

Developed within M100 HUB

GUIDELINES ON PREPARING THE CLIMATE CITY CONTRACT



M100

Mirror Mission
Cities Hub Romania

*Inspired by the EU Mission for Climate-Neutral and Smart Cities
Aligned with the NetZeroCities approach*

PREAMBLE

M100, the National Platform supporting the Romanian cities in their transition towards a future with net zero GHG emissions, reflects the EU Mission for Climate-Neutral and Smart Cities.

Accordingly, the Climate City Contracts (CCCs) to be developed by the 10 M100 Cohort Cities are designed to closely follow the structure and content of the methodology created by the European Commission, with support from NetZeroCities, for drafting the CCCs of the 112 cities officially participating in the EU Mission.

By aligning the M100 CCCs with the framework established by the European Commission, Mirror Mission Cities Hub Romania seeks to ensure that these documents adhere to the European strategic priorities and directives for advancing climate neutrality across the EU.

However, the CCC template developed within M100 was customised to accommodate the national specifics, thereby facilitating a streamlined yet impactful and practical completion process for the 10 M100 Cohort Cities.

In addition to the current set of Guidelines for preparing the Climate City Contracts, the 10 M100 Cohort Cities are advised to review the informational resources provided by the European Commission for the CCC development. These resources offer additional technical explanations and numerous examples designed to streamline the documentation process. The supplementary guidance documents, titled CCC SUPPORT DOCUMENTS, are accessible on the [M100 website](#).

Moreover, the [NetZeroCities platform](#) provides additional information (including core concepts, deployment strategies, explanatory visuals, inspirational examples and supplementary resources) on the CCCs. As such, the 10 M100 Cohort Cities are encouraged to consult the [dedicated website page](#).

CCC OVERVIEW

Under the EU Mission for Climate-Neutral and Smart Cities framework, the [NetZeroCities platform](#) defines the Climate City Contract as a "governance innovation tool to help cities collaboratively address their barriers to reaching climate neutrality".

CLIMATE CITY CONTRACTS as explained on the [NetZeroCities platform](#)

The CCC is the documented result of an iterative co-creation process. Systemic in nature, this process will be led by cities and involve multiple stakeholders at various governance levels, as well as the wider ecosystem of private and civic stakeholders. Together, they will identify all the key actions to achieve climate neutrality and the ways and means to implement them.

The Climate City Contract is a digital living document and should be revised periodically to add new stakeholders, concrete commitments, actions and / or investments and to reflect on what is working and not working.

The CCC is one process and document with three interlinked components: Commitments, Actions and Investments.

COMMITMENTS: *The Commitments capture the outcomes of a co-creation process with local, regional and national stakeholders to establish new ways of working together to achieve climate neutrality faster. It includes a shared ambition and a strategy to achieve it, as well as the specific commitment(s) to action from the CCC stakeholders.*

ACTION PLAN: *The Action Plan identifies the strengths and gaps of existing strategies, policies and plans and uses all levers of change to create a coordinated portfolio of interventions to achieve the ambition.*

INVESTMENTS PLAN: *The Investments Plan strategically mobilises and organises public resources and addresses how to attract private capital for funding and financing the cities' pathways to climate neutrality.*

In addition to completing the 3 key components of the Climate City Contract (Commitments, Action Plan, Investment Plan), each of the 10 M100 Cohort Cities is advised to also include Letters of Support in the CCC's Annexes.

These letters should come from the local, regional, national and, if available, international stakeholders who actively support their efforts to achieve climate neutrality by 2035: the CCC signatories, members of a potential Local NetZero Coalition and any other relevant actors committed to advancing the CCC's implementation. A template for the CCC Letter of Support is available on the [M100 website](#).

GLOSSARY

TERM	DESCRIPTION
EMISSIONS GAP	The difference between the city's greenhouse gas emissions baseline and 2035 climate neutrality target. It represents the emissions that the CNAP must address, calculated as the emissions baseline minus the planned reductions and offset residuals. This approach ensures the 2035 Climate Neutrality Action Plan bridges the gap between the current plans and the 2035 climate neutrality goal.
GREENHOUSE GAS (GHG) EMISSIONS INVENTORY	The list of greenhouse gas emissions sources and the associated emissions quantified using standardised methods.
AGRICULTURE, FORESTRY AND OTHER LAND USES (AFOLU)	The AFOLU sector produces GHG emissions through for instance the management of forests and other lands, the methane produced in the digestive processes of livestock and the land-use alterations which change the composition of vegetation and soil. For scope 1, this pertains to the in- boundary emissions from agricultural activity and land use within the city boundary.
INDUSTRIAL PROCESSES AND PRODUCT USE (IPPU)	The GHG emissions from the IPPU sector occur from industrial processes, product use and non-energy uses of fossil fuel. These include the emissions from industrial processes and product uses occurring within the city (scope 1). For instance, cement production, lime production and glass production. It is however important to note that IPPU emissions reporting for cities exclude ETS as stated in the Info Kit for Cities.
ETS PLANTS	Any large-scale energy generation or industrial facilities located within the city boundary which are registered under the EU Emissions Trading Scheme (EU ETS) will be exempt on the basis that cities have very limited influence over their operation and there is a dedicated EU process to reduce the emissions from these sources. It is optional for the cities to include them if measures are foreseen.
LOCAL ENERGY GENERATION MEASURES	Reflect the local energy generation measures through the local emission factor (scope 2 emissions), splitting the on-site consumption and what is provided to the grid.
SHARE OF RESIDUAL EMISSIONS	The residual emissions should be reduced to the minimum possible, with a recommended maximum level of residual emissions (20%) and mandatory compensation of residual emissions and rules for compensation.
OFFSETTING	Offsetting is only possible for the emissions which are very difficult or impossible to mitigate (e.g., for residual emissions).
SINKS	Allowed to account for negative emissions through the enlargement or enhancement of natural sinks within the territory (within the city boundaries) to address the residual emissions (considering all the changes in the carbon stock).
CARBON SINKS	<p>Any reservoir (natural or technological) which collects and stores CO₂ directly from the atmosphere, resulting in "negative emissions". Carbon sinks, i.e., removals through natural and technological solutions, within the city boundary can be used to account for any residual GHG emissions. There are two potential options for carbon sinks:</p> <ul style="list-style-type: none"> → "Natural sinks" refer to the planting of trees or other conversion of land use. Carbon sinks should be accounted for as part of the "AFOLU" sector of the GHG inventory. → "Technological sinks", known as Biomass for Energy with Carbon Capture and Storage (BECCS) and Direct Air Carbon Dioxide Capture and Storage (DACCS) technologies, can be used to

