

## **The Mission:**

### **100 climate neutral cities by 2030 - by and for the citizens**

Support, promote and showcase 100 European cities in their systemic transformation towards climate neutrality by 2030 and make these cities into experimentation and innovation hubs for all cities, thus leading on the European Green Deal and on Europe's efforts to become climate neutral by 2050.

Report by the Mission Board on Climate Neutral and Smart Cities

31 May 2020

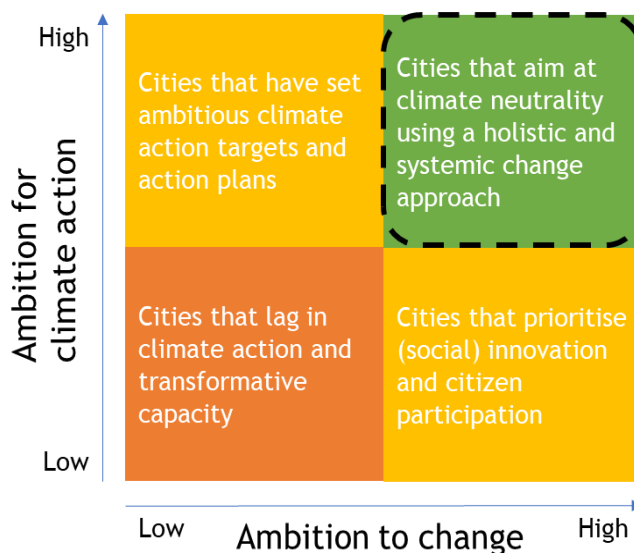
## 1. Why cities?

Cities cover about 3% of the land on Earth, yet they produce about 72% of all global greenhouse gas emissions. On top of that, cities are growing fast; in Europe, it is estimated that by 2050 almost 85% of Europeans will be living in cities<sup>1</sup>.

Cities are also the melting pot where decarbonisation strategies for energy, transport, buildings and even industry and agriculture coexist and intersect. As the density of use and infrastructure is higher in cities, there is also a higher potential for cross-sectoral integration and for complex infrastructures such as smart grids<sup>2</sup>. In addition, cities have access to more capital and know-how and can create the economies of scale necessary for the piloting and scaling up of new ideas and concepts. *“When it comes to climate action, no one is doing more than cities, but no one is doing enough. We are entering a make-or-break decade for the preservation of our planet and environmental justice for every community”*<sup>3</sup>.

The climate emergency must be therefore tackled in cities. Equally important, it must be tackled by engaging citizens who are not only political actors in a governance structure, but also users, producers, consumers and owners. In these capacities, they can have a huge impact on the environment and take an active role in their local urban areas, associations and homes, thus driving the climate transition and improving the economy and the environment. For the mission to succeed, citizens and the civil society must be given more substantial roles, new platforms for action and better resources.

The European Commission has recently presented a strategic long-term vision for a prosperous, modern, competitive and climate-neutral economy by 2050<sup>4</sup>. The European Green Deal<sup>5</sup>, using the ‘man on the moon’ example, makes the case for a *mission-oriented R&I* component in the Horizon Europe programme. The question is **“How can Europe help cities become climate neutral as fast as possible?”**



## 2. Mission objectives

The mission aims to:

- Support, promote and showcase 100 European cities in their systemic transformation towards climate neutrality by 2030 and make these cities into experimentation and innovation hubs for all cities, thus leading on the European Green Deal and on Europe’s efforts to become climate neutral by 2050.

Its objectives include:

- Build a multi-level and co-creative process formalised in a Climate City Contract that, while adjusted to the realities of each city, will aim at the shared goal of the mission;
- Promote citizens to become agents of change through bottom-up initiatives and innovation and through new forms of governance;
- Help cities access the financial means to achieve the mission through Horizon Europe, the European Structural and Investment Funds, the Connecting Europe Facility, the Just

Transition Fund, the mechanism for Important Project of Common European Interest, InvestEU, the Next Generation EU instrument and other EU funds;

- Foster a just transition, via the implementation of the Agenda 2030 and its Sustainable Development Goals, to improve citizens' health and wellbeing;
- Bring many co-benefits e.g. improved air quality, job creation, healthier lifestyles, stimulating the positive effects of new sustainable mobility concepts;
- Identify European, national, regional and local policy gaps as well as R&I priorities to contribute to the goals of the European Green Deal;
- Support the development of drivers of transition under five key enablers:
  - o A model for the transformation of cities to innovation hubs;
  - o New forms of participative governance;
  - o An economic and funding model for climate action;
  - o An 'integrated urban planning' model;
  - o Smart systems and data platforms.
- Create synergies with and between existing European climate initiatives and stakeholders such as the Covenant of Mayors, the EIT and its relevant KICs, the Green City Accord, the European Green Capital Cities, the SET-plan and the 100 PEDs initiative, the EIP-SCC and the lighthouse projects, CIVITAS;
- Align with other missions and initiatives that support the Green Deal to ensure complementarity, in particular with the mission on *climate adaptation* and its work to adapt Europe - and its urban areas - to the actual or expected climate and its effects;
- Collaborate on innovation with the European business to enhance the competitiveness of European industry in the global markets.

Given the multiple typologies of European cities and the difficulty to deliver the mission in under a decade, *the mission considers the notion of a 'city' as applicable to different scopes:*

- City district, neighbourhood, or zone of special interest of a city<sup>6</sup>.
- City represented by a government unit (e.g. municipality).
- Conglomeration or a functional area composed of several neighbouring cities or government units, represented by the respective government units.

This plurality takes into account the diversity of European cities in terms of size, spatial context, governance, budget and ability to mobilize the necessary financing, and the current level of climate action. It also ensures an open process where *any city with enough ambition may successfully bid* to be among the first 100 selected cities.

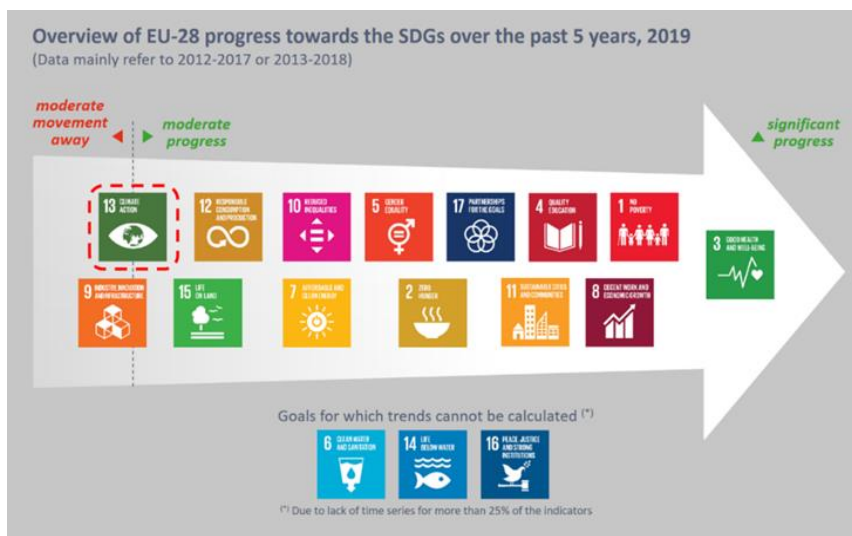
With the aim of leaving no one behind, the 100 cities will be encouraged to include in their Climate City Contracts partner cities with significant structural challenges who will receive support towards achieving climate neutrality after 2030.

