

In this context, the SEACAP4SDG project will support the process with a set of tools identified within the SEACAP4SDG Toolkit as relevant to integrate the already available tools, with a specific focus on aspects such as:

- improve data collection for energy and environmental monitoring of public buildings, renovation planning and potential financing (IMPULSE project tools)
- to the assessment process for retrofit strategies and scenarios, based on both quantitative and qualitative aspects (CESBA MED project tools)
- the calculation of Direct and Indirect Energy Consumption in terms of carbon/environmental footprint (EDUFOOTPRINT project tools)
- the possibility of achieving behavioural change about energy uses through living labs (MED-ECOSURE project tools)

The training activities carried out have highlighted the need of public buildings owners and managers of improving their capacity in designing and implementing better practices for climate resilient planning and design through specific decision support tools.

The SEACAP4SDG training represented an initial step for the establishment of the Napoli LL, launched in June 2023. The Napoli LL will involve of different actors, such as public buildings'

owners and managers, decision and policy makers, research and educational centres, universities, business support organisations, technical chambers, innovative companies and SMEs which, taking advantage of the Napoli legacy tools and those identified in the SEACAP 4 SDG Toolkit, will allow to co-design a future climate-resilient 2050 vision of the city and develop feasible pathways to achieve the ambitious targets in terms of adaptation and mitigation.

1. Setting up the Napoli SEACAP Living Lab in Napoli

The goal of the SEACAP4SDG training for the City of Napoli is to integrate relevant tools proposed by the project within the methodological workflow already defined by the Technical Department "Environmental monitoring and SEAP implementation" for the upgrade of the current Napoli SEAP into SECAP.

The methodological background has been defined within projects and activities carried out by the City of Napoli with the support of Università di Napoli Federico II since 2017, in particular:

- **2017-20 - Participation to the H2020 CLARITY project (www.csis.myclimateservice.eu)** (*City Council resolution n. 570, 20/10/2017)*
  - Integrated Climate Adaptation Service Tools for Improving Resilience Measure Efficiency
  - Development of climate services to support the integration of climate change adaptation measures in multi-scale urban planning and design

- **2020-2021 - Assessment of risks and vulnerabilities induced by climate change** *(City Council resolution n. 466, 22/12/2020 - Management provision n. 11, 16/06/2021)*
  - Technical assistance service contract to support the risks and vulnerability assessment under the JRC SECAP Guidelines
  - Awarded to the PLINIVS Study Centre, Interdepartmental Research Center Urban Planning and Territorial Planning Laboratory "Raffaele d'Ambrosio" (L.U.P.T.), of the University of Napoli Federico II

- **2022-2026 - Participation to the Horizon Europe KNOWING project (www.knowing-climate.eu)**
  - Framework for defining climate mitigation pathways based on understanding and integrated assessment of climate impacts, adaptation strategies and societal transformation
  - Insights related to heat wave-health, soil fertility-agriculture and flooding-infrastructure scenarios (focus on coastal areas)

The main supporting tools developed in the last 5 years, which can benefit of the integration with SEACAP4SDG tools are:

- GIS database at city level including environmental and energy parameters to support the energy consumption/CO2 emissions inventory and the implementation of integrated climate change mitigation and adaptation strategies.
- Multi-scale (city-district-building/open space) hazard/impact assessment simulation for Heat Waves, Pluvial Floods and Coastal Floods, considering climate projection and urban microclimate analyses until 2100, integrated in GIS and 3D modelling environment.
- Catalogue of climate mitigation and adaptation measures, connected to the simulation tool and highlighting social, economic, and environmental co-benefits of climate action.

Napoli climate change profile

Napoli, like many urban areas in Mediterranean Europe, has already faced significant climatic variation in recent years with respect to the 'historical' reference period 1971-2001. The last few years have shown a constant increase in minimum and maximum temperatures (with which more frequent episodes of heat waves are associated), while seasonal precipitation patterns have seen an increasingly marked alternation between periods of drought and extreme events characterised by heavy rainfall concentrated in a few hours (causing episodes of surface flooding, even critical ones). Available simulations referring to future scenarios (up to 2100) confirm these trends, with uncertainties related to the intensity of the expected climate change linked to different greenhouse gas emission scenarios on a global scale.

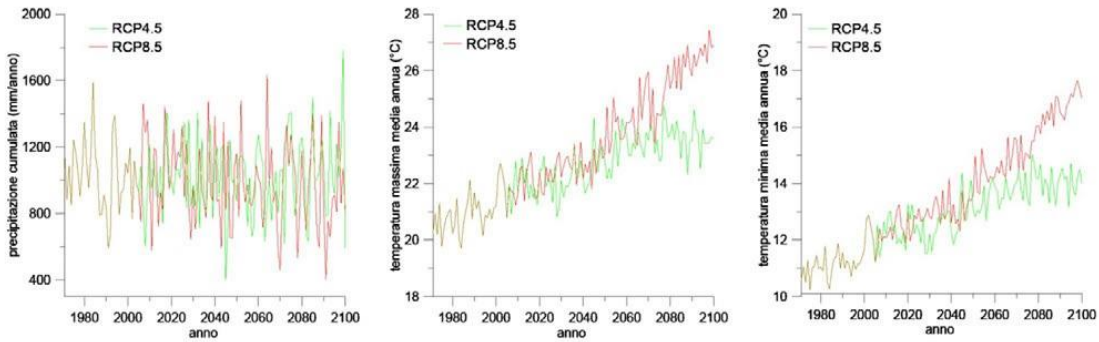


Figure 1: Annual averages over the period 1971-2000 of precipitation and air temperature for the city of Napoli. For the period 1971-2000, the annual values of cumulative precipitation (left), average maximum temperature (centre) and minimum temperature (right) are elaborated from the Capodichino station; for the period 1971-2005, the models are forced through observational datasets (20C3M) while for 2006-2100 the RCP4.5 (green) and RCP8.5 (red) concentration scenarios are considered. Source: CMCC - Euro-Mediterranean Climate Centre.

However, annual average values compiled using statistical methods from observations at individual weather stations (Figure 1) do not allow for the representation of the critical issues that cities face with regard to climate change. There is a need for more precise information on the frequency of extreme temperature and precipitation events (often concentrated in limited periods of the year and therefore not represented by annual average values) and to consider how the impacts of these extreme events can be exacerbated by specific urban characteristics, such as the urban heat island effect and surface runoff conditions.

CLARITY therefore focused on defining these aspects, identifying in detail the increase in the frequency of heat waves and extreme rainfall up to 2100, and developing accurate urban morphology and land-use modelling to capture the effect of built environment features on the urban microclimate (Figure 2). The processing of the different datasets through simulation models developed by the PLINIVS-LUPT Research Centre for CLARITY allows for the identification of predicted hazard levels related to heat waves and surface flooding. This information forms the basis of the corresponding impact models, which make it possible to identify the effects of heat waves on the population (in terms of impacts on human health, including increased mortality), and the effects of flooding on buildings (in terms of disruption to networks).

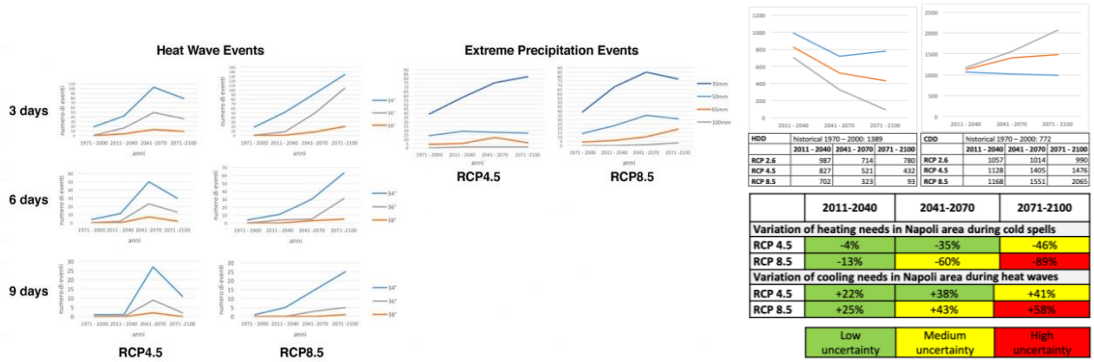


Figure 2: Extreme events of temperature and precipitation (left), seasonal temperature variation), and heating/cooling needs (right) in Napoli (Source: PLINIVS-LUPT).

As for the heat waves, the increased frequency and intensity of extreme precipitation events represent a signal of the ongoing climate change, indicating the transition of Napoli area

towards subtropical and tropical climatic conditions. The projection of subdaily precipitation was not available among CLARITY climate indicators. Accordingly, observations and projections about the daily trends are assimilated into time periods of less than 6 h, which is a recurring characteristic in the case of Napoli. In future periods, extreme precipitation events are likely to exceed the thresholds observed during recent storms in Napoli (above 60 mm/day concentrated in a few hours). The data analysis indicates that events similar to those recorded in recent years will increase significantly in terms of frequency and intensity in the next 30 years, up to, in the second half of the century, intensity levels which have not yet occurred (100 mm/day).

Upon request of the Environment Department of the municipality of Napoli, further indicators have been extracted from the CLARITY database and processed to provide estimates in relation to energy consumption for buildings heating and cooling in relation to the expected climate change scenarios, namely:

• Tn10p: average number of days in which the minimum daily temperature is lower than the 10th percentile of the minimum daily temperatures on a 5-day window.

• Tx75p: number of days in which the maximum daily temperature is higher than the 75th percentile of the maximum daily temperatures during the warm season of April-September of the period 1971–2000.

The same indicators were extracted with the same method from a dataset of observed data for the period 2012–2019, from Napoli Capodichino weather station, in order to verify the deviation from the historical analysis period considered by EURO-CORDEX (1970–2000), with more recent data affected by the ongoing climate change. As shown in Figure 7 (bottom-left), the elaboration shows values close to the EURO-CORDEX estimates for the period 2011–2040, congruent with the expected trends, considering that the baseline period corresponds to the first forecasting EURO-CORDEX decade and that going towards 2040 the Tn10p indicator will continue to decrease, while the Tx75p indicator will continue to grow.

For the same 2012–2019 reference period, two additional indicators related to the estimate of the energy needs for buildings heating and cooling have been extracted from a local weather station hosted at LUPT-PLINIVS headquarters, located in the city center:

- HDD (Heating Degree Days): used to determine building heating schedule at the city level.

- CDD (Cooling Degree Days): used to determine building cooling schedule at the city level.

They are calculated, in a simplified way, by operating the difference between the average value of the daily temperature and a predetermined value. In the case of Napoli, the value is 18.3°C, commonly used as an outdoor temperature threshold which guarantees indoor comfort conditions both in summer and in winter without the need for heating/cooling systems. The indicator shows the difference in the average value of the temperature detected by the station itself for the various months. In winter, the resulting Degree Days (DD) correspond to the heating/cooling needs for indoor spaces.