TERM	DESCRIPTION
	sequester CO2 permanently (locked away in geological formations).
CARBON CREDITS	Tradable certificate representing 1 tonne of CO2 or CO2e which can be traded where GHG emission surpluses and deficits exist. The use of Carbon Credits from outside the city's boundary to account for any residual emissions within the city boundary will be subject to certain rules and restrictions to be able to credibly demonstrate a city's climate neutrality (i.e., using formal credits/certificates verified and/or validated under rigorous standards by certified third-party auditors). These restrictions will aim to eliminate the possibility of “double-counting” and ensure transparency and accountability. Carbon Credits should be focused on nearby projects where possible, within the country or at least within the European Union and provide concrete additionality and co-benefits.

CONTENT

I. COMMITMENTS	6
FORMAL AMBITION	6
GUIDING PRINCIPLES	6
SIGNATORIES	7
II. ACTION PLAN	8
INTRODUCTION	8
WORK PROCESS	8
GREENHOUSE GAS EMISSIONS BASELINE INVENTORY	11
CURRENT POLICIES AND STRATEGIES	14
ACTION PORTFOLIO	14
IMPACT PATHWAYS	17
STRATEGY FOR RESIDUAL EMISSIONS	18
INDICATORS FOR MONITORING, EVALUATION AND LEARNING	19
STAKEHOLDERS	19
BARRIERS	20
RISKS	20
OPPORTUNITIES	20
ASSISTANCE NEEDS	20
III. INVESTMENT PLAN	21
EXISTING FUNDING AND FINANCING	21
STRATEGIC FUNDING AND FINANCING	21
COST SCENARIOS AND CAPITAL PLANNING	21
FINANCIAL INDICATORS FOR MONITORING, EVALUATION AND LEARNING	22
CLIMATE POLICIES FOR CAPITAL FORMATION AND DEPLOYMENT	22
IV. OUTLOOK AND NEXT STEPS	23

I. COMMITMENTS

FORMAL AMBITION

This module should clearly outline the city / metropolitan / functional urban area's ambition and commitment to achieving climate neutrality by 2035. It should also specify any areas excluded from this goal and summarise the plans for addressing these areas beyond 2035.

- The city / metropolitan / functional urban area is encouraged to set ambitious, measurable objectives, which will drive substantial reductions in the greenhouse gas (GHG) emissions, ideally including a concrete timeline and monitorable targets for these changes.
- Additionally, this module may highlight the strategic systemic priorities essential for the transition to climate neutrality by 2035, focusing on the actions that will significantly reduce the GHG emissions.
- The city should also identify the anticipated indirect impact (co-benefits) of striving towards climate neutrality (e.g., improved air quality, better access to green spaces and related health advantages, increased employment opportunities, local innovation, energy independence, cost savings etc.).
- Regarding the commitment to architectural quality:
 - ◆ The public administration should commit to high architectural standards for the public projects included in the foreseen actions, particularly for those with significant community or environmental impact. For instance, the quality commitment could be reflected in enhanced public procurement setups, which could specifically focus on contributing to the climate neutrality goal, while having a higher architectural and engineering quality. As such, the open design competitions for such projects (e.g., the ones regarding the public spaces, the sustainable infrastructure, or urban development areas) are also encouraged, as a selection method for the major projects included in the foreseen actions.
 - ◆ This commitment should also cover the ongoing maintenance and aesthetic quality of spaces, in order to ensure their long-term value and alignment with the local climate neutrality objectives.

GUIDING PRINCIPLES

This module should outline the key principles guiding the implementation of the Climate City Contract (e.g., accountability, transparency, innovation, systemic perspective, demand-driven actions, rigorous monitoring, multi-actor approach, stakeholder engagement, collaborative learning, architectural quality and sustainable urban design¹, including the quality assurance of investments).

¹ **The architectural quality and sustainable design principles refer to the fact that the CCC actions having an architectural dimension should enhance the public realm, while addressing the climate neutrality objectives, in line with the New European Bauhaus principles.**

SIGNATORIES

The CCC must be signed, at a minimum, by the city's Mayor. However, it is highly recommended to involve as many stakeholders as possible in the Commitments.

- Accordingly, this module should also include a list of additional CCC signatories, encompassing the local, regional and even national and international stakeholders who have an interest in and / or the capacity to accelerate the implementation of the Climate Neutrality Action Plan. These signatories could be both individuals and entities, as long as they are willing and able to significantly impact the achievement of climate neutrality at the local or metropolitan level.
- The cities are encouraged to engage a diverse mix of private and public sector representatives, as well as citizens, recognizing that the number and relevance of the CCC signatories are expected to grow over time. In the CCC Annexes, the signatories, along with other relevant stakeholders who have committed to the CCC, may also provide Letters of Support.

II. ACTION PLAN

INTRODUCTION

The Climate Neutrality Action Plan (CNAP) should outline the strategies and actions to achieve climate neutrality by 2035, including the governance approach, supporting measures and principles for implementing city-wide climate action.