### **3. Contribution to SDGs**

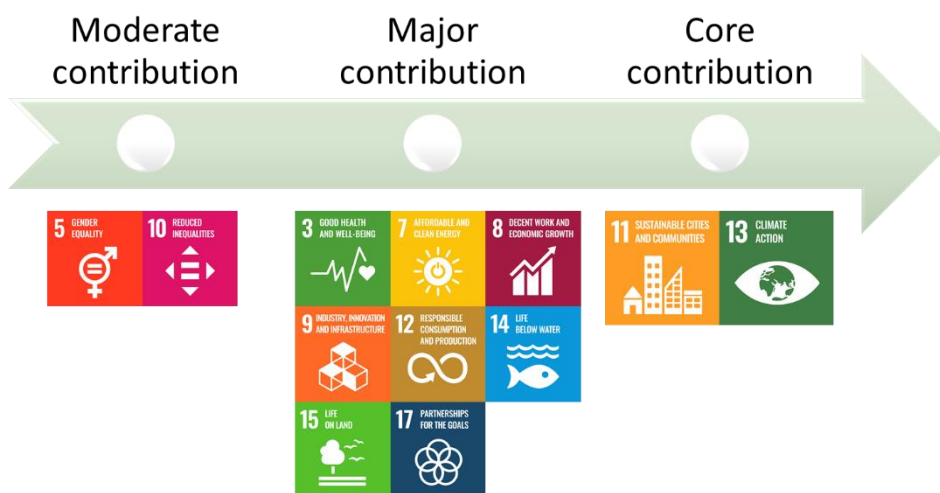
The UN Agenda 2030 for Sustainable Development provides a global policy framework for ending all forms of poverty, fighting inequalities and tackling climate change in a socially inclusive manner.

Eurostat data shows that the EU made progress towards almost all the 17 sustainable development goals (SDG)<sup>7</sup>. It also singles out SDG 13 'climate action' as one of the areas in need of more and faster progress. Looking at the indicators for SDG 13, the main reason for EU's moderate advance is the need to reduce energy consumption in all its forms. An integrated approach, such as the one proposed under this mission, can contribute to

mitigating this challenge in the places where energy consumption is at its highest: urban areas.



A holistic and transformative mission for climate neutral cities, based on citizens participation and social inclusiveness, can contribute and help EU progress towards multiple SDGs.



#### 4. The added value for Europe

To achieve in ten years what Europe plans to achieve in 30 years is a huge challenge that requires a systemic transformation of European cities. Still, this is both necessary and feasible. It is necessary for acting on the global climate emergency and for delivering co-benefits that will improve the health, wellbeing and prosperity of citizens. It is feasible because technologies and innovative solutions for sustainable energy, transport, food, water and material systems already exist - and more options will be available in the years to come due to Horizon Europe and national R&I programmes<sup>8</sup>. Green technology prices and market conditions<sup>9</sup> are moving in directions that favour climate-friendly investments and will continue to strengthen incentives to transition. The European Green Deal, including a revision of EU directives for 2030, and the new role of the European Investment Bank will further strengthen this trend. With framework conditions on a positive path, the big challenge is the lack of capacity and commitment for change.

Climate neutral cities must also address climate adaptation and resilience through assessment of risks and vulnerabilities, as a basis for adaptation plans. The inclusion of adaptation in the Climate City Contracts will be elaborated in collaboration with the mission on climate adaptation.

The mission is based on two main pillars:

- The *MFF 2021-2027*<sup>10</sup> and *Next Generation EU*<sup>11</sup> proposals that will impact the European and national frameworks for the funding of climate action, including the *Horizon Europe* programme<sup>12</sup> where the mission is anchored in terms of objectives, R&I agenda, and societal challenges and priorities;
- The *European Green Deal*<sup>13</sup> which sets an unprecedented level of ambition and reach for climate and environmental action and for the financing and inclusiveness of the transition.

The mission is designed as a flagship initiative that complements and blends with these pillars, aiming to set new standards for climate and urban agendas and for their implementation. While connected to a wide range of European policies and strategies (e.g. the Climate Law<sup>14</sup> & the Climate Pact<sup>15</sup>, the EU plan for circular economy<sup>16</sup>, the European long-term strategy for 2050<sup>17</sup> and the National Energy and Climate Plans, the Urban Agenda for the EU<sup>18</sup>, the European Digital Strategy<sup>19</sup>, the Smart Specialisation Strategies<sup>20</sup> and platform, the Smart and Sustainable Mobility Strategy<sup>21</sup>), the mission will also connect these policies and strategies to the local level.

The participating cities will act as innovation hubs and national, European and global forerunners. They will inspire additional urban areas, and eventually the whole of Europe, to accelerate their policies for climate action and transition.

### ***Helping the European economy***

There is significant potential in the global markets for low-emission technologies and for sustainable products and services. Likewise, the circular economy offers great potential for new activities and jobs. However, the transformation is taking place at a slow pace. One of the aims of the European Green Deal is to support and accelerate the transition of EU's industries to a sustainable model of inclusive growth.

The mission will strengthen markets and deployment for new technologies and R&I. Through testbeds, urban living labs, upgrades in the existing residential areas or the construction of new city districts, the mission will create business opportunities, support city development and spur economic progress. In addition, the mission will make a strong business case for transforming the way products are designed, produced, used and recycled in the EU. Overall, by taking the lead in the urban transition to climate neutrality, Europe is expected to create new investment opportunities and jobs<sup>22</sup>.

## **5. A strategy for climate neutrality**

For over a decade, the European cities have been leading Europe's efforts to implement ambitious climate action. More than 10.000 cities have signed the European Covenant of Mayors while an important number of cities work with other important initiatives<sup>23</sup>. In the Covenant of Mayors, signatory cities pledge action to support the implementation of the EU 40% greenhouse gas reduction target by 2030 and the adoption of a joint approach to tackling mitigation and adaptation to climate change.

The mission for climate neutral cities aims to boost these efforts in two ways: by setting the greenhouse gas reduction target by 2030 at 100% and by promoting a systemic change and transformation of cities, including via the adoption of the 'by and for the citizens' way of

thinking and working.

A city strategy for climate neutrality should explain the starting point in its societal, economic, ecological and political dimensions. It should include the climate action baseline of the city: its existing climate pledge, strategy and action plans for 2030, all these most probably in the form of the city's SECAP<sup>24</sup> for the Covenant of Mayors. This will allow for an assessment of the city's 'climate policy deficit': *"what more do we need to do compared to what we are currently doing in order to become climate neutral by 2030?"*

A participating city should be able to deliver a credible climate strategy and action plan for reaching carbon neutrality by 2030 (areas of intervention, milestones and timeline) and to identify the challenges and corresponding process through which the local partnership aims to address them. Methodologies such as 'decarbonisation pathways' and the 'theory of change' are expected to be valuable tools in the formation of a credible and realistic strategy. In addition, the principles of 'integrated urban planning' should be instrumental in the description of a climate strategy and action plan that can be transformative and agile enough given the complexity of reaching carbon neutrality in such a short time.

Important issues that the strategy should tackle include:

- the connection with the local/regional or national strategy for carbon neutrality by 2050;
- the 'cross-border' issue: the participating city should ensure that measures taken will not be physically unconnected or stop working at the borders of the selected site<sup>25</sup>.

The experience of the COVID-19 crisis has made the inclusion of resilience an imperative in any long-term strategy of a city. It also highlighted the connection between air quality and well-being to health crises. Design principles and operation rules need to be reconsidered in areas such as urban planning, public transport, health services and urban food logistics. Moreover, all social services and support - especially for those more in need - must be evaluated and shielded against such extraordinary events.

## 6. The Climate City Contract

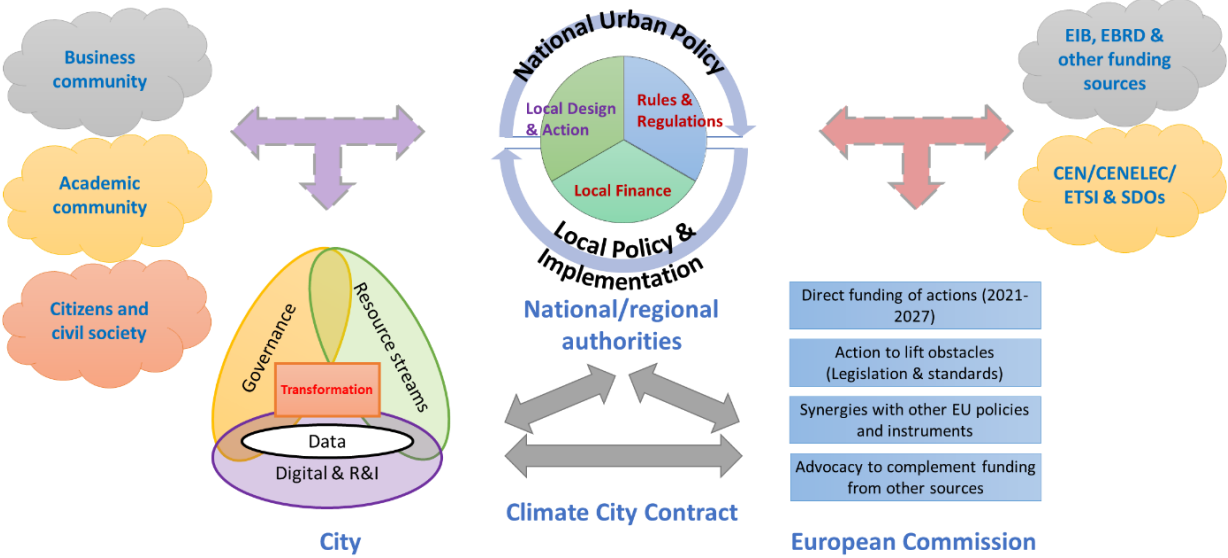
To address the challenge of climate neutrality, the mission proposes a **multi-level co-creation process** through the introduction of a **Climate City Contract**. The purpose is to:

- a) express the ambition and commitment of all involved parties to the mission objectives;
- b) identify the policy and implementation gaps as a basis for a strategy for transition;
- c) coordinate stakeholders and empower citizens in the city around a common climate goal;
- d) coordinate the national/regional and EU authorities to deliver the necessary legal, governance and financial framework conditions to support each city;
- e) create a one-stop-shop for multi-level negotiations to facilitate city action for transition.

Adapted to the specific circumstances of each city, a Climate City Contract will include the goal and targets, specify the strategy and the action plan for transition, and identify stakeholders and responsibilities. The Contract is not meant as a closed document that only binds a city legally to a course of action up to 2030. Instead, it emphasises the high ambition, the participatory approaches and the multi-level governance collaboration that will trigger innovation and change towards climate neutrality. The main idea is to create a demand-driven, live document that puts the cities at the centre of the transformation process and determines - in the form of local ecosystems - their scope, activities and timeline.

A central part of a Climate City Contract should be about unlocking the drivers to

transformation. The mission prioritises five main drivers: new forms of participative governance, a new economic and funding model, integrated urban planning, digital technologies, and innovation management.



### 7. The partnerships under the Contract

The Climate City Contract will be a politically binding document that covers all the elements of the mission. Since multi-level governance is an indispensable ingredient for the mission’s success, the Contract will be signed ideally by the local government, the European Commission and the respective national or regional authorities.

Most of the policy frameworks, rules and regulation, and standards that cities will need for the complex technical, financial, and social endeavour of reaching climate neutrality will come from regional/national or European levels. The funding and financing of the effort towards climate neutrality will also depend on these governance levels. Close collaboration with the city will maximise the possibilities of securing the resources for the transition to a carbon neutral economy and society. Moreover, national and regional authorities can play a pivotal role in knowledge transfer and replication efforts as they share, understand and largely define the common conditions in all cities of a country or region.

Participating cities will be encouraged to design and implement a multi-sector governance model where local stakeholders such as business, universities and the civil society are part of the Climate City Contract and contribute to its design and implementation in and for the city. Similarly, regional or national stakeholders that can ensure the success of the Contract (e.g. regional transport companies, national energy producers, national research institutions etc.) should be encouraged to join by the relevant regional or national signatory.

The regional Smart Specialisation Strategies and their connection to EU Cohesion Policy can serve as a model on how to set up multi-sector governance models with strong R&I and funding policy components, following a customisable approach that is adapted to local conditions and strengths.

Multi-stakeholder governance across cities will also be encouraged. With the help of the mission’s framework and facilities, this should take two forms:

- A systematic *clustering* of cities that have signed a Climate City Contract, share the same conditions, and want to solve common challenges or create economies of scale;
- *Teaming* with cities that have not signed a Climate City Contract, meaning the

hundreds of European cities that want to be inspired, learn from and replicate the ideas and solutions that will come out of the mission.

## **8. Towards a new city governance - by and for the citizens**

Modern urban development is a complex process involving many stakeholders with varying ambitions and interests that are not always compatible. The mission proposes a systemic transformation that goes beyond the usual top-down approach. Instead, it uses a horizontal coordination of the stakeholders in a city who jointly agree on a vision, targets, interventions and synergies to share and reduce their climate impact. This process is particularly important for the shaping and implementation of climate policies.

The involvement of citizens in their different roles as political agents, users, producers, consumers or visitors is pivotal for the mission's success. In these capacities, citizens have a huge impact on the environment and climate, and they can take an active role to drive the transition to climate neutrality as co-designers, co-creators, co-implementers and co-beneficiaries. The Climate City Contract will give citizens and civil society an active role and provide them with new platforms to act and better resources to design and implement climate actions. For this, the city will need to develop effective approaches for mobilising communities and for influencing and incentivising behavioural change.

A new governance model should also encourage the public administration of all levels to evolve from its traditional silo-based working culture and organisation to a more cross-cutting, integrated, citizen-driven and facilitator-based way of working. Without a clear political and organisational evolution, a systemic transformation towards climate neutrality will not be possible. The reassessment of the role and position of the local government vis-à-vis the citizens and these new forms of governance needs to take into account the specific circumstances and traditions of each city.

In addition, a new governance model should include, by design, a social inclusion plan or clause that will put into practice the 'leave no one behind' (just transition) component of the Green Deal<sup>26</sup>. Urban interventions and new infrastructure often affect disproportionately the most vulnerable. For instance, they may be excluded from opportunities or financial credit that would allow them to overcome difficulties and improve their lives (e.g. energy poverty).

The required paradigm shift should lead to the adoption of integrated urban planning practices that approach the city holistically, promote multi-benefit solutions, and break the traditional silos in urban projects. This type of urban development and projects can yield solutions that make efficient use of resources and provide significant benefits for cities, their citizens and the economy.

A common understanding on how integrated urban systems are planned, built, and run still needs to be developed and implemented for all cities in Europe. The mission can be a catalyst in this direction. The point where clean and sustainable urban mobility, near-zero or positive energy buildings, green energy production and the use of tools such as the 'digital twin cities' meet is an example of a starting point on the way to 2030.

## **9. A strategy to secure funding**

The current system for funding and financing of climate innovation and investment at city level is too fragmented. A new approach with appropriate instruments for a coordinated stream of funding for innovation and infrastructure are needed to facilitate a systemic transformation to climate neutrality.

The commitment by the European Commission to a Sustainable Europe Investment Plan offers a new ambitious framework, with a strengthened role for the European Investment



Bank. Furthermore, the new EU multiannual financial framework (MFF), reinforced by the recovery plan, can be an enabler and accelerator of the needed shift. The European Commission has expressed its intention to align policy priorities across different levels of the EU's governance systems to overcome barriers and maximise synergies in publicly financed programmes. This includes combining financing from different European, national and local resources, and the whole value chain from R&I to planning, investment and implementation.

The greatest opportunities are provided by funding leveraging private investments, with the potential of unlocking the capital necessary to act at the different phases of the process - from strategy development to the rolling-out of large projects and investment plans.

When ready for investment, cities can apply for a variety of instruments/funds/facilities mainly involving EIB funds. In fact, the estimated urban lending by EIB for 2012-2018 is 152 Bn€, out of which nearly 26 Bn€ were invested on climate mitigation actions which include Natural Capital Financing Facility and Municipal Loans. Other instruments such as the Connecting Europe Facility can provide guarantees and bonds, whereas the European Energy Efficiency Fund (a PPP with international banks) can provide cities with market-based junior debt, mezzanine instruments, guarantees, equity, leasing structures and forfeiting loans.

While the MFF is still under discussion and no financial and programmatic elements have been agreed, preparatory work is ongoing for an investment strategy for the mission. This concerns in particular the Structural and investment and cohesion funds, the Just Transition Fund, InvestEU, Horizon Europe, Connecting Europe Facility, the Digital Europe Programme and all that will come as a complement through the future Next Generation EU instrument.

The concept of a Climate City Lending & Blending Facility has been introduced in Annex IV of this report and will be further discussed between the Mission Board, the European Commission and the EIB.

## **10. Economic transition**

The limited resources and boundaries of our planet force us to seek new ways of producing and consuming. The EU already has a track record on modernising its economy while reducing emissions. Between 1990 and 2018, greenhouse gas emissions decreased by 23% while the economy grew by 61%<sup>27</sup>.