In addition to heat waves and pluvial floods the city of Napoli is also prone to coastal flooding, which has an impact on infrastructure (due to the combined effect of sea level rise, storm surges and heavy rainfall). The main impacts and effects are damage to buildings and open spaces in coastal areas, disruption of land and sea transport infrastructure, disruption of sub-services (electricity, sewage), economic losses (tourism, services). The coastal flood hazard/impact assessment is currently being developed within the KNOWING project.

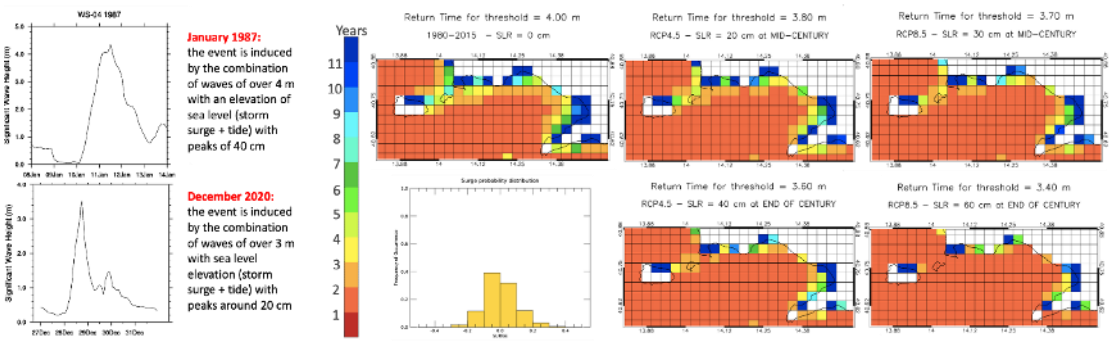


Figure 3: Reference coastal flooding for the city of Napoli. Historical climatological studies and future projections (RCP 4.5/8.5) to determine the return period of extreme events of different intensity (Source: ENEA and PLINIVS-LUPT).

Vulnerability assessment

The Municipality of Napoli has indicated that in the Napoli SECAP the Risk and Vulnerability Assessment, defined in the JRC guidelines as 'expected weather and climate events of

particular relevance for the local authority or region', should be compliant with the methodology of the H2020 CLARITY project, selected as an appropriate approach to guide climate change adaptation and mitigation measures, as well as to bridge the SECAP with other relevant risk planning tools at regional or metropolitan city level, in the perspective of an integrated multi-risk approach underpinning local urban governance.

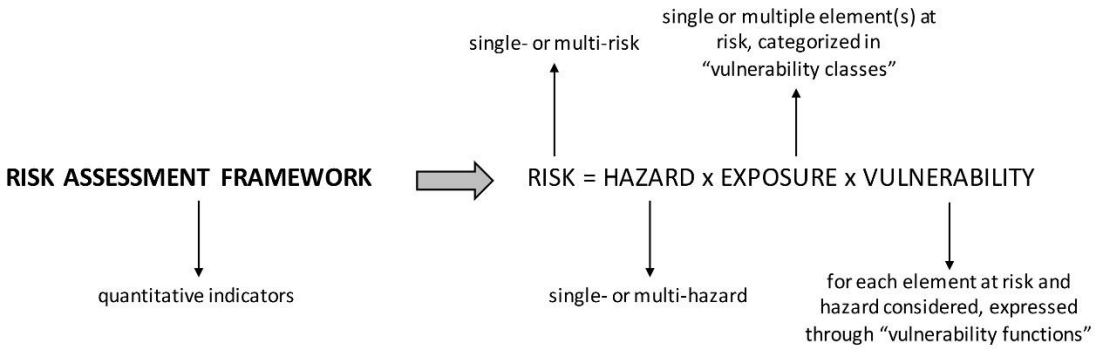


Figure 4: Risk and vulnerability assessment framework compatible with the CLARITY methodology, as defined for the Napoli SECAP (Source: PLINIVS-LUPT).

According to the JRC, the 'Risk and Vulnerability Assessment (RVA) methodology determines the nature and extent of a risk by analysing the potential hazards and assessing the vulnerability that could pose a potential threat or damage to people, property, livelihoods and the environment on which they depend'. In the Risk Assessment Framework proposed for the Napoli SECAP (Figure 4), vulnerability represents the degree of damage for a given risk element, or set of such elements, that is expected to result from the impact of a hazard of a given intensity. It is specific to each hazard/risk element combination and is expressed on a 'damage scale' (from no 'damage' to 'total damage').

Vulnerability assessment involves first and foremost the identification of all elements that may be at risk from a particular hazard. The opportunities and constraints for determining accurate quantitative vulnerability indicators depend heavily on the availability of data to organise exposure information into consistent and reliable 'vulnerability classes'. Vulnerability analysis methods may therefore change depending on data availability and resolution, with significant variations related to the spatial scale of the analysis (global, national, regional, local). For instance, the identification of building typologies at an international level would require the harmonisation of different national and regional datasets (where existing), considering the information derived from such datasets (in Italy derived for instance from

ISTAT) is generally more fuzzy and less reliable than local datasets constructed through on-site surveys, which can obviously only be performed for limited spatial domains. Undoubtedly, the greater availability of data from satellite mapping, remote sensing and IT tools represents a relevant resource, fully and innovatively used in the CLARITY methodology, which has a huge impact in updating vulnerability analysis methodologies.

In the Napoli SECAP, the indicators adopted to assess vulnerability are divided, in accordance with JRC guidelines, into two categories: 'Socio-economic vulnerability' and 'Physical and environmental vulnerability'.

Vulnerability is defined as the probability that a risk element, belonging to a vulnerability class, will suffer a level of damage, according to a predefined damage scale, in response to a hazard event of given intensity. It is expressed through a vulnerability matrix that indicates, for each group of elements at risk, the percentage belonging to each vulnerability class with reference to the hazard investigated in the area considered.

In order to comply with the JRC guidelines, however, the vulnerability indicators as requested in the SECAP model (section "Vulnerability of the local authority or region") include all relevant parameters related to the calculation of the exposure of the elements at risk, as well as local effects of heat waves and flooding, as fundamental "Socio-economic" and "Physical-environmental" variables. It should be noted that this does not affect the RVA methodology adopted, which is instead based on the CLARITY approach. The parameters for calculating the exposure of elements at risk, assimilated to 'vulnerability indicators' according to the SECAP taxonomy, are reported in Table 1.

Table 1: Parameters for calculating the exposure of elements at risk, assimilated to 'vulnerability indicators' according to the SECAP taxonomy, section 'Vulnerability of the local authority or region' (Source: PLINIVS-LUPT).

Type of vulnerability	Indicator description	Indicator metric
Socio-economic	Current population	N. di abitanti
Socio-economic	Projected population 2030/2050	N. di abitanti
Socio-economic	Population density	Persone per km2
Socio-economic	Projected population density 2030/2050	Persone per km2
Socio-economic	Share of sensitive age groups (elderly > 65 years; young < 15 years)	%
Socio-economic	Share of low-income population groups	%
Socio-economic	Average days of hospitalisation for heat-related illnesses	N.
Socio-economic	Average daily hospitalisation cost	€
Socio-economic	Hourly output	€

Socio-economic	Average cost of rehabilitation for residential / public / industrial buildings from flooding	N./m²
Socio-economic	Average street cleaning costs caused by flooding (including the impact of manhole cleaning)	N./m²
Socio-economic	Current energy consumption per capita	kWh
Socio-economic	Consumo energetico pro capite previsto per il 2030/2050	kWh
Socio-economic	Local Gross Product (GLP) / Local Value Added (LVA)	€
Physical and environmental	Type of land use - Roads	m²
Physical and environmental	Type of land use - Railways	m²
Physical and environmental	Type of land use - Residential buildings	m²
Physical and environmental	Type of land use - Non-residential buildings	m²
Physical and environmental	Type of land use - Constructed open spaces	m²
Physical and environmental	Type of land use - Sports facilities	m²
Physical and environmental	Type of land use - Agricultural areas	m²
Physical and environmental	Type of land use - Bare soil	m²
Physical and environmental	Type of land use - Vegetated areas	m²
Physical and environmental	Type of land use - Water	m²
Physical and environmental	Albedo of urban surfaces	% (0-1)
Physical and environmental	Emissivity of urban surfaces	% (0,8-0,99)
Physical and environmental	Transmissivity of vegetated/artificial canopies	% (0-1)
Physical and environmental	Sky View Factor	% (0-1)
Physical and environmental	Green shading factor	% (0-1)
Physical and environmental	Surface temperature of urban surfaces in relation to solar radiation/air temperature	%
Physical and environmental	Surface runoff coefficient	% (0-1)
Physical and environmental	Extent of river basins	m²
Physical and environmental	Relative altimetry of hydrographic basins	m
Physical and environmental	Density of channels of surface runoff	% (0-1)

Based on the hazard, exposure and vulnerability information available for the whole city area, the PLINIVS GIS-based impact assessment models allow to determine quantitative indicators through which assess the priorities and effectiveness of alternative adaptation strategies (Figure 5).

A GIS-based energy cadaster has implemented to assess the current consumption of public buildings and the potential of renewable energy generation from PV roofs (with a simulation module extended also to private properties) (Figure 6).

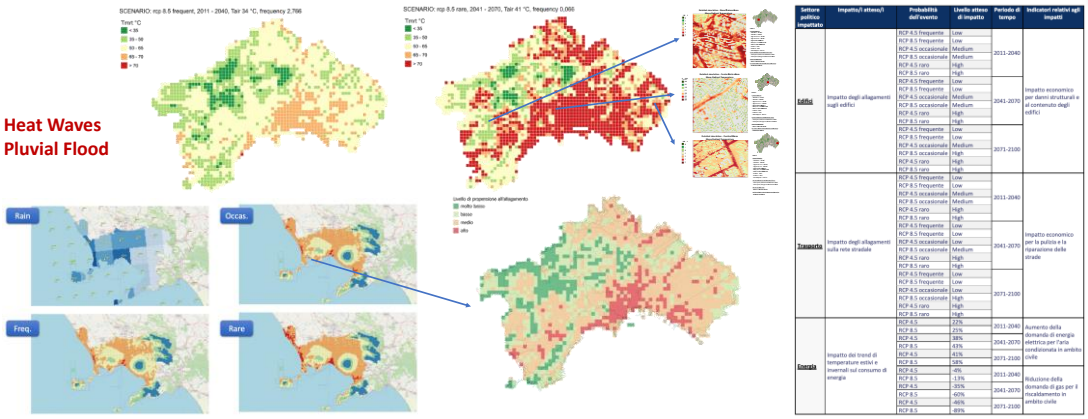


Figure 5. PLINIVS GIS-based Climate Impact assessment tool and quantitative Impact Indicators (Source: PLINIVS-LUPT).

