

European Missions



100 Climate-Neutral and Smart Cities by 2030

Implementation Plan

This is an internal working document of the European Commission. Therefore the budget figures mentioned are approximate and the document will be updated. It is made public for information only and does not bind the European Commission. The European Commission is not liable for any consequence stemming from the reuse of this document.

Contents

Context	6
Challenges	12
General objectives	13
Specific objectives	15
INTERVENTION LOGIC	15
ACTIVITIES	18
Activity 1 Demand-driven Climate City Contracts	19
Activity 2 Mission Platform	21
Activity 3 Tailor-made investment plans for cities	23
Activity 4 Mission label to unlock synergies with other programmes	25
Activity 5 Large scale EU R&I demonstrators accelerating city climate-neutrality solutions	25
Activity 6 Accelerating and spreading knowledge and capacity (cities as innovation hubs)	27
Activity 7 Innovative city governance models and citizens' engagement	28
Activity 8 A common framework for monitoring, reporting and verification (MRV)	28
Activity 9 Network of national authorities for increased preparedness	29
Activity 10 A supportive regulatory framework	29
BUDGET	31
EU R&I support through Horizon 2020 and Horizon Europe	31
Synergies with the other Missions	34
Other EU funding/financing	35
GOVERNANCE, MONITORING AND REPORTING	39
Governance of the Mission	39
Monitoring for cities	40
Monitoring of the Mission	42
CONCLUSIONS	45
ADDENDUM - Mapping of ongoing EU supported activities and policy initiatives targeting cities	47

EXECUTIVE SUMMARY

Cities take up only 4% of the EU's land area¹, but are home to 75% of EU citizens². Worldwide, cities account for more than 65% of energy consumption and for more than 70% of CO₂ emissions^{3,4}. So cities have the potential - and their Mayors often have the ambition - to be in the vanguard of efforts to deliver on the European Green Deal, helping to enable the EU to reduce climate emissions by 55% by 2030 and to become climate-neutral by 2050.

The purpose of this **Implementation Plan** is to describe the rationale and feasibility of the objectives, activities and process for the Mission on Climate-Neutral and Smart Cities (hereinafter “Cities Mission”), how it plans to bring innovation more directly to the service of the twin digital and green transitions and in particular to demonstrate how the planned Mission meets the assessment criteria in full.

It is proposed that the Mission should have **two central objectives**:

- the first is to deliver at least 100 climate-neutral and smart European cities by 2030;
- the second is to ensure that these cities act as experimentation and innovation hubs to put all European cities in a position to become climate-neutral by 2050.

The Plan sets out how fulfilment of these dual objectives can be a major contribution to the European Green Deal agenda, because (a) a high percentage of greenhouse gas emissions come from cities; (b) cities are uniquely well placed to be first movers towards climate neutrality; and (c) a concerted, innovative effort is essential now to help a large and diverse group of cities reach climate neutrality by 2030, thereby preparing the way for all cities to follow by 2050. The Plan's objectives are clearly bold and inspirational, with **ambitious, excellence-based and impact-driven objectives and the first objective in particular is targeted, measurable and time bound⁵, with a particular focus on 2030**. The Plan aims to demonstrate that it is realistic, i.e., administratively achievable, as required by the assessment criteria.

The **added value of the Mission** and indeed its uniqueness, will come from its holistic approach, based on the individual needs of each city (the “demand-led approach”). No other EU programme focuses on fast-tracking 100 cities to become climate-neutral by 2030. The Plan sets out that the Mission will achieve this by being **centred on research and innovation**, by helping cities to make the best use of existing EU programmes and to address their funding and financing gaps.

Many European cities are already working towards climate neutrality, but only a handful with a target of 2030. Others have announced plans to be climate-neutral in some sectors of their economy or some parts of their city. This provides a strong pre-existing base of commitments, but the Mission will both ensure that a large number of cities delivers on climate neutrality by 2030 and prepare the path for others to follow.

A number of EU programmes to support cities exist already. However, the existing mechanisms are not aimed at addressing each city's particular needs, and are mostly sectoral i.e., do not constitute

¹ European Environment Agency, Analysing and managing urban growth, European Environment Agency, Copenhagen, 2019, <https://www.eea.europa.eu/articles/analysing-and-managing-urban-growth>

² <https://data.worldbank.org/indicator/SP.URB.TOTL.IN.ZS?locations=EU>

³ https://www.c40.org/why_cities

⁴ This global figure includes emissions beyond cities (e.g. emissions physically taking place well outside a city but “triggered” by the cities). The estimate for EU-27 using the Eurostat definition of cities (i.e. more than 50,000 inhabitants) would be 36% of GHG coming directly from cities.

⁵ As required by Regulation 2021/695 establishing Horizon Europe, henceforth “the Horizon Europe Regulation”, Article 8(4)(c), (d) and (e)

an overarching, holistic, and innovative strategy aiming at climate neutrality *per se*. Innovation in all senses of the word needs to be placed at the centre of the work with cities in becoming climate-neutral, including to ensure that full value is drawn from past and ongoing basic research programmes, that actions can be scaled up and disseminated to other cities. However, the Cities Mission will also focus on delivering greater synergies⁶ and complementarities with other EU programmes whilst helping cities to deliver on the twin objectives of the Mission.

To meet its objectives, the Mission will also need to help overcome **the substantial challenges** that currently prevent the objective of climate neutrality in 2030 from being adopted by a large group of cities. Many cities and city organisations have stated that, while they want to go further and faster, they face barriers in doing so, such as their operational capacity and capability; the availability of funding and finance; and the need to develop political support both with their voters and within their individual countries. These are concrete examples of the many difficulties faced by cities on their journey to climate neutrality.

The overall concept of aiming for climate-neutral cities by 2030 is innovative especially when applied at the European level, but as the Mission must be centred on research, development and innovation activities⁷, the Plan also demonstrates in detail the **strong Research and Innovation content**. For the first two years, 80% of the proposed budget allocation is dedicated to Research and Innovation Actions (and the remainder, as support actions would be also entirely covered by the Horizon Europe Regulation). The Mission Platform (see below) would help cities test and demonstrate innovative solutions and integrate them into operational plans for climate-neutrality. Cities are natural “test beds” for innovation. They are diverse in geographic location, in size and population density and in levels of preparedness for climate neutrality – so the different ways in which the first group of cities set out to achieve climate neutrality by 2030 will pave the way for all cities to follow in subsequent years. The Mission will thereby incorporate R&I from a broad range of Technology Readiness Levels (TRLs) from 3 to 8.⁸ This will require testing, piloting and demonstrating innovative solutions, including social innovation in governance in areas such as public procurement for future scale-up and deployment, citizens’ involvement, and holistic city planning.

The **digitisation** of our society must go hand in hand with the systemic transformation of our economy required to meet the European Green Deal goals. **Smart city solutions and data-sharing** will be used for example in monitoring emission reductions in mobility, providing smart energy grids, improving energy efficiency in buildings, monitoring air pollution, water and waste management. The spirit of innovation will remain central to all aspects of the Mission’s work.

The innovative governance device of “**Climate City Contracts**” (CCC) will be centrally important to the Mission. They are planned to be in the form of a Memorandum of Understanding signed by the cities themselves: they would not be legally binding, but the use of the phrase “contract” is intended to ensure that it is read as a clearly visible, political commitment not just to the Commission but also to its citizens (see below). The CCC would set out plans for the city to achieve climate neutrality by 2030 and to signal the city’s firm commitment to mainstream these plans into their overall city planning processes. The CCC will include an investment plan to scale up and deploy innovative solutions for delivering on the commitments. The CCC will be co-created by cities, with the help of the **Mission Platform**. The Mission Platform will thereby also provide the necessary innovative technical, regulatory, and financial expertise and assistance to cities in developing and implementing their CCC. It will develop a wide range of supportive activities, with the full involvement of Member States,

⁶ As required by Horizon Europe Regulation, Article 8(4)(i)

⁷ As required by Horizon Europe Regulation, Article 8(4)(a) and (c)

⁸ As required by Horizon Europe Regulation, Article 8(4)(g), i.e., from experimental proof of concept (TRL 3) to technology validated in a relevant environment (TRLs 5- 6) to system prototypes demonstrated and qualified in a relevant environment (TRLs 7-8),

regions, all stakeholders and in particular, citizens and local economic actors. The CCC will also enable participating cities to integrate and promote the values and the principles of the **New European Bauhaus** initiative⁹ in their climate-neutral plans.

How the Mission uses its **budget** will be centrally important. In one sense, the term is a misnomer in this context because the Mission does not envisage having at its disposal anything close to the many tens of billions of Euros required for cities to deliver their actual transformation towards climate neutrality. The proposed budget allocation from Horizon Europe would be predominantly focused on research and innovation actions to help cities move forward. But the Mission plans to augment this with other sources of funding and financing from EU and other sources, in full agreement between the relevant EU services; and to help cities develop their investment plans within the CCC to pull in other sources of financing and to mobilise private investments¹⁰.

Diversity and inclusiveness¹¹ will be vital. The Mission wants to bring cities of different sizes and from all corners of Europe within its scope, but most of all, to bring on board cities with very different starting points in terms of climate neutrality. The EU will not meet its European Green Deal objectives if they are addressed only by those who are already prepared to make the necessary commitments. In the same way, this Mission must embrace, right from the start, a number of cities from across Europe that have the most work ahead of them to deliver climate neutrality.

A central innovation of the Cities Mission will be to help enable the European Green Deal to become “real” for citizens. Citizen engagement¹² will be central to the Mission because cities are often the places where “policies first meet people”. Whether in individual decisions on personal mobility or building renovation, for example, it is often the “co-benefits” of climate action – such as cleaner air – that are most directly relevant to individual citizens. And because the Mission connects the key policies of this Commission’s mandate – the twin green and digital transitions – directly with citizens, it is also **a major communications opportunity** for the Commission.

The Plan takes as its starting point the inspirational and innovative report of the Mission Board for climate-neutral and smart cities of 22 September 2020.¹³ The Mission Board proposed the following mission: **“100 climate-neutral cities by 2030 - by and for the citizens”**.

“The aim of the Mission is to support, promote and showcase 100 European cities in their systemic transformation to climate neutrality by 2030, making these cities innovation hubs for all cities. The Mission is much more than a traditional R&I programme. It is a challenging and ambitious endeavour where cities commit to transformation and engage in it for the benefit of Europe’s quality of life and sustainability.”

Report of the Mission Board for Climate-Neutral and Smart Cities

This plan fully endorses these objectives, and aims to be the operational blueprint for how the European Commission can deliver on them.

⁹ https://europa.eu/new-european-bauhaus/about/about-initiative_en

¹⁰ As required by Horizon Europe Regulation Article 8(4)(f)

¹¹ As required by Horizon Europe Regulation Article 8(4)(b)

¹² As required by Horizon Europe Regulation A. 8(4)(b)

¹³ https://ec.europa.eu/info/publications/100-climate-neutral-cities-2030-and-citizens_en

Context

a) Why cities play a major role

Three out of four EU citizens were living in urban areas in 2020¹⁴ and this number is expected to rise to 85% by 2050¹⁵. Cities already consume over 65% of the world's energy and account for more than 70% of global CO₂ emissions¹⁶. Against this background, if the EU is to become climate-neutral by 2050 and to reduce GHG emissions by 55% by 2030 to deliver on the European Green Deal, cities will have to be one of the key focal points. Cities are also particularly prominent examples of places where “policy meets people”, i.e., where the citizens - and their city leaders - most directly confront the issues involved in tackling climate change.

A number of cities – but far from all – have adopted the goals of climate neutrality, and only a handful by 2030¹⁷, reflecting the national and regional differences we see across the EU. A group of 100 cities ready to go for climate neutrality by 2030 can therefore be very useful frontrunners to promote the objective of climate neutrality across the EU. For example:

- In areas such as urban mobility and energy efficiency of buildings, the **characteristics of cities** such as high levels of population density and geographic focus lend themselves to measures that can have large impact on climate neutrality. Cities represent a major share of Europe's building stock where renovation is a must to save energy on the way to climate neutrality.
- Cities are used to working with innovative concepts and approaches and have a long standing experience of working with past research framework programmes, such as Horizon 2020. But taking the broader approach set out in the Horizon Europe Regulation¹⁸, cities are natural **innovation hubs** in that research and innovation solutions can be tested as well as demonstrated, including for their potential to be upscaled and widely deployed.
- Cities across the EU are now demonstrating both the **political will** and the potential capability to be first movers, the vanguard of European efforts to implement the levels of ambition of the European Green Deal on climate neutrality. They are forming a variety of alliances to tackle climate change at both national, European and global level, such as the Covenant of Mayors¹⁹, which offers a vehicle to cities to develop Sustainable Energy and Climate Action Plans (SECAPs)²⁰ collaborating with the Smart Cities Marketplace²¹ for helping to realise these plans also with support of private investments, and participating actively in the Urban Agenda for the EU partnerships, such as those on climate adaptation, energy transition, urban mobility and nature based solutions.