The transformation towards a sustainable and circular economy contributes to addressing these challenges. When combined with behavioural changes, such a transformation has the potential to contribute to the mission's objectives and to reduce the need for investment for low and zero-carbon solutions. On the other hand, we should expect and address the challenges and risk of having gains towards climate neutrality cancelled out by 'rebound effects' due to behavioural or other systemic reasons.

To this end, cities via their participatory ecosystem will need to discuss, develop and experiment with ideas and proofs of concept for combining behavioural change and new economic models in order to open the road to climate neutrality and a circular economy.

## **11. A mission that promotes innovation**

### ***The role of digital technologies***

Achieving climate neutrality in cities will require the development and deployment of a vast array of technologies and solutions in all sectors responsible for GHG emissions in the city. The mission will be underpinned by a Strategic Research and Innovation Agenda to be co-created with the European cities. This agenda could be structured around the seven strategic priority areas for joint action to accomplish decarbonisation, as identified by the European Commission in 2018<sup>28</sup>.

Smart and digital technologies and the use of data have the potential to facilitate efficiency in use of resources and better decision making, including by making use of urban systems modelling for mobility, energy consumption in buildings or urban metabolism (resource use and emissions by different economic sectors). This will only be achieved through world-class digital infrastructure and the deployment of the Internet of Things (IoT) and related applications at scale. It will also require open and interoperable datasets, linked and shared across the city ecosystem, that can break down silos and generate actionable insights through big data analytics and the use of Artificial Intelligence (AI).

To drive such exponential use in digital technology for climate neutrality, the mission needs to incentivise private investments, promote voluntary data sharing, establish digital twins, ensure open platforms and put in place a harmonised approach to public procurement on the supply side. All parties involved should operate in full respect of Europe's world leading data protection rules and leverage new digital security assurance at EU level to ensure privacy and security by design.

The following initiatives can be of interest to the Mission:

- Future spending under the Digital Europe Programme in the area of Smart Cities and Communities to support the digitalization of urban areas in order to adopt AI-based services for green purposes;
- Work with Digital Innovation Hubs to help smart cities and communities in their use of advanced digital technologies such as Artificial Intelligence;
- Work with the COP-CITIES community to engage smaller cities and support them in scaling up digital solutions;
- Work towards the creation of a smart communities' dataspace with an agreed governance structure and collaboration mechanism to access, share and re-use all kinds of data from different sources with relevance for cities and communities.

The 'Join, Boost Sustain' political Declaration<sup>29</sup> is a new initiative that aims to strengthen the European way of digital transformation in cities and communities, and boost the efforts to use digital solutions to create places where people enjoy living and working.

Other key areas to be addressed and incentivised to work on new solutions include:

- **Energy efficiency, aiming at zero emissions** to reach the full potential of energy efficiency - especially in the buildings sector that accounts for 40% of energy demand;
- **Deployment of renewables and use of electricity to fully decarbonise Europe's energy supply** - as calculated by the Commission<sup>30</sup>, an electricity supply that is fully decarbonised by 2050 must come approximately 80% from renewable generation;
- **An efficient mobility for all**, clean, safe and accessible including carbon free and alternative fuels, promotion of public transport, walking and cycling, smart multi-modal solutions such as mobility as a service (MaaS), and automation;
- **Integration of the circular economy approach** that employs reuse, sharing, repair, refurbishment, remanufacturing and recycling in a close-loop system for minimising the use of resource inputs and the creation of waste, pollution and carbon emissions;
- **Optimizing the carbon footprint of Gigabit society** as the latter becomes an increasingly important part of the society and economy.

### ***A model for the transformation of cities to innovation hubs***

Besides the traditional supply- or demand-driven approaches, the mission adopts a challenge-based and objective-driven approach to city innovation. This will ensure that activities are in line with the ambition of the mission. In addition, the mission considers city innovation as pertaining not only to technology-based innovation, but also to the social, creative, organisational and financial innovations needed to transform cities.

In its activities and projects, the mission will go beyond traditional R&I calls for proposals, engaging a wider public and enabling faster replication and dissemination of innovation. To this end, cities will test new ideas, technologies, solutions and methodologies. They will also be encouraged to adopt management roles or structures that will act as catalysers of innovation across departments and traditional silos.

### ***Global Knowledge Centre***

The design and implementation of the mission and of Climate City Contracts will benefit from research, innovation and deployment activities supported under various EU programmes. The mission will also take inspiration from ambitious climate goals and initiatives put forward by individual cities and will learn from successful innovation projects and full-scale investments.

It is important to ensure that no positive result or knowledge is wasted or must be re-invented. To this end, the mission will encourage, monitor and evaluate the scaling-up and replication of good practices and of effective technologies for the benefit of cities and of the European economy at large.

These activities may lead to the setup of a Global Knowledge Centre that could facilitate and create synergies between European and international climate initiatives and stakeholders. The centre would serve cities as well as citizens, academia and business.

## **12. Establishing the process**

### ***Selection of cities***

The process of delivering the mission will be flexible and inclusive. It could consist of the following phases:

1. A call for proposals drives the cities, in collaboration with their citizens and local ecosystem, to co-create an **application** that fulfils the requirements of the call and defines the baseline of the participating city and its ambition. If successful, the application leads to the signature of a **Letter of Intent** that gives access to the mission's support facilities;
2. An extended co-creation process that includes the regional and national governments and stakeholders, where applicable and necessary, with the support of relevant European stakeholders, leads to the compilation of the **draft Climate City Contract** that includes the necessary information, strategies and action plans;
3. If the proposed Contract is positively evaluated and signed, the city (as an ecosystem) enters the **implementation phase** and is considered part of the mission.

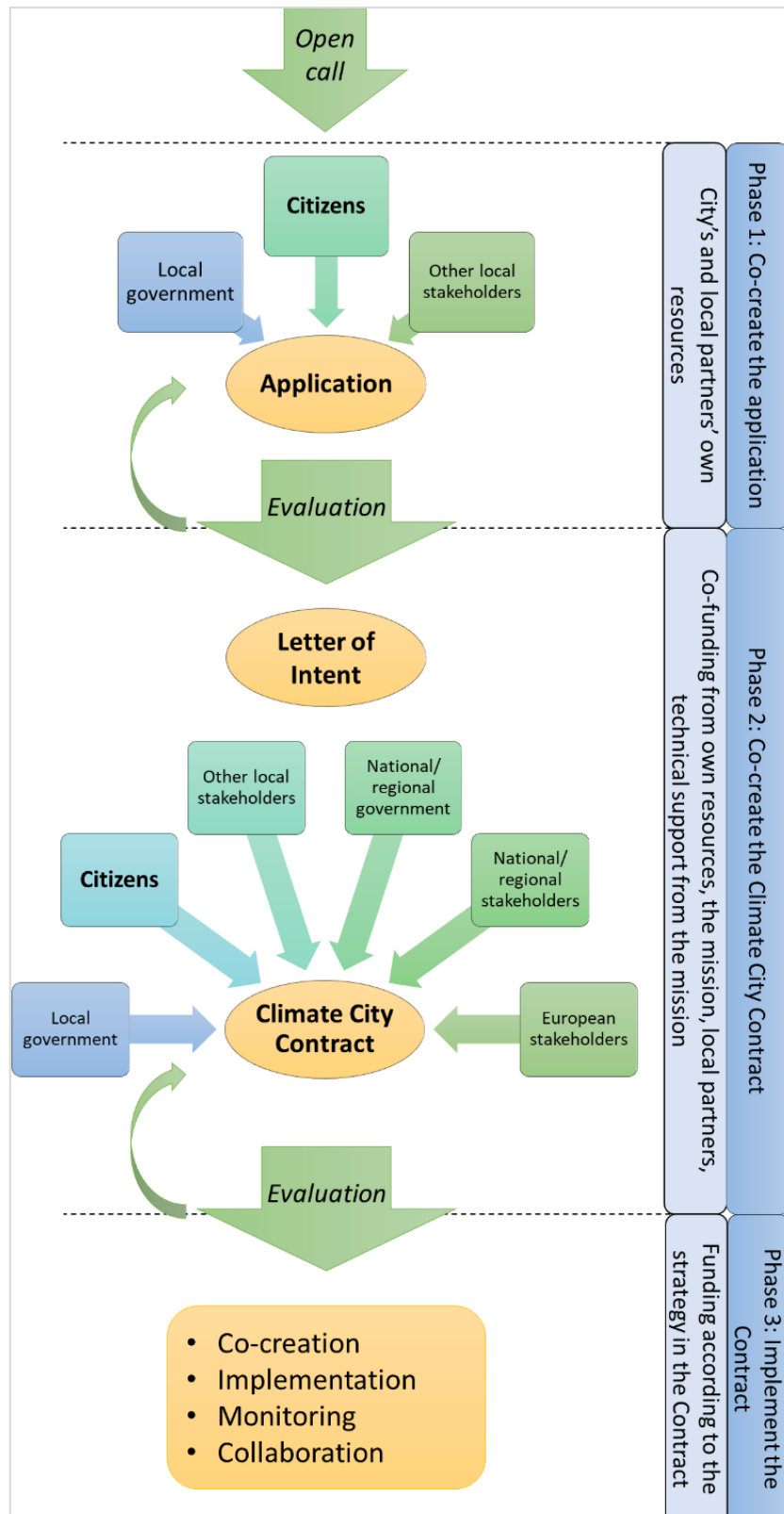
The selection of cities will be open and transparent, with the exact procedure and criteria published before the beginning of the process. The target of 100 cities should not be read as an upper limit. Instead, the mission should remain open to all European cities during its whole duration. Moreover, as some cities might fall short of the 2030 target, this scenario should be expected (and tolerated, if not welcomed) in an ambitious experimentation of this scale.