The introduction should:

- Provide background on the CNAP’s development;
- Explain how it aligns with the city’s broader strategies;
- Identify any exclusion areas (according to the Expression of Interest) and outline how these will be addressed post-2035, with further details included within an Annex.

WORK PROCESS

THE CNAP DEVELOPMENT PROCESS, AS OUTLINED BY THE EU MISSION FOR CLIMATE-NEUTRAL AND SMART CITIES THROUGH NETZEROCITIES

STEP	DESCRIPTION
1. SET THE VISION	<ul style="list-style-type: none">→ Establish a robust political engagement and consensus, to shape the vision.→ Explore effective communication strategies to convey the vision to the citizens, emphasising not only the climate neutrality impact, but also the co-benefits (enhancements in quality of life, reduced energy costs etc, job creation, reduced air pollution etc.).
2. ESTABLISH THE GOVERNANCE STRUCTURE	<ul style="list-style-type: none">→ Create a governance structure which includes all the relevant municipal departments, the elected officials and representatives from both the private and public sectors.→ Allocate specific roles and responsibilities and accountabilities to persons / departments / organisations.
3. ASSESS THE BASELINE & SET THE CLIMATE NEUTRALITY TARGET	<ul style="list-style-type: none">→ A baseline GHG inventory (not older than 2018) must be established to determine the initial point of departure for the emissions efforts and to measure the progress against.→ Assess a “business-as-usual” scenario (i.e., GHG emissions in 2035 if no further action is taken) to determine the scale of the necessary emissions reductions, taking into account factors such as the population growth and the increase in GDP.→ Conduct an assessment of the targeted residual GHG emissions for 2035 (i.e., those emissions that will remain) to demonstrate the scale of the measures needed to achieve climate neutrality.
4. IDENTIFY THE ACTIONS	<ul style="list-style-type: none">→ Consider actions across all the emission sectors, in collaboration with the relevant departments and stakeholders.

STEP	DESCRIPTION
	<ul style="list-style-type: none"> → Leverage the existing policies at the national, regional and local levels in the planning of actions. → Evaluate the impact of the proposed actions, including the GHG emission reductions, energy savings, renewable energy generation, cost savings, built environment and public space quality, job creation etc. → Estimate the resources needed for implementing the identified actions and identify suitable funding or financing options. → Establish a timetable for the actions' implementation, prioritising the most cost-effective measures. → Define the responsible organisation, department, or individual for implementing each action, along with indicators for monitoring the progress.
<p>5. PURSUE THE IMPLEMENTATION</p>	<ul style="list-style-type: none"> → Procure the studies needed to support the action implementation. → Finalise the financing and funding arrangements for the implementation of the identified actions. → Promote the success stories related to the implemented actions, in order to highlight the achievements and encourage further engagement.
<p>6. MONITORING / REASSESSING</p>	<ul style="list-style-type: none"> → Monitor the indicators established for each action (e.g., number of electric vehicle charging points installed). → Update the GHG inventory every 2-4 years to assess the overall progress. → Analyse the monitoring data, in order to identify any need for re-prioritizing the climate actions or revising the CNAP. → Provide regular reports on the progress and the successes.

COMMUNICATION RECOMMENDATIONS

In a cross-cutting manner, the progress of CNAP implementation should be communicated to the public, stakeholders and partners. The following are indicative examples / recommendations in this regard:

- *Developing and implementing a comprehensive communication plan, aimed at sharing the city's progress towards climate neutrality with the general public, stakeholders, citizens and partners.*
- *Using diverse channels (e.g., interactive websites, press releases, social media campaigns, community events) to ensure the transparency and accessibility of information.*
- *Organising periodic public forums and stakeholder workshops to provide updates, gather feedback, and reinforce the collaborative efforts.*
- *Publishing regular progress reports and success stories highlighting the key milestones, the innovative solutions and the measurable impacts, by using the M100 HUB visual identity manual.*
- *Creating engaging educational materials and visuals (e.g., infographics, videos), to make the complex climate data more relatable and to foster broader public understanding and support, by using the M100 HUB visual identity manual.*

The CNAP should be grounded in the following principles (non-exhaustive list):

- **ALIGNMENT WITH EXISTING CLIMATE STRATEGIES:** Integration with the current climate action planning and strategic processes.
- **MEASURABLE, REPORTABLE AND VERIFIABLE ACTIONS:** The climate action planning should be based on a GHG emissions baseline inventory and include specific actions clustered within portfolios. Each action should be described in detail, with clear indications of investment and capital needs, which will be outlined in the Investment Plan.
- **STRATEGIC, THEORY-OF-CHANGE APPROACH:** A comprehensive Theory of Change (illustrated through the Impact Pathways) should underpin the strategic approach, while also leveraging social and governance innovation as critical enablers for inclusive, city-wide climate neutrality.
- **SYSTEMIC APPROACH TO INTERCONNECTED ACTIONS:** A structured, interconnected system of actions should be developed, incorporating organisations, institutions, individuals and their relationships. This requires setting a GHG emissions baseline, assessing the current state, mapping the system and analysing the gaps which may hinder the 2035 climate neutrality goal.
- **STRONG GOVERNANCE AND MANDATE:** Establish a robust mandate within the local government, develop a Transition Team and activate collaborative governance structures and networks across multiple levels.
- **STAKEHOLDER CO-CREATION AND CITIZEN ENGAGEMENT:** Facilitate a co-creation process by mobilising the key stakeholders within the local ecosystem, engaging the citizens and strengthening mutual commitments.
- **TRANSPARENT AND QUALITY ORIENTED PROCUREMENT:** Aim to use innovation and quality oriented criteria in the public procurement procedures, with a focus on improvements to the architectural and urban value of the city.²

ARCHITECTURAL AND URBAN VALUE

For those actions which include interventions with an architectural dimension (e.g., upgrading the residential building for increasing their energy efficiency, urban renewal of public spaces, development of green-blue corridors), the following points should be considered:

- *The milestones should include checkpoints to assess the design quality, ensuring that all of the phases (planning, design, implementation) adhere to the established architectural standards.*
- *Where applicable, if design competitions are planned, the stages for organising and concluding the competition should be detailed. If this information is not yet available, it could be incorporated into the subsequent iterations of the CCC, within the periodic review and update sessions.*
- *Periodic reviews should be instituted, in order to ensure that the quality standards are consistently upheld throughout the project lifecycle, focusing on the alignment with the climate neutrality and aesthetic quality goals.*

² **For the implementation phase of the CNAP actions which include projects impacting the public spaces or major urban areas, the cities are recommended to adopt design competitions as a standard practice. The open design competitions foster creativity and transparency, while promoting innovative, high-quality solutions tailored to the local context and aligned with the overall sustainability goals.**

GREENHOUSE GAS EMISSIONS BASELINE INVENTORY

The City should apply the European emission source sectors, gases and scopes for both the baseline and the monitoring inventories. The City should refer to the Info Kit for Cities for the emissions inventory parameters and the climate neutrality definition, alongside the guidance provided in this document.

One of the primary goals of the baseline inventory is to connect the GHG emissions with different types of energy sources and to offer a clear image on where the city can reduce the emissions.

Achieving climate neutrality will necessitate reducing the GHG emissions from all the sectors and sources within the city's boundary to net zero by 2035, including:

- Emissions from combustion of fossil fuels in ALL BUILDINGS AND FACILITIES (known as "STATIONARY ENERGY"). This includes the residential, commercial and industrial buildings as well as the municipal buildings and the public lighting within the city boundary;
- Emissions from combustion of fossil fuels for ALL VEHICLES AND TRANSPORT within the city boundary;
- Emissions arising from the consumption of ELECTRICITY AND DISTRICT HEATING/COOLING within the city's boundary, from the POWER PLANTS located within or outside the city boundary;
- Emissions arising from WASTE generated within the city boundary, treated/managed/disposed within or outside the city boundary;
- Emissions from CHANGES IN LAND USE INCLUDING AGRICULTURE, FORESTRY AND OTHER LAND USES (collectively referred to as "AFOLU") within the city boundary;
- Emissions from CHEMICAL PROCESSES IN INDUSTRY (collectively referred to as INDUSTRIAL PROCESS AND PRODUCT USE or "IPPU") within the city boundary.

GHG BASELINE INVENTORY

- The GHG baseline inventory should be no older than 2018.
- If certain emission source sectors (such as Agriculture, Forestry and Other Land Uses (AFOLU) or Industrial Processes and Product Use (IPPU)) or specific greenhouse gases are not included in the latest GHG inventory, the City must update or amend it to incorporate the missing data.

GREENHOUSE GASES AND EMISSION FACTORS

→ GREENHOUSE GASES:

- ◆ Carbon Dioxide (CO₂)
- ◆ Methane (CH₄)
- ◆ Nitrous Oxide (N₂O)
- ◆ F-gases (hydrofluorocarbons and perfluorocarbons)

- ◆ Sulphur hexafluoride (SF6)
- ◆ Nitrogen trifluoride (NF3)

→ **The emission factors** can change in time, especially if the district heating or cooling networks are being electrified or decarbonised and if the amount of renewable energy sources is increased in the power grid. Thus, different emission factors can be provided for the baseline year and for 2035.

SCOPE AND SECTOR COVERAGE

- **SCOPE 1 GHG EMISSIONS (DIRECT EMISSIONS) FOR THE CITY WITHIN ITS GEOGRAPHIC BOUNDARY (MANDATORY).** This indicator will be calculated based on the emissions from buildings, facilities, industry, transport, waste treatment (solid waste and wastewater), agriculture and forestry and from other activities.
- **SCOPE 2 GHG EMISSIONS (INDIRECT EMISSIONS) FOR THE CITY (MANDATORY).** This indicator will be calculated based on the emissions from indirect emissions due to consumption of grid-supplied electricity within the geographic boundary and indirect emissions due to consumption of grid-supplied heat or cold, or natural gas within the geographic boundary.
- **SCOPE 3 GHG EMISSIONS (OUT-OF-BOUNDARY EMISSIONS) FOR THE CITY (NOT REQUIRED FOR INCLUSION AT THIS STAGE, EXCEPTING THE WASTE).** By 2050, the scope 3 GHG emissions will need to be fully factored into climate neutrality. This indicator will be calculated based on the emissions from out-of-boundary emissions from the treatment of waste produced within the geographic boundary, out-of-boundary emissions from the transmission and distribution of the energy consumed within the geographic boundary, out-of-boundary emissions from the transportation of citizens living within the geographic boundary, out-of-boundary emissions from the consumption made within the geographic boundary (food, clothes, furniture, materials, etc.) and other indirect emissions.

EMISSION SCOPES

	DIRECT EMISSIONS (SCOPE 1)	INDIRECT EMISSIONS (SCOPE 2)	OUT-OF-BOUNDARY EMISSIONS (SCOPE 3)
BUILDINGS	<p>Emissions from all the buildings, facilities and permanent infrastructure / equipment (collectively referred to as “stationary energy” and the including public, private, residential and industrial sectors) within the city boundary (excluding the EU ETS registered facilities).</p> <p><i>E.G.: emissions from natural gas (such as the one sourced from cylinders) and wood;</i></p>	<p>Emissions from outside the city boundary due to the use of grid-supplied energy (electricity or district heating / cooling, or natural gas) within the city boundary.</p>	<p>Emissions from the transmission and distribution of the energy consumed within the geographic boundary.</p> <p><i>E.G.: emissions resulting from energy losses in the grid.</i></p>