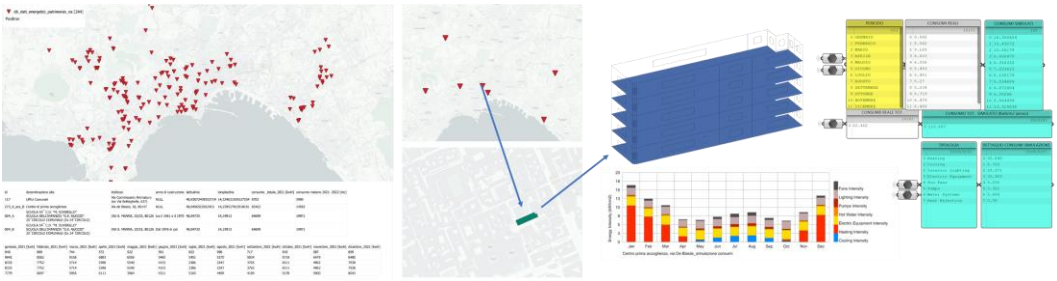


Figure 6. ANEA-PLINIVS GIS-based energy cadaster (Source: PLINIVS-LUPT).

1.1 Connect and self-assessment

1.1.1 The coordinator of Napoli SEACAP Living Lab

ANEA (Napoli Agency for Energy and the Environment), is an independent, non-profit organisation aiming to promote the rational use of energy, disseminate renewable energy sources and protect the environment. ANEA belongs to the European network of SAVE Agencies and to the RENAEL, the Italian network of local energy Agencies. ANEA can be considered the focal point between the main actors of demand and supply of energy in the metropolitan area of Napoli. The main activities of ANEA are information, training, applied research and technical assistance for citizens, SMEs and public administration aimed at developing innovative action in the energy and environment sector. The main fields of activity

of ANEA are: Sustainable mobility; Rational use of energy in buildings and equipment; Renewable energy sources. Its activities are addressed mainly to: local agencies; enterprises; professionals; targeted groups (trade associations, consumer associations, building administrators, schools, householders, etc).

As partner of the SEACAP4SDG Project ANEA is responsible for leading the SEACAP LL activities, and appointed Mattia Federico Leone, Associate Professor at University of Napoli Federico II and Senior Researcher at PLINIVS-LUPT, the Coordinator of the Napoli SEACAP Living Lab.

PLINIVS-LUPT, based on the agreement with ANEA, committed to support the Municipality of Napoli in the elaboration of the improved energy plan, based on selected available tools and resources presented in the SEACAP 4 SDG TOOLKIT, implementing the following steps:

a) Assessment of the existing conditions and the possible situation after the implementation of the Toolbox tool/methodology, including energy consumption and characteristics of the analysed typologies, prioritisation of actions in the buildings and other relevant aspects to be highlighted as "low cost actions", with the participation of stakeholders;
b) Planned energy improvements. Overview of proposed actions and required investments. The section should include the objectives of the planned actions; the general administrative framework, including the actors involved and their responsibilities; planned technical interventions; barriers and obstacles and ways to close these gaps; and expected impacts, such as energy savings, renewable energy production, avoided CO2 emissions, and social and climate impacts. Finally, the section should include the project's potential for replicability and alignment with the existing SEAP or an energy plan with similar ambitions.
c) Behavioural change. Stakeholder engagement. An overview of the proposed stakeholder activities based on the previous analysis and the potential impacts expected, including the objectives, the general framework, the barriers and obstacles identified and how these can be addressed.

1.1.2 Napoli SEACAP Living Lab stakeholders

In order to train those responsible for the municipal heritage of Napoli, the Deputy Mayor, who also has the function of Environmental Adviser, as well as various persons responsible for the technical services of the municipality such as the Energy Manager, managers of public buildings (e.g. education, sports building), the head of environmental control services, were

contacted and invited to various training workshops by email and through various meetings organised upstream.

The methodological background for stakeholder involvement and LL creation has been defined within projects and activities carried out by the City of Napoli with the support of Università di Napoli Federico II, mostly within within H2020 CLARITY and the participation to the Horizon Europe KNOWING project.

The stakeholder involvement phase has been preceded by an overview on the identified climate change impacts, namely:

- Heatwaves, Health and Energy;
- Flooding and Infrastructure (including both pluvial flooding and coastal flooding),

To identify the stakeholders to involve, we had to monitor climate change impact on sectors and services in the Neapolitan territory. Then, we were able to identify public stakeholders, private subjects and civil society that would be necessary and/or interested by the Local Hub, knowledge sharing as well as at the co-design of a "2050 vision" for the city and of an implementation pathway based on short-, medium- and long-term priorities, to which performance indicators with respect to the set objectives should be linked.

The methods of onboarding and engagement of initial stakeholders, any additional stakeholders and citizens (e.g. workshops, regional scale events, press releases, social media content, etc.) is carried out in a coordinated and strategic manner to ensure that the interactions between the actors lead to the achievement of the LL objectives.

The stakeholders identified are either present in the area affected by the risks previously defined, or managers or owners of the infrastructure or services impacted by risks. The target audiences are Policy makers & administration (regional planning, environment, water, health), Economy & industries (energy, construction, infrastructure) and Civil society NGOs. The Stakeholder and Citizen Engagement Plan took into account stakeholders included in a continuously updated database and organised into specific categories.

The Municipality of Napoli has initially selected a series of 9 public stakeholders at the level of the municipality of Napoli and the Region.

The list of stakeholders involved in the SEACAP4SDG training activities are:

- Comune di Napoli | Mayor Advisor for Energy Transition
- Comune di Napoli | Assessorato all'Ambiente e al Mare
- Comune di Napoli | Servizio Controlli Ambientali e Attuazione PAES
- Comune di Napoli Enerfy Manager
- Comune di Napoli | Assessorato Urbanistica Comune di Napoli
- Comune di Napoli | Unità economico-finanziaria
- Area Sport | Servizio Tecnico Impianti sportivi
- UNI Campania Energy Manager
- UNINA Energy Manager

Further stakeholders are being engaged for the continuation of the Napoli, adding to the initial list 9 public stakeholders from regional and city authorities, 4 private companies, 1 NGOs. Some were preliminary met at events, such as EnergyMed. Stakeholders were first contacted by e-mail with a letter explaining the project and the stakeholder involvement plan, containing the following information:

- WHAT: The Local Hub aim and the main workshop
- WHERE: The Metropolitan City of Napoli (multi-risks and impacts)
- HOW: Relevant stakeholders' involvement (Role and sector of interest, Importance for the project, Interest in taking part).

The list of stakeholders which is expected to be involved in the continuation of the Napoli LL are:

- Comune di Napoli | Assessorato alle Infrastrutture, Mobilità e Protezione Civile
- Comune di Napoli | Assessorato al Turismo e alle attività produttive
- Soprintendenza Archeologia Belle Arti e Paesaggio per il Comune di Napoli
- UOD Energia, efficientamento e risparmio energetico, Green Economy e Bioeconomia Regione Campania
- UOD Valutazioni Ambientali Regione Campania
- Autorità del Sistema Portuale del Mar Tirreno Centrale
- Consorzio di bonifica delle paludi di Napoli e Volla
- Stazione Zoologica Anton Dohrn Napoli
- Legambiente Campania APS
- ARPAC - Agenzia Regionale per la Protezione dell'Ambiente
- EDISON SpA
- MSC Crociere

- Fincantieri
- Federcostruzioni

1.1.3 The Napoli SEACAP Living Lab scope

The complexity of the challenges concerning the relationship between climate change and urban transformation requires the development of integrated strategies to achieve the 2030 and 2050 targets promoted by international agendas in terms of mitigation, adaptation, environmental quality and social equity. The European Union, through the Green Deal and the Next Generation EU programme, has laid the groundwork to become the first continent to achieve climate neutrality by 2050. Directing local action to contribute effectively to EU objectives requires a major effort in terms of coherence between planning, design, implementation, and monitoring of interventions. It also requires a synergic action by public administrations, scientific institutions, private actors, and civil society in building a shared and ambitious long-term vision, supported by a realistic and effective implementation roadmap, able to guarantee the correct use of the available technical-scientific and financial resources, in order to generate an important leverage effect in terms of private investments starting from an adequate use of EU, national and regional contributions.

For the Living hub and the organisation of events, the critical needs are creating the pathways and having simple tools for the stakeholders' workshops that simplified the content of the scientific scope and become an opportunity to have feedbacks and facilitate exchanges and interaction among. The main scope is to adapt the SEACAP4SDG tools to the stakeholder needs and data in procession of the technical services of the municipality of Napoli.

The critical aspects in the workshop's organisation are:

- Adapt the workshops to the regional challenge, focussing of the needs of partners and stakeholder,

- provide a space for dialogue and interaction with other local stakeholders representing public authorities, scientific community, technical services.

1.1.4 Napoli SEACAP Living Lab action plan

<u>Objectives</u>

The LL activities will contribute to the development of the Sustainable Energy and Climate Action Plan (SECAP) for Napoli, as a signatory Covenant of Mayors for Climate and Energy (City Council resolution n. 34, 5/08/2022).
The LL aims at developing climate resilient planning and design solutions, based on mapping and simulation of expected impact of heatwaves and future coastal floods, aggravated by sea level rise and extreme weather events.
Through workshops, the LL will also provide a space for dialogue and interaction with other local stakeholders representing public authorities, scientific community, technical services, and in a second phase, private sector, and communities.

The main objective of the LL is to support the current transition of the Napoli SEAP into SECAP. The potential of digital tools and co-design practices in supporting the development and monitoring of SECAPs represents a priority to establish a coherent operational framework to support the short- to mid-term implementation of all local plans and projects, thanks to its strategic nature.

The exchange with stakeholders and citizens, regardless of the sector they belong to (technical-scientific, public administration, enterprise, civil society, etc.), has the following objectives:

- to ensure the alignment of the LL with the needs/expectations of each stakeholder, considering the reference climate impact context and regional climate change risk mitigation and adaptation strategies;
- to formulate and co-create climate mitigation pathways according to the climate impact context;
- support local climate change adaptation and mitigation policies (including socio-environmental impacts) for each sector, implementing the measures identified in the climate impact contexts' climate mitigation pathways
- co-create tools and services.

Through the LL, the City of Napoli will consolidate the background acquired with the CLARITY project and extend the already available climate services, related to heat waves and urban flooding, to the analysis of coastal flooding impacts, in order to support the definition of integrated climate adaptation and mitigation strategies, specific to the local context. The hazard/impact modelling data will be fully integrated into the Territorial Information System of the Metropolitan City of Napoli (http://sit.cittametropolitana.na.it/), providing a starting point for the implementation of tools to support public administration in other municipalities of the metropolitan area.

The main planning tool in which it is intended to converge the outcomes of activities in collaboration with stakeholders is the Napoli Municipality's Sustainable Energy and Climate Action Plan (SECAP), to be released in 2024. The tools proposed will support the development and monitoring of the SECAP will make it possible to create a coherent operational framework that can foster the synergic implementation of all local plans and projects in the short and medium term (2023-2030), starting from a long-term strategic vision (2050-2070).