The mission should attract and select cities of all sizes, contexts and types. At the same time, it should achieve the best geographic coverage and representation of all European countries. The selection will be done via an open competitive process with some minimum eligibility and selection criteria:

- **Eligibility criteria** refer to the characteristics of the city/city district, its readiness to lead the way to carbon neutrality (existence of climate strategies etc.), and its level of political commitment and ambition. Setting a minimum threshold of

inhabitants for cities/city districts<sup>31</sup> would allow to work with cities that can address various areas of intervention with enough resources and at a meaningful scale<sup>32</sup>;

- **Selection criteria** have to do with the need to cover - as much as possible - all sizes, contexts and types of cities as well as all European countries (ideally, at least two and possibly three cities from each member state).

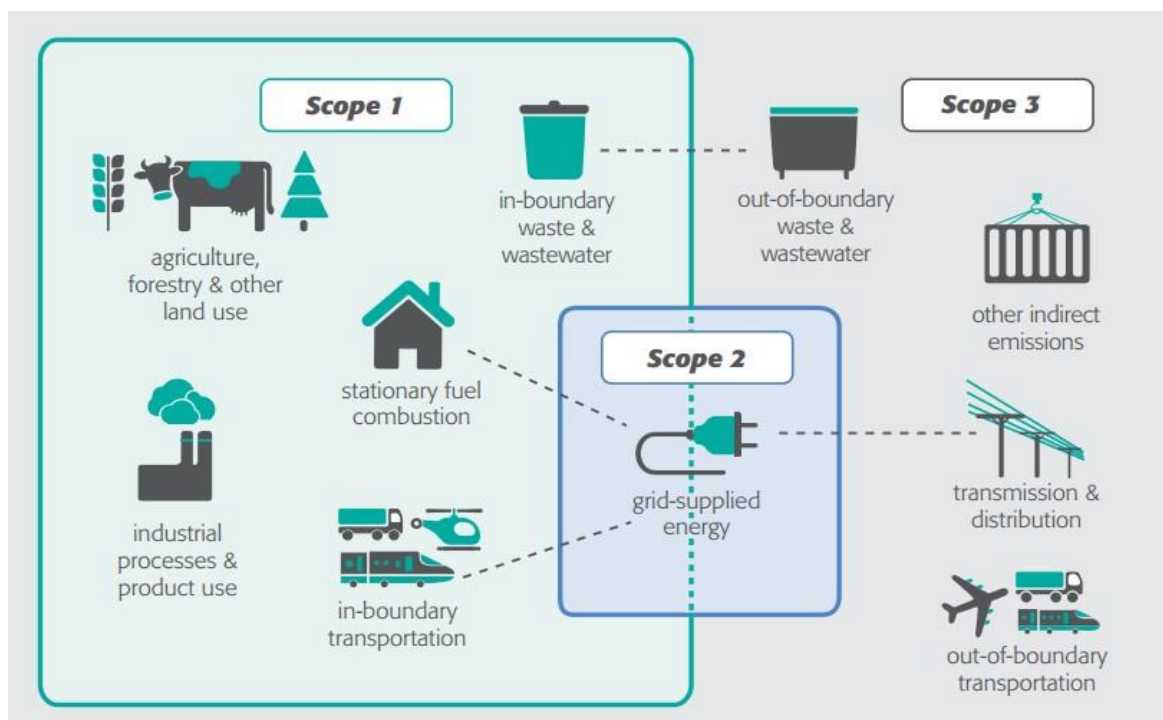


## Monitoring the progress

The European Commission has identified the endpoint against which success will be measured. Carbon neutrality, namely mitigating and offsetting<sup>33</sup> all GHG (in CO<sub>2</sub>-eq) within a city is the target of the mission<sup>34</sup>. The timelines of participating cities should converge to achieve this target by 2030, thus paving the road for a wider transformation in European urban areas and Europe in general by 2050.

The mission will establish a robust, transparent, yet simple monitoring process to measure progress towards the mission goal, ensure accountability of the participating cities, and give credibility to the mission results. Three indicators are proposed<sup>35</sup>:

1. **Scope 1 GHG emissions** for the city within the geographic boundary (mandatory from the beginning of the mission). This indicator will be calculated based on the emissions from *buildings, industry, transport, waste treatment* (solid waste and wastewater), *agriculture and forestry* and from *other activities*<sup>36</sup>.
2. **Scope 2 GHG emissions** for the city (mandatory from the beginning of the mission). This indicator will be calculated based on the emissions from *indirect emissions due to production/consumption of grid-supplied electricity within the geographic boundary* and *indirect emissions due to production/consumption of grid-supplied heat or cold within the geographic boundary*.
3. **Scope 3 GHG emissions** for the city (recommended, to be adopted by 2030). This indicator will be calculated based on the emissions from *out-of-boundary emissions from treatment of waste produced within the geographic boundary, out-of-boundary emissions from transmission and distribution of energy consumed within the geographic boundary, out-of-boundary emissions from transportation of citizens living within the geographic boundary, out-of-boundary emissions from consumption made within the geographic boundary (food, clothes, furniture, materials, etc.) and other indirect emissions*.



The goal of the mission is to transform the city. To evaluate the feasibility of such a radical transformation, a **qualitative indicator** is proposed: *the selected decarbonisation pathway to climate neutrality and the associated transformation drivers to be unblocked*.

Additional indicators could be included such as those related to ‘citizen participation’, ‘integrated urban planning’, ‘creation of ecosystems’, ‘sustainable urban development’ and ‘co-benefits’ such as air quality and jobs. Some examples are as follows:

- Citizen engagement (number/type of interactions with citizens on climate neutrality);
- Modal split, urban transport GHG emissions, congestion, accessibility and affordability of public transport<sup>37</sup>;
- Decrease of energy use in buildings (kWh/m<sup>2</sup> or kWh/person/year);
- Percentage of green space mixed with % growth of green space;
- Percentage of green energy (production within city limits mixed with green energy consumption);
- Final energy consumed per inhabitant (heating, electricity, fuel);
- Percentage of buildings renovated to improve energy performance;
- Money spent in EUR per inhabitant for climate-related investment.

Reporting will follow a biennial cycle of reports of progress. One way to work on the baseline and progress reporting is to use the ‘deep decarbonisation pathways’ approach that combines transformative and objective-oriented solutions, collaborative approaches and transparent reporting with the local context and realities<sup>38</sup>.

The biennial reporting cycles will provide the opportunity for technology-neutral pathways that, each time and for each city, can take stock of all developments in the areas of policy, research and market conditions. If a city is already reporting its progress to an initiative such as the Covenant of Mayors, its reporting for the mission may follow the same cycle.