	DIRECT EMISSIONS (SCOPE 1)	INDIRECT EMISSIONS (SCOPE 2)	OUT-OF-BOUNDARY EMISSIONS (SCOPE 3)
	<i>emissions from on-site RES generation.</i>		
TRANSPORT	<p>Emissions from the on-road and rail (as a minimum) transport within the city boundary, disaggregated by municipal fleet, public transport, private and commercial transport.</p> <p><i>E.G., emissions from diesel gasoline or other fossil fuels associated with the transport within the city boundary.</i></p>	<p>Emissions from outside the city boundary due to the use of grid-supplied electricity used to charge vehicles that run on electricity.</p>	<p>Emissions from the transmission and distribution of the energy consumed within the geographic boundary.</p> <p><i>E.G., emissions resulting from energy losses in the grid; emissions resulting from the transportation of fuel to the city; emissions from diesel gasoline or other fossil fuels associated with commuting.</i></p>
WASTE	<p>Emissions from the waste generated and managed / sent to landfill within the city boundary.</p> <p><i>E.G., emissions from diesel used in the collection, transportation, or processing of waste within the city boundary.</i></p>	<p>Emissions from outside the city boundary due to the use of grid-supplied energy (electricity or district heating / cooling, or natural gas) within the city boundary.</p>	<p>Emissions from the waste generated within the city boundary but managed / sent to landfills outside the city boundary.</p> <p><i>E.G., emissions resulting from energy losses in the grid; emissions from diesel, electricity, natural gas and other energy sources used to process the waste generated by the city but handled outside its boundary.</i></p>
IPPU	<p>Emissions from the GHGs used in, or as a by-product of industrial processes and products (if present / significant).</p> <p><i>E.G., emissions from natural gas (such as the one sourced from cylinders) and wood; emissions from on-site RES generation.</i></p>	<p>Emissions from outside the city boundary due to the use of grid-supplied energy (electricity or district heating / cooling or natural gas) within the city boundary.</p>	<p>Emissions from the transmission and distribution of the energy consumed within the geographic boundary.</p>
AFOLU	<p>Changes in the GHG emissions from any changes in the land use giving rise to (sources) or sequestering (sinks) emissions (if significant).</p>	<p>Emissions from outside the city boundary due to the use of grid-supplied energy (electricity or district heating/cooling or natural gas) within the city boundary.</p>	<p>Emissions from the transmission and distribution of the energy consumed within the geographic boundary.</p>

	DIRECT EMISSIONS (SCOPE 1)	INDIRECT EMISSIONS (SCOPE 2)	OUT-OF-BOUNDARY EMISSIONS (SCOPE 3)
	<i>E.G., emissions from diesel or fossil fuels required to operate and maintain the changes in the land use; emissions generated by livestock; emissions associated with the burning of forestry / green residues.</i>		

CURRENT POLICIES AND STRATEGIES

This module should assess the city’s climate policies and strategies, by considering the current climate ambition, the existing greenhouse gas reduction targets and any cross-sectoral or sector-specific action plans related to climate change mitigation (e.g., energy, transport, waste management, digitalization and smart city initiatives).

Overall, this module should map the relevant strategies across various sectors. Using the CNAP template, the city should:

- List the key strategies and policies;
- Briefly describe their impact on achieving the 2035 climate neutrality goal;
- Identify the areas needing improvement.

ACTION PORTFOLIO

The actions included in the CNAP will target the below emission sectors and should be clustered along fields of actions (energy systems, mobility & transport, waste & circular economy, green infrastructure & nature-based solutions, built environment).

EMISSION SECTORS

- **STATIONARY ENERGY (BUILDINGS, EQUIPMENT, FACILITIES):** This sector includes all the permanent and temporary structures, facilities or equipment and the public lighting within the city's boundary. It will include the residential, commercial, industrial and municipal/public buildings and facilities.

SUSTAINABLE ARCHITECTURE AND QUALITY STANDARDS

The actions proposed for the built sector should be designed to meet high standards of sustainability and architectural quality (e.g., green buildings, adaptive reuse of heritage structures, integrating local, eco-friendly materials), following the EPBD EU Directive and its national transposition.

SUSTAINABLE ARCHITECTURE AND QUALITY STANDARDS

Recommendations to be considered during the design phase, in terms of sustainable architecture and adherence to quality standards:

- **Newly developed buildings in the public sector** (e.g., government buildings, educational buildings, cultural buildings, health infrastructure, social services infrastructure etc.): should become good practice examples in terms of high energy efficiency, use of renewable energy sources and local construction materials with emphasis on quality architectural solutions.
- **Newly developed buildings in the private sector** (e.g., residential, commercial and industrial constructions – development): should be regulated, in order to reduce the GHG emissions (manufacturing of materials, transportation, construction, maintenance), with emphasis on controlling the expansion of urbanised land.
- **Existing building stock proposed for reuse:**
 - ◆ the renovation and reuse of the existing building stock should be prioritised over demolition and replacement;
 - ◆ increasing the architectural and urban values of the existing buildings should be emphasised throughout the renovation measures.
- **Cultural heritage buildings and areas:** the sensitive energy renovation should be incentivized.
- **Greenfield development:** should be restricted.