To support such a process, the LL aims at support local actions involving scientific experts, public stakeholders, private subjects and civil society in a series of thematic workshops, aimed at knowledge sharing as well as at the co-design of a "2050 vision" for the city and of an implementation pathway based on short, medium and long term priorities, to which performance indicators with respect to the set objectives should be linked. Coordinating and strategically managing stakeholders means ensuring that key players are familiar with the LL's objectives and applications and then act as multipliers to the outside world.

Activities

The focus on the SECAP plan represents the starting point around which to co-create integrated strategies that, starting from the objectives of energy transition and climate neutrality, considering local priorities related to the improvement of environmental quality, accessibility of public services and social justice, developing replicable models also in other areas of the city and metropolitan context.

The key tools proposed by SEACAP4SDG identified as particularly relevant to expand the potential of the tools already available to the City of Napoli are summarized in the following table.

Toolkit	Relevant Output	Limits for implementation
IMPULSE	Structured database of characteristics of public building stock to monitor emissions and potential reduction; GIS based KPIs-processor, financial scheme evaluation tool	Needs a systematic methodology for data collection of each public building.
EDUFOOTPRINT	LCA of Carbon Footprint and environmental Footprint; high involvement of users and engagement of local communities, influence on behaviour at local scale	Needs a systematic methodology for data collection of each public building. Handle individual buildings only

EDUFOOTPRINTPLUS	Calculate the consumption of resources and activities carried out in the educational organisation and the environmental footprint of the schools for the owners and managers, considering the whole life cycle of the public building	Handle individual buildings only. Does not provide gradual renovation plans.
PRIORITEE and PRIORITEE PLUS	Strategy and toolbox to manage and monitor energy consumption, to assess the cost-effectiveness of EE and RES measures and to prioritize investments. Methodology about engaging people and transferring activities. Capacity building Program that involves local authorities, regional partners and key local actors.	Access to experimentation is limited and requires registration, which is only available for specific countries
MED-ECOSURE	Build effective governance structures, influence on behavioural aspects through user engagement)	Educational buildings only, methodology could be extended to other typologies
CESBA MED S	Indicators and assessment process for retrofit strategy and scenarios, quantitative and qualitative aspects taken into account to assess both mitigation and adaptation criteria	Requires structured stakeholders involvement
STEPPING and STEPPING PLUS	To identify diverse investment scenarios that effectively align the interests of both the public and private sectors when it comes to making Energy Performance Contract (EPC) investments. This assessment is specifically tailored to evaluate an investment plan that involves a grouping or bundling of multiple buildings.	The process assumes the existence of state Key Performance Indicators (KPIs) that are already available in the base-case scenario, as well as for different retrofit scenarios that are being considered.
BEEP-BIM	To facilitate energy and environmental enhancements, support is provided throughout the entire process, ranging from analysis and design stages to the actual implementation of an Energy Performance Contract.	Tool to use mostly during the conception phase.

Stakeholders role and responsibilities

ANEA - Agenzia Napoletana Energia e Ambiente lead the LL, with the support of University of Napoli Federico II (UNINA) includes staff from the PLINIVS Study Centre (Study Centre for the Hydrogeological, Volcanic and Seismic Engineering), operational structure of the LUPT

Interdepartmental Research Centre and Centre of Competence of the Italian National Department of Civil Protection.

LUPT-UNINA provides scientific and technical support to the City of Napoli developing and testing interactive tools for collaborative mapping, knowledge-sharing and co-design in a multi-stakeholder context.

Two UNINA members, Marion Perney and Mattia Leone, participated in specific online training sessions in English on the TOOLKIT presented by SEACAP4SDG, in the period from October to December 2022. The preparatory training sessions allowed the support of the Municipality of Napoli in the improvement of its energy plan. They have the role of training the representatives of the Municipality of Napoli, with ANEA, during the training sessions. They participated in all the meetings/workshops and events organised with the other partners of the SEACAP 4 SDG project, at the events in BEIRUT, TUNIS, ENERGYMED, Napoli). The UNINA working group included as technical staff units from PLINIVS-LUPT Study Centre Nicola Addabbo and Giovanni Nocerino.

The Municipality of Napoli includes staff from the Environmental Department – Environmental Monitoring and SEAP Implementation Area, which deals with: environmental planning activities, environmental impact assessment (EIA) and strategic environmental assessment (SEA), guidelines on building energy performances, promotion of renewable energy use/production, environmental monitoring (noise, electromagnetic, and atmospheric pollution-related), management of "Covenant of Mayors" activities, and Sustainable Energy Action Plan (SEAP) implementation.

The city of Napoli has been trained during the LL events and still contributes to the creation of workshop and public events in the regional/local hubs, ensuring the engagement of regional/local stakeholders, citizens, and economic partners, implementing the knowledge-exchange, and co-creating feasible climate resilient pathways.

External stakeholders involved in the SEACAP4SDG training and planned workshops in June 2023 are committed on a voluntary base, hence the success of the Napoli LL strongly depends on the ability of raise the interest of public and private stakeholders in co-designing the Napoli SECAP.

The Napoli LL activities have been financially supported by the UNINA working group, no profit is expected to be generated within the LL activities.

The main risk concerns the capacity to engage external stakeholders throughout the whole SECAP implementation process, since their contribution is considered essential to deliver a shared vision and feasible roadmap to increase climate resilient public and private

investments. The contingency plan provides the set-up of dedicated bilateral interaction with each individual stakeholder to get direct feedback on the advancement of the Napoli LL.

1.2 Educate and plan

1.2.1 Educate/train stakeholders

The training to the Napoli stakeholders, organized by ANEA and UNINA-PLINIVS, was delivered by Mattia Federico Leone and Marion Perney, with the support of experts from the Interdepartmental Research Center Laboratory of Urban and Regional Planning "Raffaele d'Ambrosio" (LUPT) of the University of Napoli "Federico II" (UNINA), Nicola Addabbo and Giovanni Nocerino.

In order to guide the Municipality of NAPOLI in the use of the tools previously identified during the training session, ANEA and LUPT-UNINA, in collaboration with the representatives of the Municipality, were able to identify the TOOLKIT tools to be used to develop a harmonised ecosystem of tools supporting the implementation of the SECAP of Napoli.

The training was delivered according to the following methodological steps/tools:

On 27 February 2023, the training for the municipality of Napoli stared by the presentation of SECAP Napoli legacy tools Integrating SEACAP4SDG tools (tools interface parameters and process workflow from preliminary assessment to planning, design and implementation). The second part of the workshop was dedicated to a discussion on how to apply the tools to the Neapolitan public building stock and how to use the current data held by the technical services. An overview was made of the necessary inputs and useful outputs in the management of the public heritage of the city of Napoli. At the end of this morning of training, the technical services determined that the tools could be used for schools and related public spaces for monitoring consumption, and future projection of energy consumption due to climate change. Participants were interested in supporting user behaviour and community engagement through the tools presented. The technical services intend to apply the methodology to a building as an experimental model. they will have to identify the feasibility conditions and the financing conditions. 1 representative of ANEA, 4 representative of the municipality of Napoli (Staff from Municipality of Napoli, Councillor for the Environment, Energy manager, technical group), and 3 expert’s form LUPT were presents. This event took place on the municipality of Napoli' premises.

On March 31st the training took place during the EnergyMed exhibition and focused on the evaluation tools for public building energy renovation, such as KPIs-processor's GIS plug-in and financial scheme evaluation tool from IMPULSE, for direct integration into a GIS environment and structured methodology to improve data collection for public building energy and environmental monitoring, renovation planning, and potential financing. Then was introduced the School LCA Calculator from EduFootprint, given the significant share of school buildings among the different categories of public buildings and the potential for improving the calculation of direct and indirect energy consumption in terms of carbon/environmental footprint. 3 representative of ANEA, 2 representative of the municipality of Napoli, and 3 expert's form LUPT were presents and 3 representants of the University of Campania.

On April 26th the Co-design Tools were presented, such as the MCBLL - Mediterranean Cross-Border Living Lab (MED-ECOSURE), given the potential to achieve through living labs a behavioural change on energy use that can in turn reduce energy consumption for the residential sector as well (students as "environmental mentors" for their families). Furthermore, the SBT-Sustainable Building Tool and SNT-Sustainable Neighbourhood Tool (CESBA MED S) was selected for the quality of the indicators identified, related to both climate mitigation and adaptation, and the direct link to the evaluation process of retrofit strategies and scenarios, based on both quantitative and qualitative aspects. This test project would be the ambassador before extending the action to other public buildings. 1 representative of ANEA, 3 representative of the municipality of Napoli, and 2 expert's form LUPT were present.

1.3 Implement

Following the training activity, a final selection of tools to be integrated within the Napoli LL has been made, in relation to the priorities expressed by the involved stakeholders.

The key tools proposed by SEACAP4SDG identified as particularly relevant to expand the potential of the tools already available to the City of Naples are:

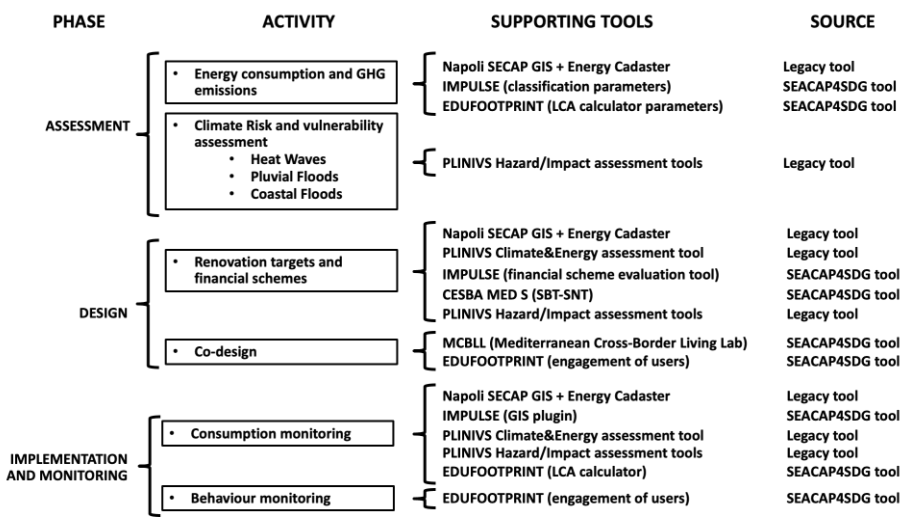
- **Public Building Energy Renovation - KPIs-processor's GIS plug-in and financial scheme evaluation tool,** spreadsheet tool (excel); GIS-based management support system (IMPULSE), for the direct integration in a GIS environment and the structured methodology to improve data collection for energy and environmental monitoring of public buildings, renovation planning and potential financing
- **SBT-Sustainable Building Tool and SNT-Sustainable Neighbourhood Tool,** online tool; framework assessment based on the SBEMethod of iiSBE International (CESBA MED S), for the quality of identified indicators, linked to both climate mitigation and adaptation, and the direct link to the assessment process for retrofit strategies and scenarios, based on both quantitative and qualitative aspects
- **School LCA Calculator,** Online tool and spreadsheet (excel) (EDUFOOTPRINT), given the relevant share of educational buildings among the different categories of public properties and the potential of improving the calculation of Direct and Indirect Energy Consumption in terms of carbon/environmental footprint
- **MCBLL - Mediterranean Cross-Border Living Lab,** Project management methodology and communication between the Living Lab, (MED-ECOSURE), given the relevant share of educational buildings among the different categories of publicly-owned properties, and the possibility of achieving through the living labs a behavioural change about energy uses which can in turn reduce energy consumption also for the residential sector (students as “environmental mentors” for their families)