### ***Overall timeline***

The high ambition of the mission and its short time horizon demand that the planning, research and implementation must span many sectors in parallel. Three phases can be identified:

1. An **early delivery phase in 2020-2022** that will set the foundations of the mission and of its facilities to help the participating cities;
2. The **main phase in 2022-2030** during which the main body of cities will implement their strategy towards transformation and climate neutrality;
3. The **period after 2030 and up to 2050** when the mission will have hopefully created the momentum for a climate neutral Europe.



### 13. Annex I: Engagement with citizens and stakeholders

There is increasing recognition across the EU, nationally and at regional level that citizens have a crucial role to play in decision-making for public policies and in their implementation processes, as seen with the launch of citizen engagement strategies and participatory movements.

In the spirit of the Sibiu informal EU leaders’ meeting and in line with the Conference on the Future of Europe, Horizon Europe Missions are an excellent example of how the Commission delivers on its commitment towards greater openness and deliberative democracy, with an inclusive policy-making agenda.

The Missions are public policy instruments where research and innovation (R&I) set the direction and provide a first and substantial impetus. However, the scope of Missions goes well beyond R&I as they require a broader involvement across a spectrum of actors and policy areas for increased relevance to society and impact. A meaningful engagement of

citizens is therefore necessary throughout all stages of the policy cycle, from the identification and conceptualisation of Missions to their implementation, deployment and impact assessment.

To be effective, citizen engagement has to be inclusive, deliberative, and influential. These three basic criteria put it in a different league compared to other ways in which we reach out to society such as communication, public consultations or stakeholder debates.

Citizens bring original perspectives to R&I and policymaking, and their engagement helps bridge the gap between science, markets and society. This is especially important in fundamental transformations - e.g. the transition to climate neutrality - that require not just innovation in technologies, but also profound changes in lifestyles and behaviours, along with innovative governance models. Such transformations cannot be imposed from the top: they need to be embraced and shaped by the citizens themselves.

Moreover, citizen engagement enhances the legitimacy of public policymaking. Many citizens no longer feel represented and have limited faith in governments, political parties or public institutions. This is a threat to democratic stability and social cohesion. A more direct involvement may help tackle these problems, aside from improving the quality and societal relevance of policymaking as such.

Based on the methodology developed in a joint DG HR-JRC workshop on citizen engagement on 10-11 February 2020, the Mission on Cities identified a series of physical events from March to June 2020. The COVID-19 crisis disrupted this schedule, allowing for only one physical citizens session on 4 March 2020 in Cluj-Napoca, Romania. At the same time, the crisis presented an opportunity to reinvent how the European Commission engages with citizens and to reflect on the future of cities in this new context.

Cities soon started to explore ways of engaging with their citizens remotely and overcoming two main challenges: reaching out to regular citizens during confinement and including in the debate the digitally illiterate and those who cannot afford an Internet connexion and/or the devices to connect. It was soon apparent that the exceptional circumstances demanded flexibility and compromise, as concerns both the methodologies applied to conduct these sessions and the participants involved. As a result, a two-step event now seems to be an efficient and effective compromise:

- A remote session by end of June 2020;
- A complementing physical event, as possible post-June 2020, to include in the debate categories of citizens that did not participate in the initial online discussion.

The Member States, the Assembly for the Mission on Cities and the local city partners are playing a key role in the organization of these sessions, as they know the local reality best.

### ***Physical sessions (by end of June 2020)***

#### ***Cluj-Napoca, Romania (4 March 2020)***

***Methodology:*** Group deliberations on pre-set questions, followed by plenary discussion. The event was co-organised with the Cluj-Napoca City Hall and the Centre for Innovation and Civic Imagination of the Municipality of Cluj-Napoca.

***Participants (52):*** They included representatives of the local city administration and of the Commission, participants from public and private sectors, academics and teachers, urbanists, IT specialists, ONGs, cultural and creative sectors, students.

***Main outcomes:*** The discussion gradually converged on a few key points:

- The main recorded concerns were air quality, followed by mobility (pollution, congestion, noise), unsustainable urban planning and waste management, and dirty



- energy sources;
- Proposed solutions included electric transport and revamped transport infrastructure (park-and-ride hubs, no-car areas, ring roads, bike paths), ‘green lungs’ and green corridors, low-carbon restoration of buildings, and a circular economy with a digital boost;
- The transition will require the adoption of legislation, the prompting of behavioural change via public awareness campaigns and lifelong ecological education, the joint action of an urban alliance of stakeholders, and learning from other cities.

### ***Online sessions (by end of June 2020)***

#### ***Espoo, Finland (24 March 2020)***

**Tools:** Microsoft Teams

**Methodology:** A two-phase engagement: 1) with Board member Maria Vassilakou and the local authorities in English followed by 2) broader online consultation with citizens in the local language.

**Participants (60):** They included municipality representatives, representatives from the Ministry of Economic Affairs and Employment of Finland, research organizations, industry partners and representatives of university departments.

**Main Outcomes:** In the first phase of engagement with SPARCS project and its partners VTT Technical Research Centre of Finland, city of Espoo, RIL and GOPA Com., the discussion was about "Best practices for citizen engagement". Smart Cities and Community Lighthouse projects such as Smarter Together, STARDUST, MAtchUP, MySMARTLife, Trianglum and POCITYF shared their experiences, success stories and challenges with citizen engagement.

As a follow-up to the online event, a survey in Finnish and English was carried out in March-April 2020. The survey was shared with people living in small and big cities in different parts of Finland and received 168 answers from 13 different cities. Here is a summary of the results:

- The main concerns on climate change were the transformation of energy systems, extreme weather conditions and urban flooding, and the transition to low-carbon buildings;
- The three priorities to make the city greener were zero carbon transport, energy systems and zero carbon buildings;
- Citizens are willing to use zero-carbon transport (walking, cycling) and recycling to fulfil the priorities while low-carbon energy sources for housing and environmental certificates were other high ranked options;
- The most ambitions for local authorities were the transition to low-carbon energy and transport systems and the transformation of buildings to low-carbon buildings.

#### ***Iasi, Romania (5 & 8 May 2020)***

**Tools:** Cisco WebEx and sli.do

**Methodology:** Two-phase session: 1) with Board member Maria Vassilakou and the local authorities in English followed by 2) an interactive session with high school and university students in the local language. A physical event will enrich the dialogue when possible.

**Participants (65):** They included representatives from the Iasi Municipality, businesses, NGOs, academia and youth representatives, and representatives of the Commission.

**Main Outcomes:** An online poll with 13 questions was conducted in English on 5 May to prompt ideas on strategies for achieving a climate-neutral Iasi and to capture the concerns,

needs and priorities of citizens. A similar poll was held in the local language during the interactive session with students. The results showed:

- The main concerns of citizens are air quality, health, behavioural change and ecological education of the population. The need for more green spaces and for campaigns to raise awareness on climate and environmental issues also ranked high;
- 75% of participants identified transport as the first priority for achieving climate-neutrality by 2030. This was followed closely by behavioural change and adoption of clean energy sources (63% each);
- 63% of the interviewed young believe that their city can achieve climate neutrality by 2030 and all were convinced that climate neutrality could become a reality by 2050 provided we re-define our ‘art of the possible’.

### ***Groningen, The Netherlands (19 May 2020)***

***Tools:*** Microsoft Teams

***Methodology:*** Two-part online event: 1) Board members Hanna Gronkiewicz-Waltz, Anna Lisa Boni, Maria Vassilakou and Anne Sulling with the local authorities (in English) followed by 2) three breakout sessions with citizens, entrepreneurs and students. A complementary physical event is planned for 11 September 2020.

***Participants (35):*** deputy mayors of Groningen, entrepreneurs, youth representatives and NGOs, Board members and representatives of the Commission.

***Main Outcomes:*** The city of Groningen presented its current planning for becoming a carbon-neutral city by 2035 and climate-resilient city by 2050. The members of the Board explained how the Mission aims to support cities in their systemic transformation to achieve climate neutrality by 2030. The second part of the event consisted of breakout sessions where participants shared their views on a range of questions, starting with their motivation to contribute to making their city climate neutral and to fight climate change. They explained their understanding and vision of a climate-neutral city and how this can be achieved.