¹⁴ <https://data.worldbank.org/indicator/SP.URB.TOTL.IN.ZS?locations=EU>

¹⁵ https://ec.europa.eu/knowledge4policy/foresight/topic/continuing-urbanisation/developments-and-forecasts-on-continuing-urbanisation_en

¹⁶ https://www.c40.org/why_cities. This global figure includes emissions beyond cities (e.g. emissions physically taking place well outside a city but “triggered” by the cities). The estimate for EU-27 using the Eurostat definition of cities (i.e. more than 50,000 inhabitants) would be 36% of greenhouse gases (GHG) coming directly from cities.

¹⁷ JRC Covenant of Mayors database

¹⁸ For example as set out in Recital 31

¹⁹ <https://www.covenantofmayors.eu/en/>

²⁰ For a full list of different initiatives, see the Addendum

²¹ <https://smart-cities-marketplace.ec.europa.eu/matchmaking>

- Cities are **competing for investment** from new and innovative “green” companies and want to attract the best, most qualified and adaptable workforce who themselves tend to demonstrate strong “green zeal”.
- In areas such as urban mobility, cities from networks like CIVITAS have taken bold and innovative steps to reduce their urban transport footprint on the environment – such as limiting the use of cars in urban areas, digitalising transport operations or developing public transport connections. This brings massive (and more visible) “**co-benefits**” such as better air quality, less road congestion, healthier active mobility, fewer road deaths, and less noise. In other words, there is a strong and positive “spill-over” effect from policy measures to reduce greenhouse gases (GHG) in cities which will help them “sell” or justify such measures to their citizens.
- Cities and their local economies are at **the forefront of recovery**, stimulating the development of new markets for climate-neutral and circular technologies and products. The decarbonisation and modernisation of energy-intensive industries is creating **new jobs and requires the reskilling of the workforce**, leading the way towards sustainable, resource efficient, resilient and socially responsible industrial development.
- Last but not least, cities are advancing in their **digital transformation**. Smart city solutions and data-sharing at scale are offering opportunities to plan, implement and monitor reductions in emissions across a range of sectors, such as urban mobility, energy efficiency in buildings, monitoring of air pollution, water and waste management. Cities are also an excellent starting point for the twin green and digital transitions because of the huge potential social, environmental and economic impacts of the data revolution²². Cities are uniquely well placed to draw on the fundamental, transformative and crosscutting power of data in the digital era, and to address the resulting complexities as well. “Smartness” is a holistic concept in this context spanning from the incorporation of innovative technologies and processes to new, digital ways of providing services and financing solutions. The Commission is ready to play its role - for example, the **Living-in.EU** movement seeks to accelerate the digital transformation in a way that assists cities and communities to address a range of societal challenges, in particular those resulting from climate change.

More than 150 cities in all Member States have expressed **different levels of ambition related to climate neutrality** and sustainable urban development. These cities represent around 10% of the European urban population. The initiatives are typically directly managed by cities, in response to a European call for engagement/interest. Ambitious cities can be found in all Member States, in numbers depending on the rate of urbanisation and the city population. More than 300 cities with over 50000 inhabitants in the EU 27 that are part of the Covenant of Mayors have pledged to reduce their GHG emissions by at least 40% by 2030²³. More than 11,000 towns and cities have committed to making progress towards sustainable urban mobility in the EUROPEANMOBILITYWEEK since 2002. More than 300 cities from Europe have signed the CIVITAS Declaration committing to cleaner and innovative transport. Over 30 cities participating in the Intelligent Cities Challenge Initiative have developed or are currently shaping Local Green Deals, to support the implementation of the European Green Deal at the local level.

²² In addition to win-win situations, some aspects of the twin transitions do not necessarily go perfectly hand in hand. For example, increased data flows lead to more emissions from data centres.

²³ JRC Covenant of Mayors (CoM) database (extraction date 22 February 2021)

Recognising that the majority of investment to achieve carbon neutrality will need to be made by citizens, property owners, utilities, businesses and other stakeholders (indeed, it is estimated in the Material Economics work that only 17% of investment will be made by cities directly), cities will play a key role in mobilising other stakeholders, through use of their planning powers, through their role as shareholders of utilities, through initiatives targeting citizens, through use of incentives, and through catalysing investment targeting multiple stakeholders.

b) Building on existing commitments from cities, national authorities and other players

Many cities have been asking for a swift launch of the Cities Mission. In addition to the 12 cities²⁴ that were actively involved in citizen engagement events organised in 2020, mayors of Barcelona, Eindhoven, Helmond, Madrid, Berlin, Budapest, Milan, Munich and Stockholm, for example, have very recently written to confirm their interest in the Mission. This high interest has been repeatedly confirmed through our interactions with city officials and city networks at all levels.

Member States and the European Parliament have given their support for the Cities Mission as one of the five possible Mission areas specified in Annex VI of the Horizon Europe Regulation. In the preparatory phase of the Cities Mission, four meetings were held, at key points in the Mission design process, with the representatives of the Member States, and the Mission was described as an innovative approach that could improve not only local outcomes, but also positively boost national strategies²⁵. On 17 September 2020, the European Parliament proposed to designate 2022 as **‘European Year of Greener Cities’**²⁶. This would be an opportunity to mobilise the interest of a broad range of cities in issues linked to climate neutrality and would therefore also help to achieve the objectives of the Mission.

Specific national climate-neutral city networks are emerging in a number of Member States, set out in the box below:

Examples of national agencies embracing and piloting the Cities Mission model:

- *France and EcoCités.* The French Ministry in charge of Urban and Territorial Planning provides targeted support to 30 cities and urban agglomerations under the EcoCités label. Eco-city projects benefit from funding under cross-policy programmes involving the public and the private sector, with actions tailored to cities and their historic, geographic and climatic context.
- *Spain and citiES 2030.* Following the EU Cities Mission proposal, Spain set up the platform citiES 2030. The platform is preparing the signature of Climate City Contracts with Barcelona, Madrid, Seville and Valencia. These contracts are intended to act as “precursor” political commitments to the work of the Cities Mission that will articulate actions aimed at achieving specific goals towards decarbonisation and define a portfolio of transformative projects that allow progress towards the goals established by each city. They will be signed by City Councils and national or regional authorities. Four Spanish ministries are involved in the process: Ministry for Science and Innovation, Ministry for Ecological Transition, Ministry for Transportation and Urban Agenda, and Ministry for Health.

²⁴ Cluj, Espoo, Madrid, Tartu, Iasi, Groningen, Lille, Venice, Brussels, Gdansk, Le Havre, Pau

²⁵ “France welcomes this proposal and shares the systemic vision and the main orientations developed by the Climate City Mission. ... This holistic vision, mobilizing society as a whole, and feeding into public policy instruments, is the keystone of a successful transformation.”, extract from the position paper sent by the French delegation to the Shadow Programme Committee of Horizon Europe

²⁶ It is now likely to be 2023.

- *Austria and Fit4UrbanMission*. In November 2020, the Austrian Ministry of Climate Action launched Fit4UrbanMission, a competitive call for Austrian cities to develop plans for climate neutrality by 2030 in view of the Cities Mission. Nine cities have already committed to apply with their concepts. After the final selection in May, each city will receive a EUR 100,000 grant and support from the National Smart City Platform and other national agencies such as AustriaTech and the National Climate Fund. The Ministry of Climate Action is also developing a concept for a national implementation plan in the context of the Cities Mission.
- *Sweden and Klimatkontrakt 2030*. In December 2020, nine Swedish cities (Enköping, Göteborg, Järfälla, Lund, Malmö, Stockholm, Umeå, Uppsala and Växjö) signed Klimatkontrakt 2030, a city contract to accelerate climate efforts. Inspired by the Climate City Contract proposed by the Cities Mission, Klimatkontrakt 2030 will enable investments in climate and sustainability actions in each city with regulatory, innovation and financial support and facilitation at the national level. The initiative is coordinated by Viable Cities, Sweden's R&I programme for smart and sustainable cities, with funding from Vinnova, the Swedish Energy Agency and Formas. Again, these "precursor" contracts express the parties' intention to raise their ambition in sustainable urban development and climate change and energy transition. The parties to these contracts are the Municipality, and Swedish Governmental Authorities: The Swedish Energy Agency (Energimyndigheten), the Swedish Agency for Innovation Systems (Vinnova), and the Swedish Research Council for Sustainable Development (Formas), the Swedish Agency for Economic and Regional Growth (Tillväxtverket).

There is also an important global dimension to this. The Horizon Europe Regulation requires²⁷ that Missions use the Sustainable Development Goals (SDG) of the UN Agenda 2030 as sources for their design and implementation. SDG 13 'Climate Action' in particular has been identified as one of the areas that needs faster progress in the EU.²⁸ Energy consumption in all its forms needs to be reduced, especially where consumption is highest: in urban areas. A holistic approach to cities' climate-related challenges is also at the core of SDG 11 ("Sustainable Cities and Communities") and contributes significantly to SDGs 3 ("Good Health and Well-Being"), 7 ("Affordable and Clean Energy"), 8 ("Decent Work and Economic Growth") and many others. Reflecting these important principles, during the preparatory phase of the Cities Mission, interaction has taken place with various global city networks and international organisations such as C40, the Global Covenant of Mayors, UNECE, WHO, and UN Habitat to discuss the implementation modalities of the Cities Mission, generating strong interest with these important external partners. Japan has followed the Cities Mission example with a national initiative and Mission Innovation²⁹, a global initiative of 24 countries and the European Commission working to accelerate clean energy innovation, is also considering a cities mission at global level.

c) The European Commission's efforts to deliver on the European Green Deal

The Mission's key focus is on how it can deliver to support the **European Green Deal**. If the EU is to become a climate-neutral continent by 2050, it is hard to envisage how this will be achieved without the vast majority of cities being themselves climate-neutral by this date³⁰. It is clear that the least

²⁷ Article 8(4)(a)

²⁸ <https://ec.europa.eu/eurostat/web/sdi/key-findings>

²⁹ <http://mission-innovation.net/>

³⁰ It is theoretically true that overall climate neutrality for the EU could be achieved by 2050 without all cities achieving this because there are other potential "sinks" that could make up the difference. However, cities may well need to rely on their local sinks (eg Turku with its surrounding forest) to become net climate neutral

prepared, and particularly those where the political conditions are least conducive, will need consistent support from the EU to reach that ambition.

For example, GHG emissions from the EU's transport increased in 2018 and 2019 and have not followed the EU's general decreasing emissions trend. National projections compiled by the European Environment Agency (EEA) suggest that transport emissions in 2030 will remain above 1990 levels, even with measures currently planned in Member States.³¹ Further action is needed particularly in road transport, the highest contributor to transport emissions. These projected trends suggest that the transport sector is unlikely to contribute to the emission reductions needed to achieve the EU's new targets for 2030 or to achieving climate neutrality by 2050 without a step change in urban mobility policy. To that effect, the Commission will come forward with a revised Urban Mobility framework in Q4 2021.

Cities delivering climate neutrality by 2030 will inevitably need to draw heavily on smart and digital infrastructures, for example, and therefore will also play a role in supporting the roll-out of the **EU Digital Strategy³² and related initiatives**. By mobilising and supporting cities transitioning to climate neutrality and drastically reducing their emissions, the Cities Mission will contribute to a wide range of sectoral EU policies implementing the European Green Deal, including the **Smart and Sustainable Mobility Strategy³³**; the **EU Strategy on Adaptation to Climate Change³⁴**; the new **EU Industrial strategy³⁵**; the Renewed **Sustainable Finance Strategy³⁶**; the **Renovation Wave³⁷** for sustainable energy by supporting cities in their application of circularity principles to building renovation and the **Zero Pollution Action Plan³⁸**.

In particular, the Communication on the Renovation Wave acknowledges that regions and cities have a huge influence on the day-to-day life of its citizens. Local authorities can lead by example while supporting the implementation of energy and climate measures, including building renovation, of citizens and businesses and public buildings.

Both the Renovation Wave and the Directive 2010/31/EU on the energy performance of buildings³⁹ promote district and community approaches. Aggregating projects at this level may lead to zero-energy or even positive energy districts (e.g. advanced district heating and cooling systems with large potential for renewables and waste-heat recovery).⁴⁰

themselves, and given the inherent physical attributes of cities that make climate neutrality particularly viable (eg population density), a reasonable starting point is that "all cities need to be climate neutral by 2050".