IDENTIFIED TOOLS AND METHODOLOGIES	RELEVANT OUTPUT	LIMITS FOR IMPLEMENTATION
IMPULSE	Structured database of characteristics of public building stock to monitor emissions and potential reduction; GIS based KPIs-processor, financial scheme evaluation tool	Needs a systematic methodology for data collection of each public building
EDUFOOTPRINT	LCA of Carbon Footprint and environmental Footprint; high involvement of users and engagement of local communities, influence on behaviour at local scale	Needs a systematic methodology for data collection of each public building
CESBA MED S – SBT and SNT	Indicators and assessment process for retrofit strategy and scenarios, quantitative and qualitative aspects taken into account to assess both mitigation and adaptation criteria	Requires structured stakeholders involvement
MED-ECOSURE- LIVING LABS	Build effective governance structures, influence on behavioural aspects through user engagement)	Educational buildings only, methodology could be extended to other typologies

Figure 8. SEACAP4SDG tools/methodologies integrated in the Napoli planning and design support toolkit

The goal is to deliver a harmonized process workflow towards the Napoli SECAP preparation, linking the legacy tools available to the City of Napoli with the identified SEACAP4SDG tools.

The following figure represent the envisaged implementation workflow, in connection to the key activities linked to the Napoli SECAP preparation and the supporting tools available to the Municipality of Napoli.



1.4 Improve and Evaluate

1.4.1 1.4.1 Generation of potential improvements of Napoli LL

To ensure the possibility of developing a harmonized ecosystem of tools supporting the Napoli SECAP implementation, a specific activity has been carried out to ensure the integrability among legacy tools and the SEACAP4SDG tools, resulting in the following upgrades:

- Update of public building energy cadaster (including energy class assessment)
- Integration of updated energy cadaster in the Napoli SECAP GIS database
- Identification of sample buildings for SEACAP4SDG tools testing (3 school buildings, 2 office buildings)
- Detailed energy modelling of the sample buildings, and upgrade of relevant data required by the SEACAP4SDG tools in the Napoli SECAP GIS database

The need for such improvements were a direct outcome of dedicated meetings carried out with technical staff from the Municipality of Napoli - Environmental Monitoring and SEAP Implementation Service, which highlighted as overarching need the detailed assessment of energy consumption and related GHG emissions of the public building stock, considered as essential to select specific facilities in which to apply the very detailed tools provided by SEACAP4SDG, which have been identified as particularly useful for single-building retrofitting program implementation (appreciating the possibility of directly involving building users in the design process and potentially enhancing their behaviour in terms of energy efficiency and environmental impacts reduction), but not suitable for the preliminary assessment of priority of interventions at city scale, which is considered the most important step to unlock EU and national funding.

1.4.2 Napoli LL evaluation

A significative feedback was received by the involved stakeholders, especially on the usefulness of assessment tools able to deliver quantitative indicators that can support the accounting of public investments in the short-term, in connection with the Next Generation EU funding and the need of accounting projects investments through the EU Taxonomy

principles. The importance of activating a dialogue between public and private actors to identify potential collaboration opportunities, but also diverging interests and existing conflicts, was also identified as a priority especially in the context of investment on schools and sport facilities.

The evaluation questionnaire shown a general appreciation about the LL meetings in terms of relevance of the presented topics and their usefulness to activate possible collaborations. The main interest concerned the possibility of transferring of user-oriented solutions and strengthening the cooperation and trust between public and private sector. The complexity of some of the proposed tools didn't allow to acquire a full understanding of the capabilities linked to their regular use in building and open space design and retrofitting, although a general interest in learning more about their practical usability in the daily tasks of different stakeholders has been recognised. The innovation potential of the LL approach attracted the interest of both public and private stakeholders, especially in relation to their capacity of meeting the novel requirements stemming from the more recent EU addresses and regulations (e.g. EU Taxonomy and the new EPBD).

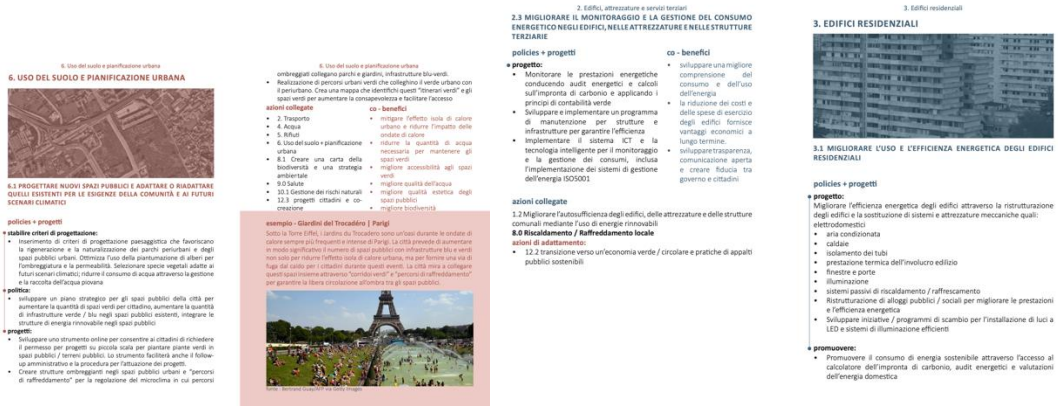
1.5 Disseminate

During the Napoli LL set up, the clear indication emerged concern the need to better communicate the specific social, economic and environmental co-benefits of energy and climate action, tailored according to stakeholder priorities in their respective fields.

As an example, aspects considered as key component for the dissemination and communication strategies in relation to school building energy and climate retrofitting is the importance of environmental education of new generation to trigger behavioural changes and the potential role of students as "environmental mentors" for their families to decrease energy consumption; in the case of sport facilities, the return in terms of "corporate sustainability" image of involved sport associations as trigger for private investments.

From June 2023 on, ad hoc dissemination and communication materials will be developed to increase the engagement of stakeholders, with the goal of delivering a simplified conceptualization of Napoli LL methods and expected outcomes to reach a wider audience and ultimately the general public. An illustrative booklet about the Napoli SECAP

implementation will be developed, including example of best practices and success stories from EU cities and guidelines for priority actions in the local context.


6. Uso del suolo e pianificazione urbana

6. USO DEL SUOLO E PIANIFICAZIONE URBANA

6.1 PROGETTARE NUOVI SPAZI PUBBLICI E ADATTARE O RIADATTARE QUELLI ESISTENTI PER LE ESIGENZE DELLA COMUNITÀ E AI FUTURI SCENARI CLIMATICI

policies + progetti

• stabilire criteri di progettazione:
  • Inserimento di criteri di progettazione paesaggistica che favoriscano la rigenerazione e la naturalizzazione dei parchi periurbani e degli spazi pubblici urbani. Ottimizza l'uso della piantumazione di alberi per l'ombreggiatura e la permeabilità. Selezionare specie vegetali adatte ai futuri scenari climatici; ridurre il consumo di acqua attraverso la gestione e la raccolta dell'acqua piovana
• politica:
  • sviluppare un piano strategico per gli spazi pubblici della città per aumentare la quantità di spazi verdi per cittadino, aumentare la quantità di infrastrutture verde / blu negli spazi pubblici esistenti, integrare le strutture di energia rinnovabile negli spazi pubblici
• progetti:
  • Sviluppare uno strumento online per consentire ai cittadini di richiedere il permesso per progetti su piccola scala per piantare piante verdi in spazi pubblici / terreni pubblici. Lo strumento faciliterà anche il follow-up amministrativo e la procedura per l'attuazione dei progetti.
  • Creare strutture ombreggianti negli spazi pubblici urbani e "percorsi di raffreddamento" per la regolazione del microclima in cui percorsi

6. Uso del suolo e pianificazione urbana

ombreggiati collegano parchi e giardini, infrastrutture blu-verdi.
• Realizzazione di percorsi urbani verdi che colleghino il verde urbano con il periurbano. Crea una mappa che identifichi questi "itinerari verdi" e gli spazi verdi per aumentare la consapevolezza e facilitare l'accesso

azioni collegate
• 2. Trasporto
• 4. Acqua
• 5. Rifiuti
• 6. Uso del suolo + pianificazione urbana
• 8.1 Creare una carta della biodiversità e una strategia ambientale
• 9.0 Salute
• 10.1 Gestione dei rischi naturali
• 12.3 progetti cittadini e co-creazione

co - benefici
• mitigare l'effetto isola di calore urbano e ridurre l'impatto delle ondate di calore
• ridurre la quantità di acqua necessaria per mantenere gli spazi verdi
• migliore accessibilità agli spazi verdi
• migliore qualità dell'acqua
• migliore qualità estetica degli spazi pubblici
• migliore biodiversità

esempio - Giardini del Trocadéro | Parigi
Sotto la Torre Eiffel, i Jardins du Trocadéro sono un'oasi durante le ondate di calore sempre più frequenti e intense di Parigi. La città prevede di aumentare in modo significativo il numero di spazi pubblici con infrastrutture blu e verdi non solo per ridurre l'effetto isola di calore urbana, ma per fornire una via di fuga dal caldo per i cittadini durante questi eventi. La città mira a collegare questi spazi insieme attraverso "corridoi verdi" e "percorsi di raffreddamento" per garantire la libera circolazione all'ombra tra gli spazi pubblici.