### ***Lille, France (28 May 2020)***

***Tools:*** Decidim, Cisco WebEx and sli.do

***Methodology:*** Three-phase online event 1) an upstream preparation on the local citizens’ platform (Decidim), 2) a discussion with Board member Anna Lisa Boni and the local authorities, followed by 3) six breakout sessions with citizens in the local language. A physical event will complement the dialogue when possible.

***Participants (97):*** Local authorities of Lille Metropolis, online moderator, graphic facilitator, Board member, Commission representatives, representatives of the French government, and a wide range of citizens from Lille Metropolis.

***Main Outcomes:*** The innovative aspect of the event consisted in the offbeat intervention of a graphic facilitator who summarized the conclusions with the use of drawings. For the citizens of Lille, climate neutrality rhymes with sobriety. At the same time, they are highly environmentally conscious and willing to adapt to the new climate context if they receive support from the local authorities. The ecological education of the population was mentioned among the solutions to achieve carbon neutrality.

### ***Upcoming online events***

- Eindhoven, The Netherlands (11 June 2020)
- Venice, Italy (24 June 2020)
- European Youth Forum (30 June 2020)

***Next steps.*** An essential step in the citizen engagement process, though all too often forgotten, is the follow-up phase. Citizens must receive feedback on how their input was used and contributed to the design of the mission on cities. To this end, a dedicated online session with citizens will take place on 22 September 2020 during the European R&I Days. Citizen representatives that took part in the sessions organised between March and June 2020 will have the chance to share their experience and motivate other citizens to engage in the mission process.

## **14. Annex II: Recovery from the COVID-19 crisis**

### ***Context***

Europe is facing with an unprecedented crisis. In an effort to contain the coronavirus pandemic, governments imposed emergency laws and restrictive measures not seen in decades. European countries are now gradually emerging from their lockdowns only to be faced with the full magnitude of the socio-economic ramifications of the crisis and of the measures required to contain it. The journey to rebuild Europe's economies and societies will be difficult, bumpy and long.

### ***The role of 'Green Europe'***

Europe's socio-economic challenges post-COVID-19 are significant but putting in place the short-to-medium-term recovery measures could also double as the beginning of a better trajectory for the European economy and society. This is why the European Commission President set out an ambition a recovery that ensures a resilient, green and digital Europe.

At the same time, the global climate crisis is around the corner, with many scientists estimating that the point of no return on global warming exceeding 2°C will be reached in ten years. It is therefore essential to consider the longer-term climate effects of the recovery measures: greening our economy will also make it more resilient for the future.

Finally, we must recognise that the COVID-19 context has changed citizen behaviour and expectations in relation to climate action. It also shifted the perception of governments, businesses and individuals on what can and should be achieved. For example, cities are reassessing urban planning, businesses are rethinking physical sales and distribution systems, people are appreciating the cleaner city air and reduced traffic noise/congestion, and employees have rising expectations for forms of telework that avoid tiresome commutes. Such emerging trends can be harnessed not only to prevent a resurgence in the spread of the virus, but also to ensure a more exponential approach towards climate neutrality.

### ***Climate neutral cities as a means to recovery and build forward***

Besides being more severely affected by COVID19 health impacts, cities are the centres for economic activity, now in urgent need of a restart, and the centres of Europe's climate challenge. As a result, cities will be the decisive test of Europe's ability to achieve the twin objectives of short to medium terms economic recovery post-COVID and longer-term climate neutrality. To achieve both, there is a requirement to maximise the synergies between these objectives.

Therefore, investing in the greening of infrastructure systems (energy, water, waste, buildings, transport, etc) should be a priority. Digital connectivity, applications and services should in parallel be accelerated, thereby supporting the demand-side of the economic and environmental transition, while improving the efficiency of green infrastructure systems and the greening of economic activities.

To make the most of the EU Recovery Fund, investments should have both a multiplying effect on the economy and a transformative effect towards climate sustainability. Such an

investment strategy can build on the mission for climate neutral cities. Cities that will engage in and promote the Climate City mission will act as innovation hubs and as national, European, and global forerunners. They will inspire other urban areas to embark on the same process, inspiring Europe to accelerate their policies for climate action and transition.

There is significant potential across global markets for low-emission technologies, sustainable products, and services, and for circular economy systems, as they offer great potential to stimulate new activities and new jobs. In putting this mission into practice, new technologies and innovation will be brought together in testbeds and urban living labs, and in upgrading existing residential areas as well as in the construction of new city districts. By connecting and aligning existing and new instruments and initiatives, EU policies will have more impact - even more, a systemic impact. This contributes to a central objective of the European Green Deal, to support and accelerate EU's industry transition to a sustainable model of inclusive growth.

## **15. Annex III: Supporting evidence**

### ***Studies and experts support***

A dedicated Foresight on Demand study was undertaken in support of the scoping design for the Mission on Climate-Neutral and Smart Cities. The study was done by a team of experts from the Austrian Institute of Technology/University of Vienna, the Finland Futures Research Centre/University of Turku, and the Institute of Studies for the Integration of Systems (ISINNOVA-IT). Its main objective was to support the reflections of the Mission Board for Climate-Neutral and Smart Cities with foresight processes and forward-looking evidence in order to help identify and evaluate the potential of different directions for concrete missions. The main findings of the study are the following:

- Due to their densities, cities will be increasingly affected by the impact of climate change, be it directly through natural disasters such as more frequent extreme weather events, or indirectly, through migration flows. External disruptive shocks such as the current Covid-19 pandemic will also affect pathways for reaching smart and climate city targets. The macroeconomic shock of the crisis may lead to underinvestment and postponement of private research and innovation investments as well as to a surge in motorised mobility which may need to be at least partly offset by public policy investments. On the other hand, alternative pathways for commuting traffic, working lifestyles, and use of roads can be more easily incentivised and established in a sustainable manner.
- Frontrunners and several national and EU programmes such as SCC-01 Lighthouse projects, demonstrate that substantial energy savings and GHG reductions, in the range of the EU's 2030 targets are achievable. However, it is unknown in how far inclusion of consumption based GHG accounting might alter this picture.
- Technology alone will not do the job. Crucial for any transition towards climate-neutral cities is co-evolution of technological innovations, knowledge and capacity building with city administrations and businesses, large-scale public and private investments in physical infrastructures, new business models inducing behavioural change, and incentive systems next to climate-neutrality promoting regulations at national level for each domain.
- City administrations have to orchestrate the transition towards climate-neutral cities, and need businesses, citizens and academia to co-produce this change. However, for many cities, this requires a big change in mindset.
- A systemic, holistic approach focusing on the medium to long term is a key to achieve the aims in an effective way, especially since windows of opportunity and possible

synergies are otherwise easily missed.

- City Contracts are a good means to bring about the desired change in 100 cities but need to be accompanied by the right incentive mechanisms and instruments. Furthermore, they need to reflect different realities and contexts across Europe to be able to fulfil the role of accessible, recognisable beacons of change.

### ***Other evidence provided to the Cities Mission Board***

The Mission Board members have consulted with Member State ministries, NGOs, regional and city authorities, and with citizens and stakeholders about the proposed City Climate Contract as a means for cities (or city districts) to become climate neutral. Insights from these consultations are incorporated in the report.

In addition, the Mission Board has received presentations and support from the European Investment Bank, think tanks such as the Jacques Delors Institute, networks and funding organisations such as ERRIN, the European Institute of Technology's Knowledge Innovation Communities (KICs), the European Cooperation in Science and Technology (COST), and the following Commission services: DG CLIMA, DG REGIO, DG JRC, DG ENV, DG ENER, DG CNECT, DG EAC, DG MARE, DG MOVE, DG ENER, DG GROW, DG HOME and DG RTD.

## **16. Annex IV: Draft concept for a Climate City Lending & Blending Facility**

The EU Mission Board for Climate Neutral and Smart Cities has proposed that the EU Commission should establish a Mission that will support and promote 100 European cities in their systemic transformation towards climate-neutrality by 2030.

The proposed mission will align EU, national, regional and local policy priorities in order to overcoming barriers and maximise synergies in publicly financed programmes. That includes combining financing from different European, national and local resources, covering the whole “value chain” from R&I to planning, investment and implementation.