- **TRANSPORT:** This sector includes all the mobility-related activity within the city. The vast majority of emissions from this sector are typically from on-road transport, but other sources include waterborne navigation, rail, air transport and off-road transport. For rail, air and waterborne navigation, the journeys fully confined within the city boundary (origin and destination) need to be considered. Reporting and addressing the in-boundary components of the regional or international journeys, such as the landing and taking-off components of regional or international flights should also be accounted for. This sector covers all the transport typologies, from private transportation (including commercial) to public services.
- **WASTE:** The actions in this sector will need to aim at preventing or minimising the generation of waste and the adverse impacts from the collection, recovery, disposal and treatment of waste and wastewater.
 - ◆ The GHG emissions in this sector particularly arise from: the on-site energy use within the waste and wastewater facilities (e.g., electricity used for pumping, natural gas for heating, etc.), the energy used for transporting waste to and from the facilities (e.g., diesel used in the waste collection vehicles) as well as the off-road vehicles operating within the facilities, the decay of solid waste and the anaerobic degradation of wastewater in the facilities.
 - ◆ In terms of waste management, strategic planning to achieve climate neutrality by 2035 will require identifying the quantity of waste generated (categorised by different types of generation) as well as efficient treatment pathways (how and where it is treated).
 - ◆ Beyond the solid waste disposal, other waste sub-sectors are expected to participate in the climate neutral transformative process: biological treatment of waste, including composting and anaerobic digestion of organic waste, waste burning in controlled, industrial process (incineration) as well as open burning, plus wastewater discharge into an open body of water or its treatment (either aerobic or anaerobic).

- **INDUSTRIAL PROCESSES AND PRODUCT USE:** In the Industrial Processes and Product Use (IPPU) sector, the emissions are produced from a wide variety of industrial activities and processes that chemically or physically transform materials, including the mineral industry, the chemical industry and the metal industry. Additionally, the GHGs are often used or contained in products such as refrigerators, foams or aerosol cans. The GHG emissions from IPPU are usually less significant than other sectors, specifically as large installations are covered by the EU Emission Trading Scheme and as such are outside of the scope of the CNAP. However, those emissions can be notable for some cities, in which case they should be quantified and eliminated (to the extent possible).
- **AGRICULTURE, FORESTRY AND OTHER LAND USE:** Agriculture and forestry are likely not significant sources of emission within most cities. However, depending on the choices for urban land use and spatial planning, the cities can exert pressures on the land use change.
 - ◆ The ambition for climate neutrality offers a chance to enhance the carbon sinks by minimising the land use changes from urbanisation and expanding the green and blue infrastructure in cities. Urban forestry, green walls and roofs and other green spaces can sequester carbon, reduce urban heat and improve the local air quality. The cities can also account for negative emissions by expanding the natural sinks, such as forests, soils and wetlands within their boundaries, to offset the residual emissions. Nature-based solutions like these provide long-term carbon absorption and multiple co-benefits for local climate and air quality.

In addition to the actions proposed for each emission sector, the CNAP will also include actions related to Organisational and Governance Innovation, as well as Social and Other Innovations.

- **ORGANISATIONAL AND GOVERNANCE INNOVATION:** Define the governance, policy and regulatory actions needed to address the GHG emissions and enable the city to achieve climate neutrality by 2035.
 - ◆ These actions should clarify how the climate agenda, specifically the actions aimed at achieving climate neutrality, is managed within the city's administration. It is essential to identify the entity or entities responsible for the climate mitigation policies and their cross-sectoral coordination, which may include a dedicated department, committee, individual, or external organisation collaborating closely with the municipality.
 - ◆ Furthermore, the focus should extend to the broader governance framework that influences climate action, with the goal to reduce the fragmentation caused by the "silo mentality" and to foster inclusiveness, trust and legitimacy in the necessary actions. These efforts will help cultivate a sense of "ownership" over the overall climate neutrality objectives, thereby promoting stronger local commitment and behaviour changes.
 - ◆ Examples:
 - **INNOVATIVE TOOLS AND PROCEDURES:** Implementing new methods for planning, executing and financing the climate neutrality actions.
 - **MULTI-LEVEL GOVERNANCE EFFECTIVENESS:** Improving the coordination and efficiency of governance across the regional, national and EU levels for climate neutrality.

- **HORIZONTAL GOVERNANCE IMPROVEMENTS:** Enhancing the organisational structure within the municipal administration and fostering collaboration with the non-governmental actors from the stakeholder ecosystem.
- **SOCIAL AND OTHER INNOVATION:** Focus on culture, participation and civil society initiatives which foster inclusiveness, trust and legitimacy in the climate action.
- ◆ Examples:
 - **EMPOWERMENT AND INCLUSION:** Engaging the citizens and urban stakeholders in the governmental processes related to climate neutrality, enhancing the acceptance of policy changes, addressing the citizens' needs and mitigating any adverse social impacts of the climate actions.
 - **BEHAVIOUR CHANGE:** Encouraging shifts in the social behaviour, such as reduced peak energy use, increased public transport ridership and greater walking and cycling.
 - **SYSTEMIC INITIATIVES:** Implementing local innovations which systematically address climate neutrality, such as top-down urban planning solutions and creating local bodies (e.g., NGOs, social entrepreneurship hubs) to foster supportive conditions.
 - **REGULATION AND SUPPORT:** Providing targeted support for the community-led initiatives and small-scale pilots (e.g., exploring new funding mechanisms to scale the successful social innovations).
 - **SKILLS AND CAPACITY BUILDING:** Developing capacities for social innovation among the public officials, citizens and urban stakeholders.

DESIGNING THE ACTIONS

- **The actions will be organised into portfolios.**
- ◆ The portfolios will be cross-sectoral, inclusive of diverse stakeholders and designed to significantly reduce the GHG emissions. Each portfolio will consist of actions aimed at reaching the target GHG reductions in the specific emission domains.
 - ◆ A well-developed portfolio provides a comprehensive framework which includes a range of actions, from investments to strategic initiatives, guiding the city's path to climate neutrality. All the measures to eliminate the GHG emissions (whether through avoidance, reduction, or elimination) must be incorporated into the portfolios.
- The actions will leverage systemic levers such as governance and policy, regulation, technology, culture, social innovation, citizen engagement, capacity building, finance, business models and local development strategies.
- To ensure a realistic implementation, all the relevant stakeholders should be involved in the design of each action.