Credit: Bertrand Guay/AFP via Getty Images

2. Edifici, attrezzature e servizi terziari

2.3 MIGLIORARE IL MONITORAGGIO E LA GESTIONE DEL CONSUMO ENERGETICO NEGLI EDIFICI, NELLE ATTREZZATURE E NELLE STRUTTURE TERZIARIE

policies + progetti

• progetto:
  • Monitorare le prestazioni energetiche conducendo audit energetici e calcoli sull'impronta di carbonio e applicando i principi di contabilità verde
  • Sviluppare e implementare un programma di manutenzione per strutture e infrastrutture per garantire l'efficienza
  • Implementare il sistema ICT e la tecnologia intelligente per il monitoraggio e la gestione dei consumi, inclusa l'implementazione dei sistemi di gestione dell'energia ISO5001

co - benefici
• sviluppare una migliore comprensione del consumo e dell'uso dell'energia
• la riduzione dei costi e delle spese di esercizio degli edifici fornisce vantaggi economici a lungo termine.
• sviluppare trasparenza, comunicazione aperta e creare fiducia tra governo e cittadini

azioni collegate
1.2 Migliorare l'autosufficienza degli edifici, delle attrezzature e delle strutture comunali mediante l'uso di energie rinnovabili
8.0 Riscaldamento / Raffreddamento locale
azioni di adattamento:
• 12.2 transizione verso un'economia verde / circolare e pratiche di appalti pubblici sostenibili

3. Edifici residenziali

3. EDIFICI RESIDENZIALI

3.1 MIGLIORARE L'USO E L'EFFICIENZA ENERGETICA DEGLI EDIFICI RESIDENZIALI

policies + progetti

• progetto:
  Migliorare l'efficienza energetica degli edifici attraverso la ristrutturazione degli edifici e la sostituzione di sistemi e attrezzature meccaniche quali:
  elettrodomestici
  • aria condizionata
  • caldaie
  • isolamento dei tubi
  • prestazione termica dell'involucro edilizio
  • finestre e porte
  • illuminazione
  • sistemi passivi di riscaldamento / raffrescamento
  • Ristrutturazione di alloggi pubblici / sociali per migliorare le prestazioni e l'efficienza energetica
  • Sviluppare iniziative / programmi di scambio per l'installazione di luci a LED e sistemi di illuminazione efficienti
• promuovere:
  • Promuovere il consumo di energia sostenibile attraverso l'accesso al calcolatore dell'impronta di carbonio, audit energetici e valutazioni dell'energia domestica

Figure 9. Excerpt of the Napoli SECAP booklet currently in preparation (Source: PLINIVS-LUPT).

A non-exhaustive list of national, EU and international event in which the Napoli LL results will be disseminated in 2023 and 2024 include:

- EU week of cities and regions 2023 (EU)
- Adaptation Futures 2023 (Global)
- COP28 (Global)
- EnergyMed 2024 (National)
- ICLEI World Congress 2024 (Global)

2. Conclusions

The Napoli LL intends to tackle a topic of great complexity, such as the integration of climate mitigation and adaptation strategies within a strategic local plan as the SECAP, in a context that, as many Mediterranean cities presents several complexities in terms of technical and financial resources available to local authorities, limited private investments and ability to use EU structural funding (e.g. Cohesion funds), mass emigration of highly-trained young scholars and professionals, limited awareness of local communities with respect to energy and environmental issues.

The combination of legacy tools available to the Municipality of Napoli thanks to its long collaboration with partners such as ANEA and UNINA with the tools offered by the SEACAP4SDG Toolkit represent a unique opportunity to bridge two crucial knowledge components that should support the path to a climate-resilient vision for 2050: 1) evidence-based and data-driven simulation tools and 2) knowledge-sharing and co-design tools.

The envisaged upcoming dissemination activities will be communicated via the Municipality of Napoli, UNINA-PLINIVS and ANEA websites, with the aim of expanding the stakeholders community and connect to other similar initiatives carried out by the Municipality.

LL sustainability, as a regular practice for all public investments and projects at city, neighbourhood and building/open space scales, remains a challenge in the Napoli context, for the abovementioned structural lack of human and financial resources, given the scale and complexity of the challenge at hand. The mobilization of public institutions, private sector and NGOs in supporting the climate and energy transition of the city is a key to grant the continuity of funding needed to continue carrying out such action in the next decades.

List of Approached and/or Participating Stakeholders

Name of Stakeholder	*Assessorato all'Ambiente e al Mare – Council for the Environment and the Sea*
Type of stakeholder	*Institutional decision makers*
Short description of stakeholder	*Sectors of interest: Land use, Housing, Construction, Energy* *Protection and preservation of the environment and landscape, Management of coastal ecological-environmental surveillance activities, implementation of environmental and energy measures and reclamation, monitoring and control of environmental matrices (air, water, soil, noise); management of the service contract as waste disposal and city cleaning services, protection and enhancement of the city's green spaces (parks, gardens and green areas) and their maintenance (trees). Support the mayor in his role as health authority*
Short description of cooperation in the project	- *planning priorities in relation to the innovative energy policies (local renewable energy production, energy communities, zero/positive energy building and districts, etc.)* - *planning priorities in relation to the local physical, socio-economic and policy context*
Advantage for stakeholders	- *Support to the development of the Sustainable Energy and Climate Action Plan (SECAP) for Napoli, as a signatory Covenant of Mayors for Climate and Energy (City Council resolution n. 34, 5/08/2022).*
Disadvantage for stakeholders	
Other notes	

Name of Stakeholder	*AREA AMBIENTE | Servizio Controlli Ambientali e Attuazione PAES - Environmental Controls and PAES Implementation Service*
Type of stakeholder	*Institutional decision makers, energy management authorities*
Short description of stakeholder	*Support structure for the administration in the exercise of functions delegated in the field of Strategic Environmental Assessment by the Campania Region and in the exercise of advisory functions in the field of both SEA and Environmental Impact Assessment.*
Short description of cooperation in the project	*deals with all activities aimed at protecting and safeguarding the environment and landscape, its improvement, the implementation of environmental and energy measures and reclamation.*
Advantage for stakeholders	Support for: - developing climate resilient planning and design solutions - development of the Sustainable Energy and Climate Action Plan (SECAP) for Napoli
Disadvantage for stakeholders	
Other notes	

Name of Stakeholder	*Assessorato Urbanistica Comune di Napoli - Department of Urban Planning City of Naples*
Type of stakeholder	*Institutional decision makers*
Short description of stakeholder	*Urban and spatial planning; Building and Land use regulations; Social Housing; Public space and common goods planning; Historic City and Heritage enhancement; Implementation and management of the Territorial Information System (SIT); Planning and management of funding requests and allocation for urban regeneration*
Short description of cooperation in the project	- *planning priorities in relation to the local physical, socio-economic and policy context* - *specific planning domains (e.g. SECAP, coastal district urban plans - PUAs; concessions of state maritime properties, etc.);* - *addresses for building codes and land use regulations for coastal areas, including seasonal uses;* - *exposure and vulnerability conditions of critical service infrastructures located in coastal areas (e.g. energy, maritime transport, water sanitation);* - *strategic planning visions to integrate climate mitigation and adaptation principles and measures with a specific focus on coastal areas.*
Advantage for stakeholders	Support for developing climate resilient planning and design solutions, in relation to heat waves and pluvial flood impacts, to offer an integrated multi-hazard assessment and support multi-scale planning and design integrating relevant climate mitigation and adaptation strategies.
Disadvantage for stakeholders	
Other notes	

Name of Stakeholder	*Unità economico-finanziaria del Comune di Napoli -Economic-financial unit of the City of Naples*
Type of stakeholder	*Institutional decision makers*
Short description of stakeholder	
Short description of cooperation in the project	
Advantage for stakeholders	
Disadvantage for stakeholders	
Other notes	

Name of Stakeholder	*Area Sport | Servizio Tecnico Impianti sportivi*
Type of stakeholder	*Institutional decision makers*
Short description of stakeholder	*The Sport Area is responsible for the planning and management of actions related to the practice of sport and the promotion of sport, as well as the planning, coordination and monitoring of related policies.*
Short description of cooperation in the project	- *identification of sports facilities in need of energy upgrading* - *community engagement*
Advantage for stakeholders	
Disadvantage for stakeholders	
Other notes	

Name of Stakeholder	*Università della Campania Luigi Vanvitelli*
Type of stakeholder	*Energy manager*
Short description of stakeholder	
Short description of cooperation in the project	
Advantage for stakeholders	
Disadvantage for stakeholders	
Other notes	

Name of Stakeholder	*Università degli Studi di Napoli Federico II - LUPT*
Type of stakeholder	*Energy manager*
Short description of stakeholder	Technical assistance service contract to support the risks and vulnerability assessment, development of climate resilient planning and design solutions, support the current transition of the Napoli SEAP into SECAP.
Short description of cooperation in the project	- *training sessions* - *organisation of workshops* - *development of the LL toolkit*
Advantage for stakeholders	
Disadvantage for stakeholders	
Other notes	

Questionnaire for the evaluation of the overall LL performance

To be filled-in by the LL stakeholders (participants):

1. Name of the person filling in the questionnaire: **Ada Claudia TIBERII**
2. Positions of the person in the stakeholders' organization: Funzionario architetto
3. Name of the LL stakeholder/organization: Commune di Napoli – Area Ambiente - Servizio Controlli ambientali e attuazione PAES
4. Type of the stakeholder - *Institutional decision makers*

(e.g. Institutional decision makers, National and regional energy management authorities, Building / Energy managers, Socio-economic operators, End users, etc.)

5. Country: Italy
6. LL stakeholders' satisfaction regarding the general organization of the LL (state the level of satisfaction by writing down "X" in the corresponding cell).

	Level of satisfaction				
	Not at all Satisfied	*Partly Satisfied*	*Satisfied*	*More than Satisfied*	*Very Satisfied*
Organization of the LL meeting			x		
Content of the LL meeting			x		
Relevance of the presented topics on LL meeting					x
Usefulness of the presented topics on LL meeting				x	
Speakers skills and competences at the LL meeting				x	
Results of the LL meeting			x		
Duration of the LL meeting				x	

7. Benefits gained by participating in LL (state the level of agreement by writing down “X” in the corresponding cell).

	Strongly disagree	*Disagree*	*Neither agree or disagree*	*Agree*	*Strongly agree*
LL enables transferring of user-oriented solutions					x
LL strengthens the cooperation and trust between public and private sector			x		
LL supports and strengthens cooperation among LL stakeholders					x
LL strengthens stakeholders’ transnational cooperation and networking with other organizations			x		
LL enables the exchange of experiences or knowledge for EE of public buildings				x	
LL enables more positive attitude towards EE of public buildings among LL stakeholders				x	
Participation in LL has increased the capacity of owners and managers of public buildings to design and implement better energy efficiency practices			x		
Participation in LL has enabled SMEs to present innovative solutions to potential users				x	
Policy makers, with participating in LL, feel more competent in field of effective policy recommendations for EE of public buildings in MED area					x

8. Stakeholder knowledge on the topics below before and after participating in LL (state the level of knowledge by writing down "X" in the corresponding cell).

	Before **participating in LL**					*After* **participating in LL**				
	Poor	Fair	Good	Very good	Excellent	Poor	Fair	Good	Very good	Excellent
EE policies (EU, national, local) for public buildings		x						x		
Available mentoring mechanisms for increasing EE of public buildings			x						x	
Funding possibilities for increasing EE of public buildings (e.g. for renovation)			x					x		
Existing best practices identified in SEACAP 4 SDG (tools, methodologies, strategies, etc.) aiming to EE of public buildings		x								x
LL establishment/setup		x							x	

Questionnaire for the evaluation of the overall LL performance

To be filled-in by the LL stakeholders (participants):

1. Name of the person filling in the questionnaire: **Antonella VIOLANO**

2. Positions of the person in the stakeholders' organization: Professore Associato Dipartimento di Architettura e Disegno Industrialec

3. Name of the LL stakeholder/organization: UNI CAMPANIA

4. Type of the stakeholder - *Institutional decision makers*

(e.g. Institutional decision makers, National and regional energy management authorities, Building / Energy managers, Socio-economic operators, End users, etc.)