*What is the role of the EU and EIB in funding climate city investment?*

The overwhelming part of funding of a new city district will come from local and national sources, from real estate developers, from commercial banks and from cities/municipalities. However, there is a climate city dilemma: the real estate developers tend to reduce environment and climate investment to lower construction costs to secure a decent profit. Introducing new strict standards will not be feasible, as the aim of the Climate City Mission 2030 is to organise an innovation process to foster leadership in climate city governance. The remaining option is to design new funding mechanisms that can support cities in their quest for climate neutrality.

Even if the MFF is still under political discussion and no financial and programmatic elements have been agreed by the member states, preparatory work is ongoing that could be relevant for the investment strategy for the mission. This concerns the Green Deal, the Just Transition Fund, Invest Europe, Horizon Europe, and the Digital Europe Programme.

The EIB has got a new mandate to serve as the EU “Climate bank”. It has to increase the share of financing dedicated to climate action and environmental sustainability to reach 50 per cent by 2025 and to increase its investment in these areas to one trillion euro in the decade from 2021 to 2030. This is a huge task, both in terms of the overall “envelope” and in terms of the share allocated to climate action and environmental sustainability; transformation of cities to climate neutrality will be a top priority.

*How to shape Climate City Lending & Blending Facility?*

There will be a funding gap between a business as usual investment and a climate city

investment. This funding gap has to be filled by public funding to secure highest climate standard. This is where a Climate City Lending & Blending Facility will be needed - in cooperation with national climate funding programs - to create a holistic funding solution that effectively can support the Mission and its delivery mechanism, the Climate City Contract.

Such a facility could offer a financing framework of part of the total investment provided that the city and the real estate developers commit themselves to climate investment standards. This framework could combine loans from the EIB and grants from the EU Commission and from Member States, depending on the needs of the city and the availability of grants. Through its lending the EIB would serve as climate investor of last resort and the guarantor of highest climate standard.

By mixing loans and grants to cover the climate funding gap the risks will be reduced and the capital costs will be manageable. There is also an upside in climate investment in terms of reduced energy costs and increasing real estate values.

## Endnotes

<sup>1</sup> [https://ec.europa.eu/knowledge4policy/foresight/topic/continuing-urbanisation/developments-and-forecasts-on-continuing-urbanisation\\_en](https://ec.europa.eu/knowledge4policy/foresight/topic/continuing-urbanisation/developments-and-forecasts-on-continuing-urbanisation_en)

<sup>2</sup> Final report of the High-Level Panel of the European Decarbonisation Pathways Initiative, p.112: [https://ri-links2ua.eu/object/document/667/attach/ec-18-002-decarbonisation\\_booklet\\_27112018.pdf](https://ri-links2ua.eu/object/document/667/attach/ec-18-002-decarbonisation_booklet_27112018.pdf)

<sup>3</sup> Eric Garcetti, C40 Chair & Mayor of Los Angeles

<sup>4</sup> [https://ec.europa.eu/clima/policies/strategies/2050\\_en](https://ec.europa.eu/clima/policies/strategies/2050_en)

<sup>5</sup> [https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal\\_en](https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal_en)

<sup>6</sup> Examples include airports, ports, university towns and business districts. To be defined what minimum size or minimum number of inhabitants/users these areas should have to be eligible to participate in the mission.

<sup>7</sup> <https://ec.europa.eu/eurostat/web/sdi/key-findings>

<sup>8</sup> [https://ec.europa.eu/info/horizon-europe-next-research-and-innovation-framework-programme\\_en](https://ec.europa.eu/info/horizon-europe-next-research-and-innovation-framework-programme_en)

<sup>9</sup> for example, interest rates and CO<sub>2</sub>-related cost

<sup>10</sup> [https://ec.europa.eu/commission/future-europe/eu-budget-future\\_en](https://ec.europa.eu/commission/future-europe/eu-budget-future_en)

<sup>11</sup> [https://ec.europa.eu/commission/presscorner/detail/en/ip\\_20\\_940](https://ec.europa.eu/commission/presscorner/detail/en/ip_20_940)

<sup>12</sup> [https://ec.europa.eu/info/horizon-europe-next-research-and-innovation-framework-programme\\_en](https://ec.europa.eu/info/horizon-europe-next-research-and-innovation-framework-programme_en)

<sup>13</sup> [https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal\\_en](https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal_en)

<sup>14</sup> <https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12108-Climate-Law>

<sup>15</sup> <https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12219-European-Climate-Pact>

<sup>16</sup> <https://ec.europa.eu/environment/circular-economy/>

<sup>17</sup> [https://ec.europa.eu/clima/policies/strategies/2050\\_en](https://ec.europa.eu/clima/policies/strategies/2050_en)

<sup>18</sup> <https://ec.europa.eu/futurium/en/urban-agenda>

<sup>19</sup> <https://ec.europa.eu/digital-single-market/en/content/european-digital-strategy>

<sup>20</sup> <https://s3platform.jrc.ec.europa.eu/>

<sup>21</sup> [https://ec.europa.eu/transport/themes/strategies/news/2020-02-03-commissioner-valeans-speech-eu-strategy-mobility-and-transport\\_en](https://ec.europa.eu/transport/themes/strategies/news/2020-02-03-commissioner-valeans-speech-eu-strategy-mobility-and-transport_en)

<sup>22</sup> [https://ec.europa.eu/clima/sites/clima/files/docs/pages/vision\\_4\\_economic\\_en.pdf](https://ec.europa.eu/clima/sites/clima/files/docs/pages/vision_4_economic_en.pdf)

<sup>23</sup> For example, European cities that had signed the Compact of Mayors, now part of the Global Covenant of Mayors of the more than 1.500 cities work with the European Energy Award to implement effective energy and climate policy

<sup>24</sup> Sustainable Energy and Climate Action Plan (SECAP)

<sup>25</sup> Examples could include physical infrastructure (e.g. cycling paths not connected with the rest of the network) or digital infrastructure (e.g. applications or services that stop working outside an area)

<sup>26</sup> [https://eur-lex.europa.eu/resource.html?uri=cellar:b82780d8-3771-11ea-ba6e-01aa75ed71a1.0003.02/DOC\\_1&format=PDF](https://eur-lex.europa.eu/resource.html?uri=cellar:b82780d8-3771-11ea-ba6e-01aa75ed71a1.0003.02/DOC_1&format=PDF)

<sup>27</sup> [https://ec.europa.eu/commission/presscorner/detail/en/fs\\_19\\_6720](https://ec.europa.eu/commission/presscorner/detail/en/fs_19_6720)

<sup>28</sup> (COM(2018) 773 final)

<sup>29</sup> <https://living-in.eu>

<sup>30</sup> [https://ec.europa.eu/clima/policies/strategies/2050\\_en](https://ec.europa.eu/clima/policies/strategies/2050_en)

<sup>31</sup> Following the definition of a city by EU this limit could take the 50k mark, a limit that may need to be revisited for smaller member states

([https://ec.europa.eu/regional\\_policy/sources/docgener/focus/2012\\_01\\_city.pdf](https://ec.europa.eu/regional_policy/sources/docgener/focus/2012_01_city.pdf))

<sup>32</sup> This limit can be flexible for the last two cases of the previous paragraph ('city expansion project' and 'specialised economic activity') but also when geographical reasons (e.g. the case of an island) do not allow to reach that level even with a joint application of many municipalities

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<sup>33</sup> A maximum percentage of offsetting will be later defined since the objective of the mission is to encourage real energy efficiency, transition and transformation and not accounting of emissions via certificates. To this end, the mission will also advocate for the better and stricter regulation of the voluntary market for emission certificates.

<sup>34</sup> The European Covenant of Mayors is an example of this approach

<sup>35</sup> Source of the graph: Global Protocol for Community-Scale Greenhouse Gas Emissions Inventories

<sup>36</sup> Like in the European Covenant of Mayors, it will be recommended not to include emissions from installations that fall under the EU emissions trading system (EU ETS)

<sup>37</sup> [https://ec.europa.eu/transport/themes/urban/urban\\_mobility/sumi\\_en](https://ec.europa.eu/transport/themes/urban/urban_mobility/sumi_en)

<sup>38</sup> Examples of deep decarbonisation pathways at the national level can be found on <http://deepdecarbonization.org/countries/visualization-of-country-scenarios/>