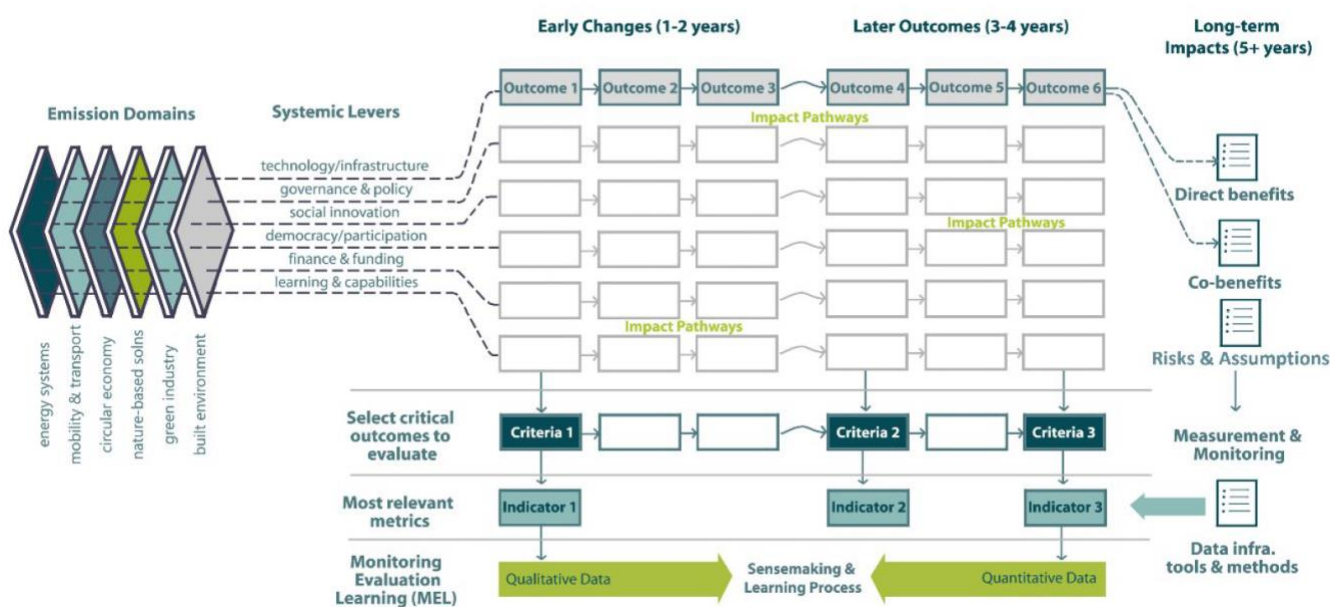
IMPACT PATHWAYS

This module is grounded in the [NetZeroCities Theory of Change](#), which represents an Impact Pathway Framework summarising the development and interconnections among the actions proposed in the CNAP and their direct and indirect short-term and long-term impact.

The NZC Theory of Change serves as the main action planning framework which defines the impact pathways and connects them to the emission sectors. It links the actions to systemic levers, outlines the early and later outcomes and identifies the long-term impacts, including the emissions reductions (direct impact) and co-benefits (indirect impact). This framework details how the action portfolios will lead to both short-term and long-term outcomes, ultimately achieving the desired direct impact of climate neutrality and indirect benefits by 2035. In addition to the direct impact of actions on reducing the CO2 emissions, the cities should also consider the indirect impacts (co-benefits), which may include, but are not limited to, improved energy affordability, decreased air pollution, enhanced green spaces and overall improvements in the quality of life.

In this module, the cities will create scenarios and develop strategic pathways to achieve climate neutrality by 2035, outlining the selected impact pathways for each emission sector. The Impact Pathways Framework from the NetZeroCities Theory of Change serves as both inspiration and a tool to enhance understanding of how to reach climate neutrality, encompassing various technological and non-technological trajectories.

NETZEROCITIES THEORY OF CHANGE (TOC) IMPACT PATHWAY FRAMEWORK



STRATEGY FOR RESIDUAL EMISSIONS

The cities are required to reduce all the sources of GHG emissions as much as possible. However, certain emissions sources (e.g., specific industrial processes) may not be fully mitigated by 2035, due to technological or financial limitations. In such cases, compensating for the residual emissions is allowed, but the cities should aim for the residual emissions to remain within 20% of the baseline GHG inventory by 2035, with the remainder being potentially offset by carbon sinks or credits. The offset measures should be minimised and considered only for the sources which are particularly challenging to mitigate.

Ultimately, a net-zero emission balance must be achieved by 2035, ensuring that the GHG emissions from city territory are completely neutralised.

The cities can address their residual emissions through two methods to reach net-zero:

- **CARBON SINKS:** Using natural and technological solutions within the city boundary.
- **CARBON CREDITS:** Acquiring credits from outside the city's boundary, adhering to the rules which ensure credible demonstration of climate neutrality, using verified credits certified by third-party auditors.

INDICATORS FOR MONITORING, EVALUATION AND LEARNING

This module should feature a selection of indicators from the Comprehensive Indicator Set developed by the EU Mission for Climate-Neutral and Smart Cities through NetZeroCities. The cities are encouraged to refer to the Comprehensive Indicator Set (both the framework and the spreadsheet) available on the [M100 website](#).

- The indicators are intended for monitoring, evaluation and learning (MEL) purposes, enabling the cities to measure, track and assess the implementation of the CNAP.
- Each city will choose the indicators (the required ones and part of the recommended ones) which align with the actions and impact pathways outlined in the CNAP.
- The cities should be ready to report bi-annually on the selected indicators, in order to monitor the progress in the CNAP's implementation and the transition toward climate neutrality by 2035. The cities must also provide GHG inventories every two years.

STAKEHOLDERS

This module should reflect the participatory model employed by the city for achieving climate neutrality by 2035, emphasising the collaboration among the municipal departments, the private and public sector stakeholders and the citizens. The key aspects to be referenced within this module include the climate stakeholder ecosystem, the partnerships with various stakeholders and their involvement in the development, implementation and monitoring of the CNAP.