³¹ [Greenhouse gas emissions from transport in Europe — European Environment Agency \(europa.eu\)](https://greenhouse-gas-emissions-from-transport-in-europe-european-environment-agency-europa.eu/)

³² <https://digital-strategy.ec.europa.eu/en>

³³ COM/2020/789 final

³⁴ COM/2021/82 final

³⁵ COM(2021) 350 final

³⁶ https://ec.europa.eu/info/business-economy-euro/banking-and-finance/sustainable-finance/overview-sustainable-finance_en

³⁷ COM(2020) 662 final

³⁸ COM(2021) 400 final

³⁹ https://ec.europa.eu/energy/topics/energy-efficiency/energy-efficient-buildings/energy-performance-buildings-directive_en

⁴⁰ JRC published two relevant reports:

"Enabling Positive Energy Districts across Europe: energy efficiency couples renewable"

energyfile:///C:/Users/athadim/AppData/Local/Temp/1/enabling_positive_energy_districts_across_europe.pdf

"From nearly-zero energy buildings to net-zero energy districts"

<https://ec.europa.eu/jrc/en/news/nearly-zero-energy-buildings-net-zero-energy-districts>

The Mission will work closely with the **European Climate Pact**⁴¹, particularly in the early days of the Mission, to encourage cities and their citizens to express their interest to participate in the Mission, and with the **Covenant of Mayors** (see Addendum).

The Mission will also contribute to develop collaborative local governance models to accelerate the emblematic transformation of the urban environment. It will foster renovation of urban spaces combining sustainability, accessibility and aesthetics in a human-centred way thus reflecting the values and principles promoted by the **New European Bauhaus initiative**⁴² into climate-neutral urban quality transformations. It will also align well with the objectives of the Mannheim Declaration, promoted by ICLEI, to support cities in developing and implementing “Local Green Deals”, as well as the New Leipzig Charter adopted in November 2020 which placed particular emphasis on green, just and productive sustainable city development.

The Mission will coordinate its work closely with the **National Energy and Climate Plans**⁴³, which include priority areas for reforms and investments such as the renovation of the building stock and access to affordable housing, decarbonisation of industry and renewable energy, sustainable mobility and energy system integration including infrastructure, batteries and renewable hydrogen. All these priorities are extremely relevant for urban climate transition. Based on Commission calculations, to achieve the EU target of a 55% reduction in GHG emissions by 2030, annual investments related to energy production and use will need to increase in 2021-2030 by around EUR 350 billion per year.

The 2020 recovery package showed that additional investment needs for the green transition amount to EUR 100 billion per year for sustainable transport and to at least EUR 130 billion per year for wider environmental objectives (circular economy, zero air and water pollution, and biodiversity)⁴⁴.

With its strong demand-driven approach and focus on place-based solutions, the Mission contributes to the objectives of the **EU Cohesion Policy**⁴⁵ which has itself an increasingly strong sustainable urban development dimension⁴⁶, as also shown in the **Urban Agenda for the EU**⁴⁷ (see Addendum). Under shared management, the strategic choices of Member States and regions remain central, but a minimum 8% of the European Regional Development Fund (ERDF) resources in each Member State must be invested in priorities and projects during the period 2021-27 that are selected by cities themselves and based on their own sustainable urban development strategies.

⁴¹ https://ec.europa.eu/clima/policies/eu-climate-action/pact_en

⁴² https://europa.eu/new-european-bauhaus/about/about-initiative_en

⁴³ https://ec.europa.eu/energy/topics/energy-strategy/national-energy-climate-plans_en

⁴⁴ See Communication from the European Commission on “Stepping up Europe’s 2030 climate ambition”, COM(2020) 562 final, 17.9.2020, and Communication from the European Commission on “Identifying Europe’s recovery needs”, SWD(2020) 98 final, 27.5.2020.

⁴⁵ In the 2014-2020 period, some EUR 115 billion from the cohesion policy funds were invested in cities. Of these, EUR 17 billion was implemented locally through more than 980 sustainable urban development strategies managed directly by urban authorities (the ‘Article 7 cities’). The Urban Innovative Actions provided direct support of EUR 372 million for cities to experiment with novel innovative ideas. The URBACT III programme built the capacities of cities with the support of EUR 96 million by transnational networking, learning from experiences and identifying good practices to improve sustainable urban development policies and strategies.

⁴⁶ For the period 2021-2027, the urban dimension of cohesion policy has been strengthened. The five policy objectives of cohesion policy focused on Smarter, Greener, More Connected and More Social Europe and a Europe closer to Citizens will mobilise substantial investments in urban areas. The new Policy Objective ‘a Europe closer to Citizens’ has been introduced to the main policy framework as an enhanced commitment to integrated territorial development and includes a specific objective to foster sustainable urban development.

⁴⁷ <https://futurium.ec.europa.eu/en/urban-agenda>

The Addendum to the Implementation Plan provides a full overview of all relevant EU policies and initiatives linked to cities. It also proposes a set of actions that have been discussed and agreed with the relevant Commission services⁴⁸ concerned to increase synergies and complementarities with these initiatives and programmes.

Conversations with all concerned DGs have led to a clear understanding of how links can be developed once the Mission is able to move to its implementation phase, creating synergies and avoiding duplication. For example, the Smart Cities Marketplace can act as bottom-up stakeholder platform to interact with the Mission Platform in identifying candidates for replicating and upscaling solutions and can establish connections for participating cities with its investor network. The Mission Platform in turn can help raise awareness for and support the Explore-Shape-Deal Matchmaking process of the Smart Cities Marketplace. More examples can be found in the Addendum.

Challenges

Cities are natural frontrunners to promote the objective of climate neutrality and to be at the vanguard of the European Green Deal ambitions for both 2030 and 2050. They are well versed in working with research and innovation frameworks.

However, cities were particularly affected by the financial and economic crisis of 2008 and their situation is aggravated by the challenges of COVID 19. The EIB investment reports⁴⁹ show how the reduction of public investment (particularly for smart and green innovation and transport) in the last decade was especially severe in cities and regions due to fiscal constraints. Their existing funds are limited and their tax base is often fragile.

To allow cities to unlock their full potential and play this enabling role, **cities need to overcome the following challenges, drawing on the full range of research and innovation options:**

- 1. A systemic approach to integrate funding and financing to test, deploy and scale up innovative and smart city solutions**

Supporting funds and finance for cities come from a variety of sources, but they are often diffused and fragmented. There is no overall, integrated EU level programme focused on helping an individual city to deliver climate neutrality on a tight timescale. There is a need to improve access and guidance to the European funding and financial instruments that are available. Sector-specific, project based support is currently the main norm, while integrated, portfolio-wide approaches will increasingly be needed by cities to deliver on climate neutrality across the board. Cities need knowledge and capacity to develop this sort of innovative investment strategy.

- 2. The right skills and expertise to deliver on climate neutrality**

Climate neutrality will be both politically demanding and administratively complex for cities to deliver. An EIB investment survey⁵⁰ suggests that so far only a few local governments are engaging in an efficient planning process with respect to infrastructure investment activities. Less than 40% of municipalities assess the quality of infrastructure projects prior to implementation and use this information when making decisions. Cities need help to develop their capacity to deliver radical change across the whole city administration, and administrations need to have

⁴⁸ This includes the members of the Mission Owner Group (RTD, CLIMA, ENER, MOVE, ENV, REGIO, CNECT, GROW, HOME, EAC, JRC, MARE) as well as ECFIN and FISMA.

⁴⁹ https://www.eib.org/attachments/efs/economic_investment_report_2017_en.pdf The new EIB Investment Survey on municipalities, carried out in 2020-21, confirms this trend also in the light of COVID-19.

⁵⁰ https://www.eib.org/attachments/efs/economic_investment_report_2017_en.pdf

staff with a broad range of skills to deliver. City officials also often lack opportunities to learn from other cities' experiences.

3. Innovative mechanisms to engage citizens and other stakeholders, public and private, to win their support for climate neutrality

Cities, especially smaller and medium sized ones, often lack the necessary administrative and policy capacity to be ready for climate neutrality by 2030. There appears to be a “governance gap” that needs to be overcome to deliver the necessary integrated policies, and to ensure political support from all levels. The sheer scale of work to reach climate neutrality needs strong public support, based on visible co-benefits of climate neutrality, such as air quality and lower energy bills. Citizens need to be brought on board, but they also have an important role to play, in providing the policy legitimacy for climate action.

4. A strong monitoring and evaluation framework

Cities need to be able to measure and monitor their progress, to see their successful achievements and to decide where to adjust where necessary. There is currently a lack of comparable data available to measure climate footprints of cities.

5. Political support from all levels of government (EU, national, regional, local) who control regulatory and/or funding levers

Cities will need national and regional support networks. Even where there is already strong support, there can be regulatory barriers at Member State or regional level which prevent cities taking the necessary actions. Similarly, it will be important to find ways to unlock funding from all sources including national and regional programmes for cities to focus on addressing their specific needs. Most of all, if cities are to take commitments on climate neutrality at EU level, they should be able to count on the supportive involvement of their regions and their Member State.

General objectives

The Mission has two general objectives:

General Objective 1: to deliver at least 100 European climate-neutral and smart cities by 2030

General Objective 2: To ensure that these cities also act as experimentation and innovation hubs for others to follow, to enable all European cities to become climate-neutral by 2050.

This may sound ambitious, but there is a solid pre-existing basis in the existing commitments of cities (see “Context – Why cities play a major role” above).

The first general objective has already been explained and justified in previous sections. The choice of the number of 100 need not be too precise. But a diverse group of around 100 cities going for climate neutrality by 2030 is manageable in administrative terms and can be a significant contributor to the 2030 Green Deal targets.

The second general objective, while inherently less precisely time-bound (as the EU needs to become climate-neutral by 2050), is no less important, and is linked to the first objective, because the successful deployment of innovative solutions by the first group of 100 cities to become climate-neutral will lay out the roadmap to enable other cities to follow. Some cities may have the ambition

but simply will not be ready by 2030. Other cities may need more time for some parts of their city (e.g. a port) to become climate-neutral. The Mission wants to bring these cities into the fold, so they can be ready by 2035, 2040, or other interim dates.

The overall goal, addressed by both objectives, is for as many cities as possible to become climate-neutral - as soon as possible.

Both the General Objectives and each of the Specific Objectives will be supported by the full range of research and innovation strategies outlined in the Horizon Europe Regulation.

Stemming from these General Objectives, and before coming to the Specific Objectives, some important questions need to be addressed:

- How will cities be able to apply? And which cities may apply?
- What is meant by climate neutrality?

HOW WILL CITIES BE ABLE TO APPLY? WHICH CITIES MAY APPLY?

Entities will be eligible to express their interest to participate in the Cities Mission if their local authorities or their mandated representatives represent one city defined as a Local Administrative Unit (LAU), or a “greater city” or metropolitan region, taking account of Functional Urban Areas (FUA) where relevant. Entities of more than 50 000 inhabitants may apply.

However, in order to maximise the impact in terms of reducing GHG overall, we are keen to encourage applications in particular from cities where the majority of the population lives in an urban centre of at least 100 000 inhabitants.

By default, the applicant city would commit the whole city or entity to become climate-neutral. However, where duly justified by the applicant, the city may propose to exclude one or more district(s)⁵¹ from the 2030 deadline, but in this case should commit to a strategy of climate neutrality for these districts as soon as possible, and of course no later than 2050.

In addition, in order to ensure maximum inclusiveness, for entities coming from Member States with five or less cities above 100 000 population, a lower threshold of 10 000 inhabitants will apply.

WHAT IS MEANT BY CLIMATE NEUTRALITY?

Climate neutrality is a concept which is still evolving. The Intergovernmental Panel on Climate Change (IPCC) has defined climate neutrality, i.e., when the amount of GHG released into the atmosphere is neutralised through the planet’s natural sinks, but this must be applied to the urban context. At this point no unanimously agreed definition exists of what climate neutrality means for a city. Developing mechanisms to offset the remaining emissions to reach a net-zero emissions balance will also be necessary, but these should be used only for the residual, unavoidable (or disproportionately costly) emissions. Please see page 41 for more details about how climate neutrality will be defined.

The Cities Mission wants to ensure that this definitional work meets the highest and most rigorous standards possible, and in particular those mandated by the IPCC, and the Mission will also use the state of the art mechanisms in Monitoring, Reporting and Verification (MRV). At the same time, cities should not be discouraged from participating in the Mission by these high standards. The Mission will work with them to set, and pursue, this demanding target of climate neutrality by 2030 but does not intend to set in place legal consequences for cities failing to meet the targets: indeed, quite the

⁵¹ In this context, districts will be considered as neighbourhoods or zones of special interest of a city administered or governed by some type of “district council”.

contrary. The Mission will also develop positive indicators that will enable cities to demonstrate the added value in terms of the co-benefits, such as cleaner air, that are directly linked to citizens' well-being and prosperity and which justify the major efforts that lie ahead.