5. Country: Italy

6. LL stakeholders' satisfaction regarding the general organization of the LL (state the level of satisfaction by writing down "X" in the corresponding cell).

	Level of satisfaction				
	Not at all Satisfied	*Partly Satisfied*	*Satisfied*	*More than Satisfied*	*Very Satisfied*
Organization of the LL meeting				x	
Content of the LL meeting				x	
Relevance of the presented topics on LL meeting					x
Usefulness of the presented topics on LL meeting					x
Speakers skills and competences at the LL meeting				x	
Results of the LL meeting				x	
Duration of the LL meeting				x	

7. Benefits gained by participating in LL (state the level of agreement by writing down “X” in the corresponding cell).

	Strongly disagree	*Disagree*	*Neither agree or disagree*	*Agree*	*Strongly agree*
LL enables transferring of user-oriented solutions				x	
LL strengthens the cooperation and trust between public and private sector				x	
LL supports and strengthens cooperation among LL stakeholders					x
LL strengthens stakeholders’ transnational cooperation and networking with other organizations				x	
LL enables the exchange of experiences or knowledge for EE of public buildings					x
LL enables more positive attitude towards EE of public buildings among LL stakeholders				x	
Participation in LL has increased the capacity of owners and managers of public buildings to design and implement better energy efficiency practices					x
Participation in LL has enabled SMEs to present innovative solutions to potential users			x		
Policy makers, with participating in LL, feel more competent in field of effective policy recommendations for EE of public buildings in MED area					x

8. Stakeholder knowledge on the topics below before and after participating in LL (state the level of knowledge by writing down "X" in the corresponding cell).

	Before **participating in LL**					*After* **participating in LL**				
	Poor	Fair	Good	Very good	Excellent	Poor	Fair	Good	Very good	Excellent
EE policies (EU, national, local) for public buildings					x					x
Available mentoring mechanisms for increasing EE of public buildings				x					x	
Funding possibilities for increasing EE of public buildings (e.g. for renovation)				x					x	
Existing best practices identified in SEACAP 4 SDG (tools, methodologies, strategies, etc.) aiming to EE of public buildings			x						x	
LL establishment/setup			x						x	

Questionnaire for the evaluation of the overall LL performance

To be filled-in by the LL stakeholders (participants):

1. Name of the person filling in the questionnaire: **Emilia TRIFLETTI**

2. Positions of the person in the stakeholders' organization: DIRIGENTE

3. Name of the LL stakeholder/organization: Commune di Napoli – Area Ambiente

4. Type of the stakeholder - *Institutional decision makers*

(e.g. Institutional decision makers, National and regional energy management authorities, Building / Energy managers, Socio-economic operators, End users, etc.)

5. Country: Italy

6. LL stakeholders' satisfaction regarding the general organization of the LL (state the level of satisfaction by writing down "X" in the corresponding cell).

	Level of satisfaction				
	Not at all Satisfied	*Partly Satisfied*	*Satisfied*	*More than Satisfied*	*Very Satisfied*
Organization of the LL meeting			x		
Content of the LL meeting			x		
Relevance of the presented topics on LL meeting				x	
Usefulness of the presented topics on LL meeting			x		
Speakers skills and competences at the LL meeting				x	
Results of the LL meeting			x		
Duration of the LL meeting				x	

7. Benefits gained by participating in LL (state the level of agreement by writing down “X” in the corresponding cell).

	Strongly disagree	*Disagree*	*Neither agree or disagree*	*Agree*	*Strongly agree*
LL enables transferring of user-oriented solutions				x	
LL strengthens the cooperation and trust between public and private sector			x		
LL supports and strengthens cooperation among LL stakeholders					x
LL strengthens stakeholders’ transnational cooperation and networking with other organizations		x			
LL enables the exchange of experiences or knowledge for EE of public buildings					x
LL enables more positive attitude towards EE of public buildings among LL stakeholders			x		
Participation in LL has increased the capacity of owners and managers of public buildings to design and implement better energy efficiency practices			x		
Participation in LL has enabled SMEs to present innovative solutions to potential users				x	
Policy makers, with participating in LL, feel more competent in field of effective policy recommendations for EE of public buildings in MED area				x	

8. Stakeholder knowledge on the topics below before and after participating in LL (state the level of knowledge by writing down "X" in the corresponding cell).

	Before **participating in LL**					*After* **participating in LL**				
	Poor	Fair	Good	Very good	Excellent	Poor	Fair	Good	Very good	Excellent
EE policies (EU, national, local) for public buildings			x					x		
Available mentoring mechanisms for increasing EE of public buildings		x							x	
Funding possibilities for increasing EE of public buildings (e.g. for renovation)			x					x		
Existing best practices identified in SEACAP 4 SDG (tools, methodologies, strategies, etc.) aiming to EE of public buildings		x							x	
LL establishment/setup		x							x	

Questionnaire for the evaluation of the overall LL performance

To be filled-in by the LL stakeholders (participants):

1. Name of the person filling in the questionnaire: **Fulvio TRASACCO**

2. Positions of the person in the stakeholders' organization: Energy manager

3. Name of the LL stakeholder/organization: UNI CAMPANIA

4. Type of the stakeholder - *Institutional decision makers*

(e.g. Institutional decision makers, National and regional energy management authorities, Building / Energy managers, Socio-economic operators, End users, etc.)

5. Country: Italy

6. LL stakeholders' satisfaction regarding the general organization of the LL (state the level of satisfaction by writing down "X" in the corresponding cell).

	Level of satisfaction				
	Not at all Satisfied	*Partly Satisfied*	*Satisfied*	*More than Satisfied*	*Very Satisfied*
Organization of the LL meeting			x		
Content of the LL meeting				x	
Relevance of the presented topics on LL meeting				x	
Usefulness of the presented topics on LL meeting				x	
Speakers skills and competences at the LL meeting				x	
Results of the LL meeting			x		
Duration of the LL meeting				x	

7. Benefits gained by participating in LL (state the level of agreement by writing down “X” in the corresponding cell).

	Strongly disagree	*Disagree*	*Neither agree or disagree*	*Agree*	*Strongly agree*
LL enables transferring of user-oriented solutions			x		
LL strengthens the cooperation and trust between public and private sector				x	
LL supports and strengthens cooperation among LL stakeholders					x
LL strengthens stakeholders’ transnational cooperation and networking with other organizations			x		
LL enables the exchange of experiences or knowledge for EE of public buildings					x
LL enables more positive attitude towards EE of public buildings among LL stakeholders				x	
Participation in LL has increased the capacity of owners and managers of public buildings to design and implement better energy efficiency practices				x	
Participation in LL has enabled SMEs to present innovative solutions to potential users			x		
Policy makers, with participating in LL, feel more competent in field of effective policy recommendations for EE of public buildings in MED area				x	

8. Stakeholder knowledge on the topics below before and after participating in LL (state the level of knowledge by writing down "X" in the corresponding cell).

	Before **participating in LL**					*After* **participating in LL**				
	Poor	Fair	Good	Very good	Excellent	Poor	Fair	Good	Very good	Excellent
EE policies (EU, national, local) for public buildings				x					x	
Available mentoring mechanisms for increasing EE of public buildings				x					x	
Funding possibilities for increasing EE of public buildings (e.g. for renovation)				x					x	
Existing best practices identified in SEACAP 4 SDG (tools, methodologies, strategies, etc.) aiming to EE of public buildings			x						x	
LL establishment/setup		x							x	

Questionnaire for the evaluation of the overall LL performance

To be filled-in by the LL stakeholders (participants):

1. Name of the person filling in the questionnaire: **Maria Iaccarino**
2. Positions of the person in the stakeholders' organization: Funzionario architetto
3. Name of the LL stakeholder/organization: Commune di Napoli – Area Ambiente - Servizio Controlli ambientali e attuazione PAES
4. Type of the stakeholder - *Institutional decision makers*

(e.g. Institutional decision makers, National and regional energy management authorities, Building / Energy managers, Socio-economic operators, End users, etc.)

5. Country: Italy
6. LL stakeholders' satisfaction regarding the general organization of the LL (state the level of satisfaction by writing down "X" in the corresponding cell).

	Level of satisfaction				
	Not at all Satisfied	*Partly Satisfied*	*Satisfied*	*More than Satisfied*	*Very Satisfied*
Organization of the LL meeting				x	
Content of the LL meeting				x	
Relevance of the presented topics on LL meeting					x
Usefulness of the presented topics on LL meeting				x	
Speakers skills and competences at the LL meeting				x	
Results of the LL meeting				x	
Duration of the LL meeting			x		

7. Benefits gained by participating in LL (state the level of agreement by writing down “X” in the corresponding cell).

	Strongly disagree	*Disagree*	*Neither agree or disagree*	*Agree*	*Strongly agree*
LL enables transferring of user-oriented solutions					x
LL strengthens the cooperation and trust between public and private sector				x	
LL supports and strengthens cooperation among LL stakeholders					x
LL strengthens stakeholders’ transnational cooperation and networking with other organizations			x		
LL enables the exchange of experiences or knowledge for EE of public buildings					x
LL enables more positive attitude towards EE of public buildings among LL stakeholders					x
Participation in LL has increased the capacity of owners and managers of public buildings to design and implement better energy efficiency practices			x		
Participation in LL has enabled SMEs to present innovative solutions to potential users			x		
Policy makers, with participating in LL, feel more competent in field of effective policy recommendations for EE of public buildings in MED area					x

8. Stakeholder knowledge on the topics below before and after participating in LL (state the level of knowledge by writing down "X" in the corresponding cell).

	Before **participating in LL**					*After* **participating in LL**				
	Poor	Fair	Good	Very good	Excellent	Poor	Fair	Good	Very good	Excellent
EE policies (EU, national, local) for public buildings		x						x		
Available mentoring mechanisms for increasing EE of public buildings			x						x	
Funding possibilities for increasing EE of public buildings (e.g. for renovation)			x					x		
Existing best practices identified in SEACAP 4 SDG (tools, methodologies, strategies, etc.) aiming to EE of public buildings		x								x
LL establishment/setup		x							x	

Questionnaire for the evaluation of the overall LL performance

To be filled-in by the LL stakeholders (participants):

1. Name of the person filling in the questionnaire: **Monica CANNAVIELLO**
2. Positions of the person in the stakeholders' organization: technical support
3. Name of the LL stakeholder/organization: UNI CAMPANIA

4. Type of the stakeholder - *Institutional decision makers*

(e.g. Institutional decision makers, National and regional energy management authorities, Building / Energy managers, Socio-economic operators, End users, etc.)

5. Country: Italy
6. LL stakeholders' satisfaction regarding the general organization of the LL (state the level of satisfaction by writing down "X" in the corresponding cell).