A formal governance structure (e.g., a Local NetZero Coalition) will be necessary to support the CNAP, by creating a unified vision and clarifying the roles and responsibilities among the municipal departments and the relevant stakeholders. This dedicated structure should incorporate representatives from public administration, other public entities (e.g., universities, RDI organisations), the private sector (including companies, NGOs and other organisations) and civil society, in order to secure ongoing political support for the transition to climate neutrality. By promoting such cross-sector coordination among various actors, the likelihood of success for the CNAP will be improved, fostering an inclusive approach which is essential for a lasting commitment to climate neutrality.

Additionally, an internal core team (e.g., a Climate Neutrality Office, managed by a Climate Neutrality Officer) is recommended to oversee the climate neutrality actions, in line with the established timelines. This team should consist of personnel from various departments (e.g., environmental, finance, transport, planning), bringing a diversity of perspectives and expertise.

BARRIERS

This module will address the key barriers (such as infrastructure, capacities, processes, resource flows, alliances and funding) which may impede the transition to climate neutrality.

Additionally, the module should also cover the potential barriers affecting the capital formation and deployment (climate funding and finance), such as: the municipality's ability to secure capital (inadequate capacity and financing skills, fragmented mechanisms for the existing funds, regulatory constraints related to the city budget), the finance access, the policy limitations and other issues related to risk, scale and debt ceilings.

RISKS

This module will examine the critical risks which could hinder the transition to climate neutrality. Examples include the operational risks, the risks related to capacity and capabilities, the policy and regulatory risks, the technical risks and the risks associated with the stakeholders' engagement.

Additionally, the financial risks, including the market risks and both the micro and macroeconomic risks, should also be considered.

OPPORTUNITIES

This module will explore the opportunities (such as infrastructure, capacities, processes, resource flows, alliances and funding) which could facilitate and accelerate the transition to climate neutrality.

ASSISTANCE NEEDS

In this module, the cities should outline the key areas in which they require support, particularly from the M100 Consortium, in order to address the existing barriers, mitigate the external risks and leverage the available opportunities for achieving climate neutrality.

III. INVESTMENT PLAN

EXISTING FUNDING AND FINANCING

This module marks the first phase of the 2035 Climate Neutrality Investment Plan. The cities will need to evaluate and review the past and present funding and financing for climate initiatives, in line with their current climate action goals and priorities.

As such, the cities are expected to provide a detailed breakdown of the capital flow and stock, organised by field of action. This will involve mapping the existing landscape of funding and financing sources, as well as assessing the current funding capacity from both public and private sources, across the emissions sectors.

STRATEGIC FUNDING AND FINANCING

In this module, the cities will evaluate various climate mitigation funding programs, along with financing mechanisms and planning.

In this module, the cities should:

- **Evaluate the funding programs and mechanisms:** Assess the funding programs, financing mechanisms and current financial sources for climate action, both city-wide and project-based, across specific or multiple emission sectors.
- **Identify the key policy areas:** Analyse the critical policy or regulatory areas impacting the financial goals outlined in the CNAP, including the relevant international, national, regional and local policies (e.g., EU Taxonomy, TCFD).
- **Review the capacity to deploy capital:** Examine the city's capacity to access and use capital, covering the municipal budgeting, procurement policies, incentive schemes and public sector finance tools.

COST SCENARIOS AND CAPITAL PLANNING

The Investment Plan will focus on the economic and financial planning needed for the city to achieve climate neutrality by 2035. It will build on the CNAP's portfolio of actions, aiming to quantify the capital required and the identify the funding sources needed to fulfil these actions.

- The Investment Plan should break down the costs and capital required to implement the CNAP's portfolio of actions, by using an integrated approach, which covers all the emission sectors and assets city-wide. The capital estimates should be developed for each sector and align with the CNAP's sector segmentation and selected actions.
- The Investment Plan will cover both the public and private sectors, recognizing that the public sector owns only a portion of city assets. While the city administration cannot directly control the actions within the corporate and residential sectors, it can, along with the

regional and national governments, serve as a facilitator. Through policy and financial mechanisms, it can help shape the market conditions to support new business models for achieving climate neutrality.

- The cities should explore innovative capital structures, in order to maximise the public capital and attract large-scale investments. Where new structures or instruments are required, this module should outline the steps the city will take to develop and implement these financing solutions.

FINANCIAL INDICATORS FOR MONITORING, EVALUATION AND LEARNING

This module will establish a monitoring and evaluation framework for the city to track the Investment Plan's implementation, using a set of financial and economic indicators to assess the funding progress, as the city advances toward its 2035 climate neutrality goals.

CLIMATE POLICIES FOR CAPITAL FORMATION AND DEPLOYMENT

This module will require the city to list the climate policies which impact the capital deployment, by supporting the investments aimed at climate neutrality.

- A key starting point will be to review the existing budgets and capital structures, identifying any gaps in funding for the actions required to achieve climate neutrality by 2035.
- Part of this process involves analysing the opportunities to redirect the current resources toward these goals. Some examples may include reallocating the energy taxes, parking fees, or other local revenue streams, implementing market-based instruments, building and planning regulations, green tax incentives and sustainable budgeting and procurement practices. Such policies will enhance the alignment of the existing revenue channels and market conditions to empower the local actors in implementing critical climate actions.
- Additionally, the city should identify and consider modifying any policies, regulations or incentives which may impede the progress towards climate neutrality, allowing the capital flows to better support the transition.

IV. OUTLOOK AND NEXT STEPS

This module should provide a summary of any challenges the city foresees regarding the implementation of the CNAP.

It should also outline the milestones for the implementation process and identify the areas for improvement to be addressed in the future iterations of the Climate City Contract. The CNAP is designed to be an iterative document, allowing for updates until 2035.