Specific objectives

To address the challenges described above, the Mission has six specific objectives:

- **Specific objective 1** - To develop and support a “demand driven” and city-focused process, based on research and innovation, and focused on the preparation of Climate City Contracts (CCC) including investment plans for deployment of innovative and smart solutions for climate neutrality.
- **Specific objective 2** - To support tailored Research & Innovation pilots and demonstrators within the Mission Platform that will be funded by Horizon Europe and to scale-up and replicate solutions developed in past R&I programmes.
- **Specific objective 3** - To develop synergies and complementarities and facilitate mutual support with existing Commission initiatives, including those policies focused on delivering co-benefits of climate neutrality, while reducing administrative costs for cities related to the need to work with many different EU initiatives on similar issues.
- **Specific objective 4** - To give access to city administrations and their local businesses to EU-wide skills and expertise and help cities connect in international networks (e.g. Global Covenant of Mayors, URBACT) in order to accelerate learning, replicability and scaling-up of solutions through sharing of good practices and joint actions and ultimately serve as an inspiration for cities across the world.
- **Specific objective 5** - To help cities develop, where necessary, the administrative, financial and policy capacity through innovative governance to overcome a silo approach and to ensure buy-in and commitment from citizens, local public and private stakeholders (i.e. industry, businesses) as well as regional and national authorities.
- **Specific objective 6** - To put in place a strong and transparent system of measuring and monitoring the progress towards climate neutrality for cities building on existing practice and methodologies.
- **Specific objective 7** - To increase the level of assistance from national, regional and local authorities as well as from NPBs, municipal banks and private sector investment, through regulatory, funding and financing levers to help cities implement the mission. Where cities selected by the Mission are also part of the entities that engage in the Climate Adaptation Mission (Objective 2), synergies will be sought between cities and these entities to ensure that climate neutrality activities also take into account climate adaptation requirements and vice versa.

INTERVENTION LOGIC

The intervention logic can be summarised graphically as follows:

CHALLENGES



70% OF GLOBAL GHG EMISSIONS FROM CITIES. CITIES NEED TO BECOME CLIMATE NEUTRAL TO ACHIEVE THE EUROPEAN GREEN DEAL TARGETS

OBJECTIVES



100 CLIMATE-NEUTRAL CITIES BY 2030
EXPERIMENTATION AND INNOVATION HUBS
FOR OTHERS TO FOLLOW BY 2050 AT THE
LATEST

ACTIVITIES

RESULTS



Please note in particular

- (1) that the Intervention Logic is a heavily simplified and illustrative depiction of the work that lies ahead. For example, each Specific Objective will be addressed by more than one activity and several of the activities will naturally serve more than one objective. The arrows are intended to indicate the principal “centre of gravity” and of course therefore all potential linkages are not depicted.
- (2) that Activity 1 and Activity 2 – the development of CCCs, and the work of the Mission Platform – are central, organising activities, which will encompass a range of other activities, set out below from Activity 3 to 10.
- (3) as specified in Specific Objectives 1 and 2, the role of research and innovation would remain central to all activities, and the full range of research and innovation strategies set out in the Horizon Europe Regulation would be deployed.

ACTIVITIES

The Mission's objectives cover the time frame 2021 – 2050, with two “waves” of transitions towards climate-neutral cities (by 2030 and by 2050). The first 100 cities will act as “living labs”, using the assistance of the Mission Platform (see Activity 2) to demonstrate and showcase the innovative solutions needed in different sectors, within an overall holistic approach, to reach climate neutrality by 2030.

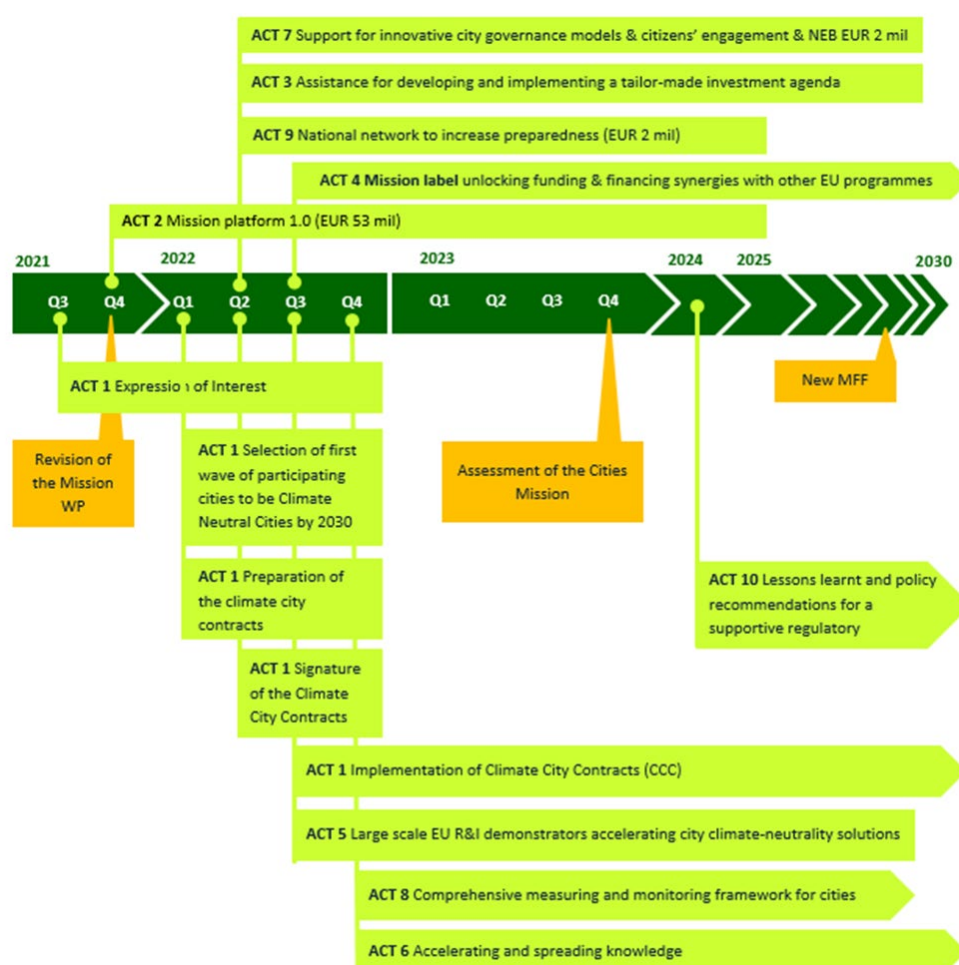
The activities described below focus particularly on the first implementation phase, namely from 2021 – 2023.⁵² This means a heavy focus on the preparation of the CCCs, and at least strong initial reliance on the Mission Platform as a delivery mechanism to reach out, assist and support cities engaging in the Mission process. Additional future funding and financing will be important issues addressed right from the outset. In this first phase, however, the EU funding for the Cities Mission activities described below mainly comes from Horizon 2020 and Horizon Europe, the EU Framework Programmes for research and innovation. Over time, other EU funding and financing instruments are also expected to support Mission activities (see below under ‘budget’), based on the synergies with other EU funding programmes, the “buy-in” from other parts of the Commission and indeed the EU and other partners such as the EIB Group, based on recognition of the added value that the Mission will bring.

Throughout the lifetime of the Cities Mission, its potential for communication will be a special asset. The Mission presents a unique opportunity for the EU to make the European Green Deal tangible for Europeans, by linking it to initiatives at local level, and drawing out the political and societal, as well as the purely technological, relevance of research and innovation. Again, this is where “policy meets people”, where Europeans can see the real life impact of their cities’ path towards climate neutrality and can get involved in shaping this path. The proposed approach to the implementation of the Mission, involving the new CCCs, including innovative forms of citizen involvement, will offer natural occasions for communication to Commissioners and EU Representations across Europe. The highly visible and successful “100 Resilient Cities” initiative of the Rockefeller Foundation which while it was not focused on the same issues, demonstrates the communication effectiveness of creating a branding around a “100 cities” theme, which could be highly effective in promoting an EU contribution to global city climate finance.

Implementation of the CCCs will bring its own set of challenges, and this Implementation Plan will therefore need regular revisiting in the coming years to take account of progress achieved, but also to tackle new challenges effectively along the way.

⁵² This time line fits with Article 8 of the Horizon Europe Regulation, which provides for a public assessment of the progress of the Cities mission by the end of including an analysis of the selection process, governance, budget, focus and progress to date, see Article 8 of the Horizon Europe Regulation.

Figure: Timeline of the Cities Mission activities



Activity 1 Demand-driven Climate City Contracts

*The central focus for cities seeking to become climate-neutral cities by 2030 will be **the Climate City Contract (CCC)**, and the initial phase of work will be centred on helping cities develop these contracts. The CCC are planned to be non-binding, in the form of Memorandum of Understanding signed by the cities themselves. Use of the phrase “contract” is intended to indicate a clear political commitment on the part of the city to its citizens, but also in the broader institutional context - the support for the development of the contract by the European, national and regional authorities would also need to be visibly communicated⁵³. The CCC will encompass a range of other activities including setting up large scale EU R&I demonstrators, establishing innovative models for city governance and citizens’ engagement, tailor-made investment plans for cities and the Mission label (see Activity 4).*

The inception period of the Mission will span two phases: the Call for Expression of Interest (phase 1 - from Q4 of 2021 – Q1 2022), followed by the co-creation and preparation of the CCC (phase 2, starting in Q1 2022 with the earliest conclusion of the first contracts estimated from Q3 2022). These timings are of course indicative at this stage.

⁵³ For example, by arranging for these authorities to “witness” the signature of the contracts,

The development of CCCs addresses in particular the Mission's specific objective 1, and also specific objectives 2, 3 and 5.

This activity will start with the launch of the **Call for Expression of Interest (Eoi)** by Q4 2021. The Eoi will be open to all cities that wish to commit to the objectives of climate neutrality with a short time scale. By indicating a particular interest in the largest cities of the EU that have by definition the greatest capacity to cut GHG emission and use clean energy technologies, this call should lead to a significant reduction of GHG by 2030 (General Objective (GO) 1). But it will also be important to be inclusive, ensuring that cities in all Member States can participate, and needs to be truly diverse in encouraging expressions of interest from cities of different sizes and levels of preparedness, and from all corners of Europe (GO1 and GO2). In this phase, the Commission will also start to support cities with citizens' engagement activities through the **European Climate Pact**.

The next phase of the process will consist in the development of a **CCC for each city intending to be climate-neutral by 2030**, through an innovative process of co-creation involving the cities, the national/regional authorities and all relevant stakeholders, as well as the Commission (see Activity 7 for a description of the nature of the process). In order to align the Mission with the regional smart specialisation strategies, a clause could be inserted in the CCC stating that the city must prove that the Mission and the regional smart specialisation strategy are aligned. The work to begin preparation of CCCs, and the specific, focused Commission assistance for that, should initially be for cities that have demonstrated through the Eoi their capacity to become climate-neutral by 2030 (GO1). For the other cities (GO2), more general activities will be provided to help them develop the necessary capacity, for instance through web-based assistance, twinning and mentoring activities. Their readiness to be climate-neutral, including even by 2030, could be reassessed at a later stage, potentially triggering additional support at that point.

As shown in the Addendum, many cities are already participating in a significant number of EU initiatives and programmes that are often relevant for achieving climate-neutrality at city level. In preparing their response to the Eoi, cities will be informed of the ongoing policy initiatives available in the EU and will be invited to indicate their involvement in these programmes/initiatives.

However, the existing mechanisms are mostly technology-driven and/or sectoral and are generally not part of an overarching strategy aiming at climate neutrality for cities. Nor are they specific to the needs of a particular city. The CCC puts cities in the driver's seat and will be based on their data showing their actual needs. In full respect of the principle of subsidiarity⁵⁴, the nature of the CCC process aims to empower the level of governance that is closest to the problem and closest to the citizens experiencing it. By its nature, the CCC will be a cross-sector, demand-based and bottom-up approach as opposed to a "top-down", "supply-driven" perspective. This is important because cities rarely receive demand-driven assistance, i.e., specifically tailored to their specific situation to get to climate neutrality.

The CCC will include specific commitments on how individual cities propose to deploy and scale-up innovative and smart solutions in relation to climate neutrality across all relevant sectors. It will include an agreed baseline; how the city plans to implement these commitments by 2030; and an investment plan that will identify relevant funding and financing sources needed to deliver on the CCC (as regards the cross-sector, demand-based and bottom-up nature of the CCC, see also Activity 7 and the Addendum).

The contract itself would be a non-legally binding but carefully co-created delivery tool based on the realities and needs of each city. On this basis, the cities will set out how they are going to design,

⁵⁴ See "Governance" section for a description of the roles of the different governance levels.

deploy and monitor agreed actions in a systematic way, with citizens engaged throughout the process.