	Level of satisfaction				
	Not at all Satisfied	*Partly Satisfied*	*Satisfied*	*More than Satisfied*	*Very Satisfied*
Organization of the LL meeting			x		
Content of the LL meeting			x		
Relevance of the presented topics on LL meeting				x	
Usefulness of the presented topics on LL meeting					x
Speakers skills and competences at the LL meeting				x	
Results of the LL meeting				x	
Duration of the LL meeting				x	

7. Benefits gained by participating in LL (state the level of agreement by writing down "X" in the corresponding cell).

	Strongly disagree	*Disagree*	*Neither agree or disagree*	*Agree*	*Strongly agree*
LL enables transferring of user-oriented solutions				x	
LL strengthens the cooperation and trust between public and private sector				x	
LL supports and strengthens cooperation among LL stakeholders					x
LL strengthens stakeholders' transnational cooperation and networking with other organizations				x	
LL enables the exchange of experiences or knowledge for EE of public buildings					x
LL enables more positive attitude towards EE of public buildings among LL stakeholders					x
Participation in LL has increased the capacity of owners and managers of public buildings to design and implement better energy efficiency practices			x		
Participation in LL has enabled SMEs to present innovative solutions to potential users			x		
Policy makers, with participating in LL, feel more competent in field of effective policy recommendations for EE of public buildings in MED area					x

8. Stakeholder knowledge on the topics below before and after participating in LL (state the level of knowledge by writing down "X" in the corresponding cell).

	Before **participating in LL**					*After* **participating in LL**				
	Poor	Fair	Good	Very good	Excellent	Poor	Fair	Good	Very good	Excellent
EE policies (EU, national, local) for public buildings			x					x		
Available mentoring mechanisms for increasing EE of public buildings			x						x	
Funding possibilities for increasing EE of public buildings (e.g. for renovation)		x						x		
Existing best practices identified in SEACAP 4 SDG (tools, methodologies, strategies, etc.) aiming to EE of public buildings		x						x		
LL establishment/setup			x					x		

Questionnaire for the evaluation of the overall LL performance

To be filled-in by the LL stakeholders (participants):

1. Name of the person filling in the questionnaire: **Nicola VOLPE**
2. Positions of the person in the stakeholders' organization: Funzionario economico-finanziario
3. Name of the LL stakeholder/organization: Comune di Napoli

4. Type of the stakeholder - *Institutional decision makers*

(e.g. Institutional decision makers, National and regional energy management authorities, Building / Energy managers, Socio-economic operators, End users, etc.)

5. Country: Italy
6. LL stakeholders' satisfaction regarding the general organization of the LL (state the level of satisfaction by writing down "X" in the corresponding cell).

	Level of satisfaction				
	Not at all Satisfied	*Partly Satisfied*	*Satisfied*	*More than Satisfied*	*Very Satisfied*
Organization of the LL meeting			x		
Content of the LL meeting			x		
Relevance of the presented topics on LL meeting				x	
Usefulness of the presented topics on LL meeting				x	
Speakers skills and competences at the LL meeting				x	
Results of the LL meeting			x		
Duration of the LL meeting			x		

7. Benefits gained by participating in LL (state the level of agreement by writing down “X” in the corresponding cell).

	Strongly disagree	*Disagree*	*Neither agree or disagree*	*Agree*	*Strongly agree*
LL enables transferring of user-oriented solutions			x		
LL strengthens the cooperation and trust between public and private sector				x	
LL supports and strengthens cooperation among LL stakeholders					x
LL strengthens stakeholders’ transnational cooperation and networking with other organizations			x		
LL enables the exchange of experiences or knowledge for EE of public buildings				x	
LL enables more positive attitude towards EE of public buildings among LL stakeholders					x
Participation in LL has increased the capacity of owners and managers of public buildings to design and implement better energy efficiency practices			x		
Participation in LL has enabled SMEs to present innovative solutions to potential users			x		
Policy makers, with participating in LL, feel more competent in field of effective policy recommendations for EE of public buildings in MED area				x	

8. Stakeholder knowledge on the topics below before and after participating in LL (state the level of knowledge by writing down "X" in the corresponding cell).

	Before **participating in LL**					*After* **participating in LL**				
	Poor	Fair	Good	Very good	Excellent	Poor	Fair	Good	Very good	Excellent
EE policies (EU, national, local) for public buildings			x					x		
Available mentoring mechanisms for increasing EE of public buildings			x						x	
Funding possibilities for increasing EE of public buildings (e.g. for renovation)								x	x	
Existing best practices identified in SEACAP 4 SDG (tools, methodologies, strategies, etc.) aiming to EE of public buildings	x							x		
LL establishment/setup			x					x		

Questionnaire for the evaluation of the overall LL performance

To be filled-in by the LL stakeholders (participants):

1. Name of the person filling in the questionnaire: **Paolo Mancuso**
2. Positions of the person in the stakeholders' organization: *Council*
3. Name of the LL stakeholder/organization: *Assessorato Urbanistica Comune di Napoli*
4. Type of the stakeholder - *Institutional decision makers*

(e.g. Institutional decision makers, National and regional energy management authorities, Building / Energy managers, Socio-economic operators, End users, etc.)

5. Country: Italy
6. LL stakeholders' satisfaction regarding the general organization of the LL (state the level of satisfaction by writing down "X" in the corresponding cell).

	Level of satisfaction				
	Not at all Satisfied	*Partly Satisfied*	*Satisfied*	*More than Satisfied*	*Very Satisfied*
Organization of the LL meeting				x	
Content of the LL meeting				x	
Relevance of the presented topics on LL meeting					x
Usefulness of the presented topics on LL meeting					x
Speakers skills and competences at the LL meeting				x	
Results of the LL meeting					x
Duration of the LL meeting			x		

7. Benefits gained by participating in LL (state the level of agreement by writing down "X" in the corresponding cell).

	Strongly disagree	*Disagree*	*Neither agree or disagree*	*Agree*	*Strongly agree*
LL enables transferring of user-oriented solutions				x	
LL strengthens the cooperation and trust between public and private sector			x		
LL supports and strengthens cooperation among LL stakeholders					x
LL strengthens stakeholders' transnational cooperation and networking with other organizations			x		
LL enables the exchange of experiences or knowledge for EE of public buildings				x	
LL enables more positive attitude towards EE of public buildings among LL stakeholders				x	
Participation in LL has increased the capacity of owners and managers of public buildings to design and implement better energy efficiency practices			x		
Participation in LL has enabled SMEs to present innovative solutions to potential users			x		
Policy makers, with participating in LL, feel more competent in field of effective policy recommendations for EE of public buildings in MED area				x	

8. Stakeholder knowledge on the topics below before and after participating in LL (state the level of knowledge by writing down "X" in the corresponding cell).

	Before **participating in LL**					*After* **participating in LL**				
	Poor	Fair	Good	Very good	Excellent	Poor	Fair	Good	Very good	Excellent
EE policies (EU, national, local) for public buildings				x					x	
Available mentoring mechanisms for increasing EE of public buildings			x						x	
Funding possibilities for increasing EE of public buildings (e.g. for renovation)			x					x		
Existing best practices identified in SEACAP 4 SDG	x							x		

(tools, methodologies, strategies, etc.) aiming to EE of public buildings										
LL establishment/setup		x						x		

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REGIONE AUTÒNOMA DE SARDIGNA
REGIONE AUTONOMA DELLA SARDEGNA

SEACAP 4 SDG

Questionnaire for the evaluation of the overall LL performance

To be filled-in by the LL stakeholders (participants):

1. Name of the person filling in the questionnaire: **Vincenzo Quanranta**

2. Positions of the person in the stakeholders' organization: Funzionario technico
3. Name of the LL stakeholder/organization: Commune di Napoli – Servizio Tecnico Impianti sportivi
4. Type of the stakeholder - *Institutional decision makers*

(e.g. Institutional decision makers, National and regional energy management authorities, Building / Energy managers, Socio-economic operators, End users, etc.)

5. Country: Italy
6. LL stakeholders' satisfaction regarding the general organization of the LL (state the level of satisfaction by writing down "X" in the corresponding cell).

	Level of satisfaction				
	Not at all Satisfied	*Partly Satisfied*	*Satisfied*	*More than Satisfied*	*Very Satisfied*
Organization of the LL meeting			x		
Content of the LL meeting			x		
Relevance of the presented topics on LL meeting				x	
Usefulness of the presented topics on LL meeting				x	
Speakers skills and competences at the LL meeting				x	
Results of the LL meeting			x		
Duration of the LL meeting			x		

7. Benefits gained by participating in LL (state the level of agreement by writing down “X” in the corresponding cell).

	Strongly disagree	*Disagree*	*Neither agree or disagree*	*Agree*	*Strongly agree*
LL enables transferring of user-oriented solutions				x	
LL strengthens the cooperation and trust between public and private sector			x		
LL supports and strengthens cooperation among LL stakeholders				x	
LL strengthens stakeholders’ transnational cooperation and networking with other organizations			x		
LL enables the exchange of experiences or knowledge for EE of public buildings				x	
LL enables more positive attitude towards EE of public buildings among LL stakeholders					x
Participation in LL has increased the capacity of owners and managers of public buildings to design and implement better energy efficiency practices			x		
Participation in LL has enabled SMEs to present innovative solutions to potential users			x		
Policy makers, with participating in LL, feel more competent in field of effective policy recommendations for EE of public buildings in MED area				x	

8. Stakeholder knowledge on the topics below before and after participating in LL (state the level of knowledge by writing down "X" in the corresponding cell).

	Before **participating in LL**					*After* **participating in LL**				
	Poor	Fair	Good	Very good	Excellent	Poor	Fair	Good	Very good	Excellent
EE policies (EU, national, local) for public buildings	x							x		
Available mentoring mechanisms for increasing EE of public buildings		x						x		
Funding possibilities for increasing EE of public buildings (e.g. for renovation)			x					x		
Existing best practices identified in SEACAP 4 SDG (tools, methodologies, strategies, etc.) aiming to EE of public buildings	x						x			
LL establishment/setup		x						x		

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REGIONE AUTONOMA DELLA SARDEGNA

SEACAP 4 SDG

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	ADDABBO	NICOLA	RICERCATORE	UNIVESITA' UNINA	nicola.addabbo@unina.it	
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	LEONE	MATTIA FEDERICO	DOCENTE UNINA	UNINA	MATTIA.LEONE@UNINA.IT	
	IACCARINO	MARIA	ENERGY MANAGER	COMUNE DI NAPOLI	MARIA.IACCARINO@COMUNE.NAPOLI.IT	
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REGIONE AUTONOMA DELLA SARDEGNA

SEACAP 4 SDG

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SEACAP 4 SDG

NAPOLI 26/04/2023 h. 15.15

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	IACCARINO	MARIA	ENERGY MANAGER	COMUNE DI NAPOLI	maria.iaccarino@comune.napoli.it	
	SIMEONE	MAURO	.EGE	ANEA	info@anea.eu	
	VOLPE	NICOLA	FUNZ. ECON. FINANZIARIO	COMUNE DI NAPOLI	nicola.volpe@comune.napoli.it	
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	TURCHI	AGNESE	RICERCATRICE POST-DOC	UNINA - PLINIVS	agnese.turchi@unina.it	Agnese Turchi
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