For the development of the CCC, support will be provided to cities by the Commission through in particular the Mission Platform (see Activity 2). The Platform, drawing from the diverse and long-standing expertise of the consortium selected to implement it, and in close collaboration with the European Commission, will assist in particular the cities that are committing to climate neutrality by 2030 in the Mission, ensure overall coherence and coordination throughout the process and report regularly on the progress towards the CCC.

A network of national contacts (supported in the Horizon Europe Work Programme 2021 and to be signed in Q1/Q2 2022) will also establish national hubs that provide dedicated support for their cities thus helping the preparation of the CCC. The hubs will set up dedicated national networks supporting cities in their transition towards climate neutrality. They should mobilise a large number of urban authorities engaged in this transition and identify country-specific challenges, best practices and opportunities on e.g. regulatory framework, funding & financing, urban morphology and governance structure, but also including energy and mobility experts, for example. During the development of their contracts, the cities will be able to align and integrate their commitments related to EU policies such as the Green City Accord⁵⁵ and the relevant elements of the Zero Pollution Action Plan. This will not only help them develop synergies and deliver reciprocal benefits, but the process will also reduce the sheer number of different activities cities need to align with (also linked to Specific Objective 2).

A particular and recent example of such synergies comes from the Horizon Europe Coordination and Support Action that has been launched to ensure the Cities Mission takes on board the **New European Bauhaus**'s principles of sustainability, inclusiveness and aesthetics into climate-neutral urban transformation. In addition, the lighthouse demonstrators for the New European Bauhaus initiative, which will be supported by the Work Programme 2021 of Horizon Europe, will have a clear expected transformational impact both on the built environment, and on how people live and interact in that environment. By providing tangible and replicable results, they will serve as test beds for the cities that commit to the Mission.

So the demand-driven, city specific nature of the CCC covering all aspects of the necessary work (including detailed planning for investment and implementation) will ensure that the needs of the city are taken as the starting point for more focused support from the EU, national and local levels.

Activity 2 Mission Platform

*The **Mission Platform** will be the main initial basis for supporting cities in the transition towards climate neutrality, integrating innovative support for cities as they start to develop CCCs (see Activity 1). The platform will offer a range of support activities for cities including a window for large scale demonstrators, support for tailor-made investment plans, innovative city governance models and citizens' engagement and a common framework for monitoring, reporting and verification. The Mission Platform itself will be a Research and Innovation Action⁵⁶ and will take as a principal focus the integration of research and innovation projects into the overall assistance that the Platform offers to cities.*

⁵⁵ https://ec.europa.eu/environment/topics/urban-environment/green-city-accord_en

⁵⁶ As defined by Horizon Europe Regulation Article 2 (32).

The Mission Platform will be a key tool for the Cities Mission. It will be initially developed through a Horizon 2020 project, to start in Q3/4 2021,⁵⁷ for a duration of four years (2021 – 2025) to provide the necessary technical, regulatory, financial and socio-economic expertise as well as assistance to cities for developing and implementing their Climate City Contracts, and related investment plans. The Platform will facilitate the coordination of ongoing European activities in the area of climate neutrality and clean energy transition for cities. It is intended that the Mission Platform will receive additional funding under Horizon Europe as it builds out from its initial focus on 30 cities under the H2020 project to provide assistance for all 100 cities by 2023.

The Mission Platform will involve research organisations, academia, industry including social entrepreneurs, the financial sector including impact financiers, investors, philanthropists, NGOs, national and local authorities and citizens.

Through the Mission Platform, cities will be offered several services among which: participation in research and innovation pilots organised by the Platform (which account for at least two thirds of the Platform's activities), as well as help in drawing from ongoing R&I efforts both funded under the Mission work programme and elsewhere.⁵⁸ The overall goal is to ensure smart, customised access to the best available research, expertise, tools, and technologies; help to engage deeply with citizens and critical stakeholders and apply systemic innovation principles and methods to identify and unlock transformation barriers. By drawing on and integrating the fruits of previous and ongoing R&I activities, this will enable cities to quickly identify and implement portfolios of innovative, high-impact actions on a deep decarbonisation pathway, with an associated impact and learning framework with measurable objectives and KPIs. The platform will also develop R&I activities relating to innovative urban greening assessment methodologies for GHG emissions reductions (taking into account and building on existing methodologies developed by e.g. the Global Covenant of Mayors), evaluation methods for both the effectiveness of societal innovations, as well as of the broader economic impacts.

The Mission Platform will also include an open-source part, accessible to all cities, with several functionalities, such as for example: a city dashboard compiling relevant data for a given city, including its CCC, progress on metrics, an innovation readiness self-assessment tool, and a collaborative space for the pilots; a peer-based "community social network" to facilitate peer-learning between cities; a smart repository of relevant knowledge (data, reports, good practices); an annual barometer synthesizing progress achieved by all willing cities. Cooperation frameworks will be established with existing initiatives to avoid duplication.

Its initial capacity under the H2020 European Green Deal call will be limited in the number of cities that could be fully assisted, so if the Mission is confirmed, one early necessary action will be to prepare an additional call under the Horizon Europe Work Programme for 2021-22 to extend the capacity of the Mission Platform to provide both general and specific assistance to the full group of 100 cities, as well as providing more basic support to the broader group of cities that will become climate-neutral at a later date.

The Mission Platform will also be responsible for launching large scale R&I pilots. The pilots will help identify leading European cities or districts to test and implement innovative approaches to rapid decarbonisation, ideally working across thematic areas and functional silos in support of

⁵⁷ A dedicated topic was included in the European Green Deal call published in the work programme of Horizon 2020 (ref LC-GD-1-2-2020) to set up a Mission platform that would provide the necessary technical support to cities for developing and implementing their climate action plans in order to reach climate neutrality by 2030. The winning consortium has been selected and is undergoing the Grant Agreement Preparation Phase. The signature of the contract is scheduled for August 2021.

⁵⁸ For example the Partnership Driving Urban Transitions to a Sustainable Future (DUT).

transforming systems. The pilots will seek to address all urban systems, including mobility, energy systems and the built environment, material and resource flows, natural areas, cultural/social/financial/institutional systems, and accessible public spaces. A twinning programme will be developed in order to open up to different cities, foster exchange, facilitate replicability of the R&I pilots and build inclusive participation in effective climate action.

The Mission Platform will also facilitate the uptake of solutions that have been developed in H2020. In that context, an administrative arrangement⁵⁹ has been signed with the JRC to support cities towards rapid uptake of replicable solutions for climate-neutrality that have been supported predominantly in H2020. The arrangement foresees:

- Mapping of proved holistic, integrated and transferrable R&I solutions and packages of measures;
- Present conditions enabling transferability;
- Outreach to cities' administrators through the presentation of results of the inventory of proven solutions in stakeholder events.

This work will start in the second half of 2021 and will be made available through the Mission Platform.

Other Horizon Europe Missions are also planning to establish platforms for the implementation of their activities. The nature of these platforms and their tasks will be very different in view of the very different nature of the challenges to be addressed and the very different addressees of their actions. However, platforms should collaborate closely and seek synergies where possible, for example as regards interaction with the European Investment Bank in relation to financial advisory.

Activity 3 Tailor-made investment plans for cities

*The Mission Platform will support cities to develop a **tailor-made investment plan**, including with financial and technical advisory services, to access public and private funding and financing as part of their CCCs and their implementation, thus contributing in particular to the Mission's specific objective 1.*

The different activities of the Mission Platform will guide cities through the different funding opportunities that exist at EU level to accelerate the implementation of the CCC. For example, the Platform will systematically analyse specific opportunities for the first wave of cities in the Cohesion Policy programmes, and in the roll out of national Resilient and Recovery Plans (RRP). Cities will be encouraged to make use of the possibilities for pre-commercial procurement (PCP) and public procurement of innovative solutions (PPI) under Art. 26 of the Horizon Europe Regulation⁶⁰. Cities will need access to innovative financing opportunities also involving private sector finance - the Platform will therefore also support cities preparing specific investment projects for the transition to climate neutrality and provide advice on how best to mobilise sustainable investments by the private sector - especially given that much of the investment needed to achieve climate neutrality will need to be made by urban stakeholders outside of the city government itself. For this purpose, the tools

⁵⁹ Administrative arrangement No. JRC 36029-2021 // DG RTD No. 12 - CNC- LC- 01668325

⁶⁰ Horizon Europe brings public procurers from cities with a similar need to procure innovative solutions together. Actual public procurement is to a large extent financed through the European regional development fund (ERDF).

and frameworks being developed under the EU sustainable finance agenda offer new major opportunities⁶¹. Lastly the Platform will develop innovative tools and educational programmes and will identify methods to measure and demonstrate the value of the co-benefits of climate neutrality projects.

Furthermore, as part of the Horizon Europe Mission Work Programme, all Missions will receive support from the European Investment Bank (EIB) for the identification of investment sources and outreach and engagement with potential investors or other types of funding models and mechanisms. These services will contribute to the understanding and use of appropriate financing tools and models and instruments of action, assessing and enhancing the compatibility of potential climate investment with the eligibility of different funding and financing instruments, and the development of blended instruments under InvestEU, ensuring effective financing to reach Mission objectives.

In working with cities to help them develop their Climate City Contracts and related Investment Plans, the Mission Platform would aim to supplement, not duplicate, established instruments like ELENA – a number of cities would benefit from being directed to ELENA and for these purposes, part of the Mission budget is intended to support or top up instruments like ELENA.

Options for new or reinforced dedicated financial and technical advisory services for cities⁶² will be explored in order to provide targeted advisory assistance for the participating cities' CCC and related implementation and investment plan and giving participating cities access to simplified services and experience-based assistance for smaller projects. In particular, the topping up of the InvestEU Hub, with services to be channelled via its advisory facilities, such as ELENA (European Local Energy Assistance), JASPERS (Joint Assistance to Support Projects in European Regions) and/or the Sustainable Infrastructure Advisory (SIA), could be considered.

Just to take the example of ELENA, adapting or creating a new window under ELENA should include targeted performance-based assistance for project support development to cities participating in the Cities Mission. Such advisory assistance would consist in particular of technical assistance for investment programme and project preparation.

Financial advice should also be given including investment advice on business modelling (covering whole value chain analysis), support to blending operations and combinations, procurement using PPP, and financial structuring including, but not limited to, risk analysis and mitigation to optimise access to finance. Such financing advisory support could be mobilised, for example, through expansion of certain advisory initiatives including the above-mentioned EIB innovation finance

⁶¹ For example, the projects aligned with the EU Taxonomy, the use of European Green Bond Standard for issuing green bonds, issuing sustainability linked bonds, obtaining green loans etc.

⁶² The EU is currently supporting a number of successful financing advisory actions for cities in preparing bankable projects, exploring innovative financing opportunities and crowding-in private investors. Of particular relevance for cities participating in the Cities mission are the advisory facility under the InvestEU Advisory Hub, namely URBIS, which provided advisory support to urban authorities to facilitate, accelerate and unlock urban investment projects, programmes and platforms; JASPERS helping regions and cities absorbing EU structural funds; ELENA, focussing on larger project based [30 m +) energy efficiency and renewable energy investments in buildings and urban transport; Other advisory facilities, to be developed, such as the Sustainable Infrastructure Advisory, which can also handle smaller scale advisory (including helping some cities with their applications to ELENA). Coordination between different instruments is important, because without this, cities are forced to break down their climate plans to adapt to the different types of assistance requirements (in terms of size of the project, objectives, partners etc.).

advisory to support the implementation of EU Missions initiative. This initiative as currently defined focuses on upstream advisory needs for the 5 Horizon Europe missions. It would need to be adapted in order to address the full needs of the Cities mission, including downstream financial advice to specific mission-related projects.

The Activity 4 Mission label to unlock synergies with other programmes

*Climate-neutral cities will need to be able to access other EU funding programmes, including of course ongoing calls under Horizon Europe, particularly as cities will be urged to take advantage of the opportunities to build in cumulative, complementary synergies with other EU projects. Therefore it is proposed that a “**Mission label**” will be awarded to the selected cities having signed a CCC, recognising the quality and feasibility of their commitments under the CCC.*

This label facilitates the creation of targeted funding opportunities in EU funding programmes by making explicit reference to the label in their award procedures (calls for proposals, prizes etc.). By 2023, i.e., when the vast majority of CCC should be in place, linkages should be established to calls for proposals under other EU funding programmes to enable dedicated access to cities participating in the Mission or evaluation criteria in their calls. For example, this could give cities participating in the Mission additional “points” in the award criteria under the evaluation process.

The Mission label will also offer an opportunity for regions and Member States (and other public actors) to support highly visible activities on climate neutrality to help carry forward their overall efforts to meet European Green Deal targets. Since ‘labelled’ cities would have already have passed a stringent selection and award criteria, regions and Member States could grant relevant funding to these cities without additional qualitative evaluation, thus reducing administrative burdens.

In addition, the EU’s structural funds under the next financial framework from 2021-27 will be a potentially significant source of funding to cities aiming to be climate-neutral by 2030. These funds are however programmed and implemented in the shared management mode, where the Member States have responsibility for implementation of programmes.

In order to facilitate the process of accessing support from different funding sources, the Commission services will develop a memorandum to explain – for example to managing authorities in the context of the European Regional Development Fund (ERDF) – how the Cities Mission process works and the nature of commitments in CCC in order to facilitate access of cities to funding and uptake of investments in different funding instruments.

Moreover, since the activities planned under the CCC will have been already vetted as environmentally sustainable in line with the EU framework to facilitate sustainable investment, the label will serve to boost investor awareness and confidence. In turn, this will make it easier for the cities to attract financing for their climate-related activities.

The label will also provide a concrete “hook” for communication activities.

Activity 5 Large scale EU R&I demonstrators accelerating city climate-neutrality solutions

*The Mission Platform will launch⁶³ **large-scale pilots** to act as demonstrators for the deployment of R&I and other off the shelf solutions⁶⁴ in lead European cities and districts as of Q1 2023. This will*

⁶³ Based on an open call for all cities participating in the Cities Mission.

accelerate the capacity of cities to deliver on climate neutrality and help cities become innovation hubs focused on deployment - these pilot projects should be chosen on the basis that they have the potential of being scaled up and replicated in other cities participating in the Mission and enable all cities to benefit and support their transition towards climate neutrality by 2050.

This activity develops capacity and showcases the possibilities of scale-up. It therefore contributes in particular to the Mission's specific objective 4.

These pilots will also helpfully illustrate a strong range of social, environmental and economic co-benefits, which are often more directly relevant for citizens.⁶⁵

The scope of these R&I pilots will be the result of a demand driven process led by the cities that will be supported by the Mission Platform. Therefore they cannot be identified precisely at this stage, but it is likely that they will cover a wide range of topics including urban transport (e.g. connected mobility and modal shift), energy efficiency, built environment (private housing and public buildings such as schools and other critical infrastructures), waste management, cultural/social/financial/institutional systems, and other sectors considered essential for climate neutrality, with digital, circularity as well as nature-based solutions as critical enablers.

In addition, a number of targeted R&I actions will be supported in the Mission work programmes of Horizon Europe to complement, in some specific domains, the contribution of the pilots of the Mission Platform and facilitate the scaling-up of R&I activities.

These R&I activities should also focus on how to move from singular, customised pilot programmes to city-wide initiatives: evolving from demo sites based on specific contexts or conditions in a particular district to solutions applicable to the whole city.

This activity will be carried out in close cooperation with the **European Institute of Innovation and Technology (EIT) Knowledge and Innovation Communities (KICs)** which have experience in delivering holistic, transformative, citizen-driven and systemic solutions and innovations to specific global challenges that address the needs of the market and society. By involving cities as "living labs" and demonstrators, they contribute to the objectives of the Mission. In particular, the deep demonstrations supported in 15 EU cities as part of the Healthy, Clean cities initiative⁶⁶ of the EIT Climate KIC have confirmed the importance of a challenge-based and systemic approach to meet the objectives of climate neutrality. EIB Advisory support could also be considered to help the large-scale R&I demonstrator projects access relevant sources of financing.

This activity will be closely linked to the R&I support action of EUR 25 million for the deployment of **lighthouse demonstrators for the New European Bauhaus** initiative Delivery Phase. Cities participating in the Cities Mission will be supported to include the 'Bauhaus' dimension in their CCC and therefore these cities should be in a strong position to deploy one of the five Bauhaus lighthouse demonstrators.

⁶⁴ The R&I work that will contribute to the Mission's goals will be mostly based on existing or soon to be delivered outcomes of research funded under previous EU R&I Framework Programmes such as emissions reduction and air pollution; improved quality of life by changing behaviours and healthier lifestyles; improved environmental conditions, by proposing cleaner and more efficient transportation; reduced traffic congestion, noise and road deaths, by lowering the number of private vehicles; social inclusion and innovation, by extending public transportation to remote areas and improved connectivity; water resilience, energy efficiency, renewable energy use and availability deploying innovative and systemic solutions that integrate nature based solutions as well as technological, digital, cultural, social, and financial innovations.

⁶⁵ The Mission Platform will provide a methodology for participating cities to map, quantify and promote these co-benefits.

⁶⁶ <https://www.climate-kic.org/programmes/deep-demonstrations>

Horizon Europe Partnerships – such as the Partnership Driving Urban Transition (DUT), in particular - will also help deliver on the R&I objectives by fostering “living labs”, pilots and experimentation in urban areas through dedicated calls.

Activity 6 Accelerating and spreading knowledge and capacity (cities as innovation hubs)

The Mission Platform will support cities participating in the Mission to get access to EU wide skills and expertise from working with peers and through networking with national, regional and local authorities.

The Mission Platform will provide a wide range of services to support skills development and accelerate learning/teaming/twinning and encourage joint activities such as joint public procurements for deployment of innovative solutions, thus contributing in particular to the Mission’s specific objective 4.

Apart from sharing expertise, best practices and knowledge, the Mission Platform will also support cities to **team up with peers**. This may include groups of cities that share similar challenges and want to solve them together, or simply enable economies of scale to be realised. Twinning approaches may also be used by cities facing very different types of challenges. Overall, this demand-based networking will help to smooth the path for those cities participating in the Mission that face particular difficulties in arriving at the climate-neutrality goal, perhaps in a particular sector, e.g. mobility or energy. Twinning opportunities will also involve cities with a climate neutrality target beyond 2030.

The Platform will build on existing experiences including those developed through Horizon 2020 projects and collaborate closely with successful existing initiatives that have developed knowledge and expertise, in particular with the **Covenant of Mayors** and their methodologies and processes co-developed with the JRC, and the Covenant Community Group of Cities Practitioners as well as the **EIT KICs**⁶⁷. The assets of the **Smart Cities and Communities** context and the Smart Cities Marketplace will be factored in, particularly with regard to engaging private and public stakeholders to support project financing and implementation.

Accelerating and spreading knowledge and know-how will also be done through **dedicated national networks** in support of Missions. This will include support to a Mission Core Network, a cooperation and coordination network between EU-level actors and complementary national, regional and local actors to set the basis for a solid governance and implementation of the Missions’ concept at national and regional level through sharing experiences in the Mission approach and align national initiatives to the upcoming Missions. It will also involve the setup of dedicated national networks for supporting cities in the form of multi-stakeholders national platforms, promoting collaboration, cross-learning and training, exchange and replication of best practices between the European, national, regional and local level.

Once firmly established in Europe, the Mission should also help cities share their experience and develop good practices with their counterparts outside the EU. To this end, a **Global Knowledge**

⁶⁷ For example, EIT InnoEnergy addresses eight thematic fields including ‘Smart Cities and Buildings’, ‘Mobility and Transport’ and ‘Smart Grids and Energy Storage’ through setting up long term alliances with cities across Europe. EIT Urban Mobility strategic objectives steer activities and ambitions towards the Mission on Climate Neutral and Smart Cities through creating liveable urban space better balancing between the conflicting demands of mobility and other areas of people’s lives and deploying user-centric, integrated eco-efficient and safe mobility solutions for people, goods and waste

Centre for Cities and Climate will be launched in Q2 2023 to facilitate the two-way flows of knowledge between cities that commit to the objectives of the Mission inside and outside Europe. The centre will build on the experience and knowledge already collected by relevant international organisations and networks of cities (Global Covenant of Mayors, C40, ICLEI, Mission Innovation etc.). The centre will also monitor and promote European and international best practices and solutions that can be replicated and scaled-up in a mutually beneficial manner.⁶⁸

Through its international outreach, the Mission will also contribute to the Commission's political priority of a stronger Europe in the world and to the objectives of the EU's Global Approach to Research and Innovation.

Activity 7 Innovative city governance models and citizens' engagement

*The Mission Platform will support cities to adopt an **innovative governance** model to help develop, implement and monitor progress of the CCC, and in particular to involve citizens and empower energy consumers.*

The Mission Platform will help cities participating in the Mission to explore innovative governance methods. Such innovative methods should include the involvement of local key stakeholders such as civil society platforms to engage with citizens and actively involve them to develop, implement and monitor progress of the CCC. This will reduce the "silo mentality" that causes fragmentation even at local level and build inclusiveness, trust and legitimacy of the necessary actions. In particular by linking local actions for climate neutrality with some of the co-benefits such as air quality, reduction of energy bills and road safety, it will also help develop further "ownership" of the overall climate neutrality objective ("now we understand why we are doing this") and thereby induce stronger local commitment and behaviour change, e.g. in mobility behaviour. These local social innovations will in turn contribute to the important process of gaining sufficient "buy-in" from local, regional, national and EU level for both the preparation and the implementation of the CCC, thus addressing in particular the Mission's specific objective 4. Specific attention will be paid to duly include vulnerable categories of citizens.

This activity as it comes on stream will be carried out in full synergy with the activities⁶⁹ the Commission is promoting through the **Covenant of Mayors** and the **European Climate Pact**, which will be particularly useful in the inception phase to raise awareness amongst cities, citizens and indeed all stakeholders and encourage strong participation in the call for Expression of Interest.

Activity 8 A common framework for monitoring, reporting and verification (MRV)

*The Mission Platform will support participating cities **to monitor data and report on performance** thus contributing in particular to the Mission's specific objective 6.*

The Cities Mission will provide a common framework for understanding what climate-neutrality means for cities. The Mission will encourage cities to use existing monitoring frameworks, such as that used by the Covenant of Mayors. The Mission Platform will provide cities with the know-how to

⁶⁸ In the process, its activities will contribute to EU external action in climate diplomacy as outlined in the Council Conclusions of 18 January 2021.

⁶⁹ E.g. integrated governance practices and the setting up of local climate pacts and other citizen engagement models towards clean energy transition and climate neutrality

develop a baseline, using established monitoring tools and agreed KPIs to measure and communicate on progress towards achieving the CCC's objective. An important principle in the CCC will be that the plans can be adjusted to take account of the evolving (internal and external) context.

Further reference to the monitoring framework is included under the section on Monitoring and Reporting.

Activity 9 Network of national authorities for increased preparedness

National, regional and local authorities will need to be fully involved in the co-creation and implementation of the CCCs (see Activity 1). A dedicated national network of contacts will be established in Q2 2022 to prepare for the transition towards climate neutrality within cities in their respective countries.

As set out in the Context section above, national authorities have a key role to play in supporting the cities in delivering on the Mission's objectives, and there is a solid pre-existing basis. The Mission will further support the network and the cities participating in the Mission by:

- encouraging relevant regional or national stakeholders (e.g. regional transport companies, national energy producers, national research institutions, etc.) to join in the preparation of the CCC;
- boosting the national framework for the funding of climate action, including any funding that is received via Recovery and Resilience Plans, to contribute to the overall financing portfolio for cities; and by
- fostering twinning schemes or regional cities networks in support of knowledge transfer and replication efforts, thus multiplying the overall impact of the Mission.

Activity 10 A supportive regulatory framework

*The Mission Platform will also provide recommendations to address **regulatory barriers** that may exist at local, regional and/or European level, thus contributing in particular to the Mission's specific objective 5.*

The Mission Platform will engage key stakeholders to synthesise and test the proposed solutions for deployment and other key aspects and lessons learned from the experiences of co-creating the CCC in particular on the interpretation, implementation, and impact of laws, regulations, and standards. As of 2024, this should result in concrete finance and investment policy recommendations to accelerate the cities' path to climate neutrality in 2030, and to help the next wave of cities coming afterwards to prepare their plans.

This work will also provide valuable feedback to benefit EU-level and national and regional climate-action and pollution policies and in turn help them to better support cities as they undergo the transformative change necessary. This type of two-way exchange can not only help those cities preparing for climate neutrality, but also help develop recommendations of broader applicability on other aspects of the EU's 2030 climate and energy framework, such as integrated national energy

and climate plans (NECPs)⁷⁰, National Air Pollution Control Programmes (NAPCPs) as well as other EU sector-specific strategies.

Through the experiences of the cities participating in the Mission, the Commission and Member States will have concrete elements that can contribute to the development of a regulatory framework that is more supportive of the European Green Deal as a whole.

⁷⁰ The EU implements its Paris goals through a policy framework centred around the National Energy and Climate Plans (NECPs) that define Member States energy and climate ambition for 2030 and the framework for achieving it. The NECPs include priority areas for reforms and investments such as the renovation of the building stock and access to affordable housing, decarbonisation of industry and renewable energy, sustainable mobility and energy system integration including infrastructure, batteries and renewable hydrogen.

BUDGET

In order to support cities in their transformation towards climate neutrality, **a wide array of funding and financing instruments will need to be deployed** at European, national, regional and local level both from private and public sources. As stated in the Executive Summary, the notion of a “budget” for the Mission is potentially misleading because the resource needs of the General Objectives go far beyond what the EU can provide. Indeed, as already set out, a key element will be to help cities develop their access to the broader finance community notably the EIB Group, national promotional banks and capital markets. The detailed needs of each individual city will need to be set out in the investment plan section of their CCC.

This is why the Mission budget has to be distinguished from the overall average costs indications that have been made – for example in the Material Economics study cited below - for financing the transition to climate neutrality in a city. The Mission budget should be used as the leveraging tool to create the framework conditions for any interested city in the EU to deploy a CCC with its citizens to achieve climate neutrality. The success of this Mission will ultimately rely on its potential to unleash, for each city, the much more extensive funding and financing necessary for these contracts to be realised.

To illustrate this point, the Mission Board estimated, based on a study by Material Economics⁷¹, that transforming 100 European cities of an average size of 100,000 inhabitants into climate-neutral cities by 2030 would cost around EUR 96 billion, or around an average of EUR 1 billion per city (with considerable variations between cities). 94% of the upfront investment would be offset via returns on investments in 30 years’ time. The estimation is based on the experience gathered by Material Economics and tested on seven cities supported via the EIT Climate-KIC Deep Demonstration projects. It should be noted that if the larger cities of Europe participate in the Mission, driving up the average population size, the total cost of delivering 100 climate-neutral cities would rise considerably higher than EUR 96 billion.

EU R&I support through Horizon 2020 and Horizon Europe⁷²

A comprehensive set of activities addressing climate neutrality in cities has already been launched in Horizon 2020 and has been planned in the first Work Programme of Horizon Europe, which will ensure a rapid take-off of the Mission during the second half of 2021, in particular:

- EUR 53 million for the first phase of the Mission Platform;
- EUR 2 million for integrated New European Bauhaus principles in the CCCs;
- EUR 1 million for support for the preparatory work on the Expression of Interest/assessment of applications, mapping of R&I solutions (to be implemented by the JRC);
- EUR 2 million for setting up a network with Member States to support the transition towards climate-neutral cities.

⁷¹ Study requested by the Mission Board to Material Economics, not published.

⁷² Horizon Europe funding and the proposed activities are subject to approval by the Member States when adopting the successive Mission Work Programmes.

Different parts of the Mission can however be costed in a more conventional budgetary analysis. The Commission will ensure that **EU R&I activities under Horizon Europe** will have a dedicated budget which will focus on developing, testing and demonstrating new and innovative solutions for climate neutrality in cities across sectors. Deployment of solutions, including scaling up, tailor-made finance advisory and de-risking of investments and the Mission label (see Activity 4 above) will allow for more focussed and targeted support for cities from other EU funding programmes.

The activities to be included in the first three years of the Horizon Europe Work Programmes are:

Mission Platform:

Scope: support to be provided to the Mission Platform to top up the advisory services developed by the project selected from the European Green Deal call topic LC-GD-1-2-2020⁷³, that will need to be provided to all the cities selected through the call for Expression of Interest, to help them prepare their CCC, and to finance additional innovative demonstration and pilot projects. Teaming and twinning activities should also be supported between the cities in order to assist the transition towards climate neutrality of those cities coming later than 2030. In order to ensure continuity of the services provided and sustainable support to the platform, the possibility of signing a Framework Partnership Agreement (FPA) with the platform should be considered. The Mission Platform, itself funded as a Research and Innovation Action (RIA), will support R&I demonstrators and pilots to respond to the needs expressed by the cities to move towards climate neutrality (at least two thirds of its activities) as well as provide technical assistance and services to cities that commit to the objectives of the Mission. As with the topic of the H2020 Green Deal call, it is intended that the majority of the overall budget allocated to the Mission Platform should be spent on these R&I activities with TRL ranging mainly from 3 to 5.

Development and scaling up of R&I activities:

- Scope: As the Cities Mission and in particular the CCCs will be based on cities' needs, it is difficult to describe precisely at this stage what additional R&I actions will need to be funded. However, it is clear that new Horizon Europe projects, above and beyond what is done under the Mission Platform, will be needed. For example, to support R&I activities for developing, testing, demonstrating and scaling-up new and innovative solutions for climate neutrality in cities across sectors (e.g. energy efficiency, renewable energy, sustainable, safe and smart mobility, digitalisation etc.) through traditional calls for proposals but also through Horizon Europe new European partnerships. In order to ensure impact, the list of these actions is limited in order to provide enough resources to the projects so that they go beyond proofs of concept and limited pilots. It is also important to support several projects in each of these topics so as to offer a wide range of tested solutions to cities.

Digital and smart solutions will be encouraged as horizontal enablers across the full range of actions, as appropriate.

Strong contributions to the Cities Mission are also expected through Horizon Europe partnerships, such as:

⁷⁴ Many pan European Research Infrastructures such as ESS ERIC (European Social Survey), SHARE ERIC (Survey of Health, Ageing and Retirement in Europe), ICOS ERIC (Integrated Carbon Observation System) and ACTRIS (Aerosol, Clouds and Trace Gases Research Infrastructure) contribute to the objectives of the Mission by providing the tools and the data to cities for preparing their climate action plans and monitoring their implementation.

- *Driving urban transitions to a sustainable future (DUT)* to offer decision makers in municipalities, companies and society the means to act and enable the necessary urban transformations to address the complex urban challenges through development, dissemination and replication of new knowledge and evidence, integrated approaches and solutions, local experimentation and participatory approaches through “Urban Living Labs”, capacity building, peer-to-peer learning and networking of cities, relevant actors and citizens;
- *People-centric sustainable built environment (Built4People)* for high quality, low carbon, energy and resource efficient building stock and built environment to drive the transition towards sustainability, low carbon and sustainable living;
- *Towards zero-emission road transport (2ZERO)* to accelerate the development of zero tailpipe emission transport in Europe for a climate-neutral and clean road transport system;
- *Connected and Automated Driving (CCAM)* to demonstrate inclusive, user-oriented and well-integrated mobility concepts, fostering cooperation between different transport modes, with increased safety, reduced congestion and a reduced environmental and carbon footprint;
- *Clean Energy Transition (CETP)* to develop clean and affordable energy production, conversion and storage technologies engaging consumers and prosumers in demand-response, accelerating sector integration, renewable technologies, digital transformation for a sustainable energy system underpinning a just transition in cities as well as rural areas.

The partnership approach will foster the buy in and commitment of industry for the scaling up and deployment of the solutions developed through the call. While the co-programmed partnerships such as 2ZERO will mainly cover Innovation Actions (IA) with TRL ranging from 5 and 8, it is expected the co-funded partnerships such as DUT will support R&I actions with lower TRL ranging from typically 3 to 4.

Finance advisory services, PCP/PPI and de-risking of investments:

- Scope: support for financial advisory services to be provided to help cities develop and eventually implement their investment strategy for becoming climate-neutral. The budget will be used to top-up existing activities and structures such as the European Local Energy Assistance (ELENA) and the InvestEU advisory in order to avoid duplication while ensuring that the cities of the Mission receive targeted support (see “Other EU funding/financing” below). Provisions should also be made to support the launch by cities of pre-commercial procurement (PCP) and procurement of innovative solutions (PPI), as permitted by the Horizon Europe rules.

Apart from this dedicated budget for the Cities Mission in the Cities Mission Work Programme, Horizon Europe will also develop activities that are relevant to the Cities Mission and directly or indirectly contributing to its objectives. There are several initiatives across the different **Horizon Europe Pillar II clusters** that are relevant and can contribute to the objectives of the Mission. Indirect contributions may arise also from activities funded under Pillar I (e.g. knowledge developed at low TRL through the ERC projects Marie Skłodowska-Curie actions or the Research Infrastructures⁷⁴ program) and III (in particular through the **European Innovation Council**). As

⁷⁴ Many pan European Research Infrastructures such as ESS ERIC (European Social Survey), SHARE ERIC (Survey of Health, Ageing and Retirement in Europe), ICOS ERIC (Integrated Carbon Observation System) and ACTRIS

regards ERC projects, more than 160 projects have been funded in H2020 that relate to cities and urban development (including on modelling, economics, history, energy systems)⁷⁵. These actions will be cross-referenced in order to provide a complete picture of their contribution and to flag additional opportunities of interest to the Cities Mission's activities.

A number of **Horizon Europe Partnerships**⁷⁶ can also contribute directly or indirectly to the Mission's objective and synergies will be fostered in order to maximise the impact of their potential. For example, dedicated calls for cities participating in the Mission will be organised for demonstration projects (e.g. on hydrogen-fuelled public transport so to have in the Mission the "first hydrogen city" in the EU).

Possible synergies can be explored also with other types of initiatives such as **Industry Alliances**⁷⁷, **Important Projects of Common European Interests** and **European Innovation Partnerships**, whose outputs can contribute to achieving Mission objectives.

Synergies with the other Missions

There are clearly **synergies with other Missions** such as the Climate Adaptation Mission and with the Mission on Oceans and Waters – for example for port cities that will have to take into account the impact of sea level rise for their infrastructures when developing their transition towards climate neutrality – and the Cities Mission is keen to develop these links – also to avoid unnecessary duplication of work.

For example, all Missions address as well the role that Member States, regional and local authorities, other stakeholders and citizens should play. Therefore, communication and awareness raising activities should be coordinated between the Missions to maximise impact.

All five Horizon Europe Missions will work together to collaborate and share best practices during their implementation on cross-cutting issues such as citizen engagement, knowledge management, monitoring and evaluation and communication and outreach activities.

In particular, for the purpose of assuring good coordination and avoid duplication in the support provided to the local communities by the Climate Adaptation and the Cities Missions, two actions will be explored:

- the use of the Policy Support Facility under the EU Adaptation Strategy, which will be hosted by the Covenant of Mayors;
- the contribution of the European Climate Pact for citizen engagement.

Where thematic synergies are possible, the four Green Deal Missions (Ocean, seas and waters; Soils health and food; Climate Adaptation and Climate Neutral Cities) will look to develop common

(Aerosol, Clouds and Trace Gases Research Infrastructure) contribute to the objectives of the Mission by providing the tools and the data to cities for preparing their climate action plans and monitoring their implementation.

⁷⁵ Examples of potentially relevant projects include: "Governing sustainable energy-mobility transitions", "A new way to forecast climate and urban planning for cities", "Disruptive Digitalization for Decarbonization".

⁷⁶ These are in particular: People-centric sustainable built environment (Built4People), European Partnership - Towards zero-emission road transport (2ZERO), European Partnership on Cooperative, Connected and Automated Mobility (CCAM), European Partnership on Zero-emission Waterborne Transport, European Partnership – Driving urban transitions to a sustainable future (DUT), European Partnership for Smart Networks and Services (SNS) (tbc).

⁷⁷ https://ec.europa.eu/growth/industry/policy/industrial-alliances_en

solutions on specific issues, for example, where it makes sense through the development of **joint demonstrators** and/or the issuing of **cross-mission thematic or area based calls**. It is important to maximise the synergies of the different Missions and their impact across Europe, particularly where it is necessary to help accelerate the delivery of the European Green Deal objectives.

Other EU funding/financing

The Mission is rooted in R&I, but activities supporting the Cities Mission and its objectives under Horizon Europe will not be enough to cover the much larger funding and financing needs of cities in reaching climate neutrality. Cities themselves have limited resources and substantial investment will be needed to reach the objectives in the areas of energy efficiency, renewable energy, green transport, and many will rely on deployment of existing technology which lies outside the remit of the Horizon Europe Regulation. Many EU programmes exist that offer sectoral support to cities, all with different types of support, eligibility requirements and application deadlines. As illustrated by the Addendum, the current landscape for funding climate-neutral solutions for cities is vast, sectoral, and fragmented across the value chain of city investments.

The Cities Mission will help focus EU support from different sources for the deployment of climate-neutral solutions in particular via the Mission label (see Activity 4 above), which will allow a more strategic approach to EU funding for cities by unlocking synergies between these types of EU activities.

In the next seven years, the **European Regional Development Fund** together with the Cohesion Fund is expected to invest more than EUR 100 billion in projects related to climate and environment.⁷⁸ These investments will have a special focus on cities and regions that need to take a leap to achieve a climate-neutral and zero-waste future and that need support in smart economic transformation.

The **Recovery and Resilience Facility (RRF)** will make €672.5 billion in loans and grants available to support reforms and investments undertaken by Member States. The aim is to make European economies and societies more sustainable, resilient and better prepared for the challenges and opportunities of the green and digital transitions. The national Resilient and Recovery Plans (RRP) developed by the Member States are being finalised and submitted to the Commission. Each RRP has to include a minimum of 37% of expenditures for climate investments and reforms and a minimum of 20% of expenditure to foster the digital transition. The planned investments put forward in this process led by Member States constitute a basis for targeted discussions on how Member States can support the objectives of cities that aim to become climate-neutral.

One of the first tasks of the Mission, either through the Mission Platform or through the network of national contacts to provide the interested cities with a comprehensive mapping of the opportunities offered to them in the national RRP to support the implementation of their CCC.

The **Just Transition Fund** will complement these cohesion policy efforts. With its EUR 19.2 billion, the Fund will provide targeted support to territories facing serious socio-economic challenges in

⁷⁸ In the next seven years, the European Regional Development Fund will provide EUR 450 million to support European cities via the European Urban Initiative (support to Innovative Actions, capacity and knowledge building, capitalisation, territorial impact assessments, policy development and communication) and EUR 80 million support to URBACT IV programme, plus an earmarking of 8% of the ERDF resources at national level must be dedicated to sustainable urban development accounting for around EUR 16 billion to be implemented through integrated urban strategies having a multi-thematic focus. Furthermore, a large share of funding under mainstream cohesion policy programmes will be invested in cities. Almost one third of the 2021-2027 European Regional Development Fund resources will finance green projects. These funds are implemented in the shared management based on the strategic choices of Member States and regions.

moving towards climate neutrality, and will thus ensure that transition to climate neutrality leaves nobody behind. The funding will be provided on the basis of Territorial Transition Plans prepared by Member states.

The **Digital Europe programme** will support and accelerate the transition to sustainability for cities through digital, in particular by helping cities procure interoperable, local data platforms that enable the management of cross-sectoral data flows and the engagement of a variety of stakeholders. The programme will also support the creation and validation of a data space for climate-neutral and smart communities. Examples of the validation projects could address mobility, energy management, zero pollution and climate mitigation. Finally, in order for cities to truly benefit from the large amounts of data collected, monitor, understand and predict the state of the environment and make evidence-informed decisions, the funding will allow for laying the ground for the large-scale roll-out of Local Digital Twins across the EU.

InvestEU is a demand driven instrument that will provide repayable financing support (debt, equity) to a variety of eligible projects through implementing partners such as the European Investment Bank Group (EIBG), the European Bank for Reconstruction and Development (EBRD) and other National Promotional Banks. Supporting sustainable infrastructure, energy efficiency and clean transport are among InvestEU's top priorities. Cities participating in the Cities Mission could therefore seek InvestEU supported financing for their green projects. In addition, InvestEU Advisory could provide much needed financial and technical assistance to related projects via its different initiative (e.g. ELENA).

The Commission already plans to scale up technical assistance and bring it closer to regional and local actors, in particular by strengthening ELENA and using the technical assistance window under the Resilience and Recovery Fund. An additional source of capacity support will be offered by the proposed new Technical Support Instrument of the Recovery Plan, the EU City Facility and the Project Development Assistance Facility under LIFE, as well as the administrative capacity building and technical assistance under the post-2020 cohesion policy funds.

In a local context, investments could be financed as part of the territorial instruments within the European Regional Development Fund (ERDF) and the European Agricultural Fund for Rural Development (EAFRD): Integrated Territorial Investments (ITI's), Community-Led Local Development (CLLD) and LEADER. Further, urban authorities can draw on the mandatory minimum 8% allocation of the ERDF at national level to sustainable urban development implemented on the ground through integrated urban and territorial development strategies.

For the second phase of the implementation of the Cities Mission, **as of 2024, the Commission is considering setting up a new Cities Mission Blending Facility** in order to support cities with the ambition of becoming climate-neutral by 2030. The Mission Board advised to set up a new lending and blending facility, co-financed by Horizon Europe and InvestEU, via the EIBG⁷⁹, the EBRD, National Promotional Institutions, private investors and foundations to effectively support the Cities Mission and the implementation of the CCC. This facility could be a joint effort between the Commission and notably the EIBG and potentially other national and international financial institutions and would be supported through InvestEU, in particular the "Research Innovation and Digitalisation" and "Sustainable Infrastructure" windows⁸⁰. This new facility could be seen as the principal de-risking grantor for cities to access blended finance options (loans and equity mainly). It is furthermore

⁷⁹ Between 2012 and 2018, the EIB estimates that it lent EUR 152 billion to projects in urban areas, of which nearly EUR 26 billion was directly invested in climate mitigation actions.

⁸⁰ An example is provided by the Connecting Europe Broadband Fund, where the EIB is providing EUR 140 million of which EUR 100 million are guaranteed by the EFSI.

expected that the facility fully factors in the offerings of the Explore-Shape-Deal Matchmaking services of the Smart Cities Marketplace to complement its operations.

The EIBG and other International Financial Institutions

Further, in recent years, the EIB Group has been ramping up its support for urban development, notably in the area of energy efficiency and to accelerate newer technologies such as e-mobility and digitalisation under the flag of the Cleaner Transport Facility. The EIB has financed over EUR 107 billion in urban investments in the five-year period 2016-20, and over 45% of its direct lending to urban operations constituted climate action investment. The EIB Group will continue to deploy a range of financing structures that contribute to accelerating the deployment of smart and green urban development. These include urban framework loans which can be configured to focus on climate investment, and which co-finance multi-sector investments across a 4-5 year time slice of a city's multi-annual investment programme. Larger single investments are made into major projects such as urban public transport projects (i.e. investment loans). Intermediated lending can be deployed, e.g. via NPBs, commercial banks and investment platforms, to reach smaller cities (e.g. below 50,000) where direct lending is less practical. Urban development funds or revolving financial instruments can also be deployed. All of these developments will be of direct interest to the work of the Mission.

Private financing

Public spending at EU and national level will not be sufficient to address the financial needs of Mission cities. The majority of the investment needs will have to be covered by private investors (individuals, companies, commercial banks, other private investors). InvestEU and other EU Programmes can bolster future-oriented investments across the EU, help mobilising private investments and provide advisory services to projects and operators in the area of sustainable infrastructure and mobile assets, as well as support innovative companies and SMEs in the areas of smart and sustainable mobility as well as energy efficient building refurbishment and heating provision.

Availability of private financing for green investment will therefore play a key role. Major steps have been taken by the Commission to make the financial system more sustainable, notably with the adoption in 2020 of the Taxonomy Regulation creating a classification system for green economic activities. The taxonomy delegated act adopted by the Commission in April 2021 provides a long list of economic activities that substantially contribute to both climate change mitigation and adaptation objectives. The work on the wider environmental objectives (pollution prevention, protection of water resources, circular economy and biodiversity) is ongoing with a view to be formally adopted by the co-legislators by the end of 2022 at the latest. This will facilitate the scaling up of green financial products, such as the green and sustainability-linked bonds as well as green securitisation, suitable to increase the quality of expenditures in cities while redirecting resources toward green, smart and productive investment. The EU sustainable finance agenda, by mobilising citizens and retail investors, also offers a wide array of new opportunities for the residents of the cities to directly contribute to the financing of sustainable projects with a substantial positive impact on their local environment. Digital finance, making it easier to make payments, save money, invest or get insured has a major potential to facilitate participating of the citizens/residents in local efforts to build climate resilience and the transition of cities towards climate neutrality. This could be achieved by, for example, creating investment and/or crowd-funding platforms or issuing retail green bonds, where the funds raised would be dedicated, possibly blended with the funding provided by local authorities, to the respective sustainable infrastructural projects. This would considerably lower the

needs for external financing but in the first place would increase the ownership of the transformation process and the green projects in question by the local communities.

GOVERNANCE, MONITORING AND REPORTING

Monitoring frameworks have to be developed both for the purposes of verifying cities' progress towards the 2030 target and for regularly assessing the performance of the Mission as a new delivery instrument.

Governance of the Mission

The governance of the Mission complies entirely with the Commission decision on the governance of Horizon Europe⁸¹, which describes in detail the role and responsibilities of the main actors of the Missions. The European Commission, represented by the Mission Manager, will be responsible for the implementation of the Mission. The Mission Manager and Deputy are responsible in particular for the preparation of the Implementation Plan, the coordination of the project portfolio, the synergies and coordination of activities which are relevant for a Mission, citizen engagement and communication activities, the coordination with Member State and regional initiatives as well as monitoring the overall progress of the Mission.

The Mission Owners Group is composed of services of the European Commission that are key for the implementation of the Mission. At the time of drafting, DG RTD, MOVE, ENER, CNECT, EAC, MARE, ENV, CLIMA, REGIO, GROW, HOME and JRC as well as CINEA are part of the Group. The Mission Owners Group defines and proposes the research and innovation needs for the Mission, prepares the Mission's Work Programme particularly by co-creating the research and innovation projects to be put forward as part of the overall Horizon Europe Work Programme and discusses how other Commission instruments, policies and actions can contribute to the Mission objectives.

The Mission secretariat hosted in DG RTD, but including members from a number of different DGs, will manage the Mission operations including the interaction with the Mission Board, composed of high level experts advising the Commission on the implementation of the Mission. The CINEA Executive Agency will support the implementation of the Mission.

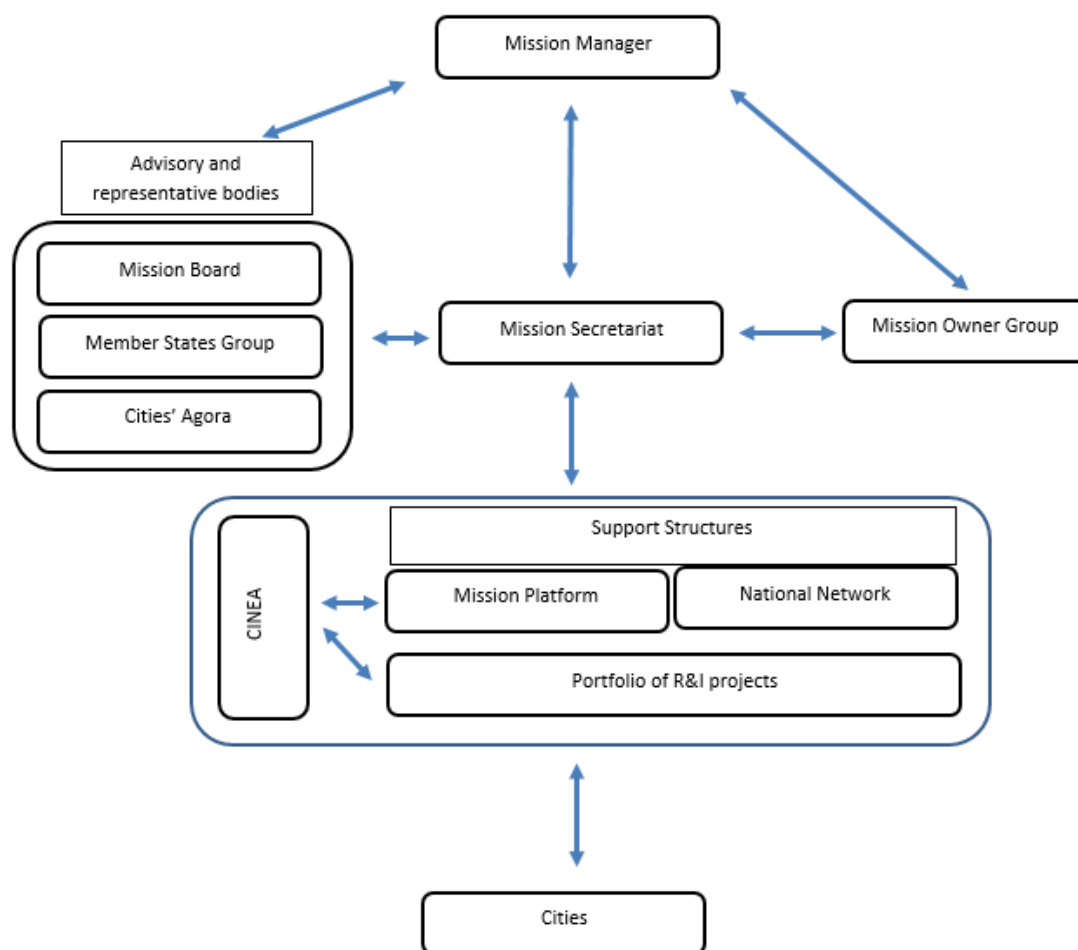
Other dedicated support structures such as the Mission Platform will also provide support to the Mission. These structures will be established through the Horizon Europe programme, complementing what is already established under Horizon 2020. One of these actions will support in particular a network of national contacts in the Member States that will have the responsibility of helping the cities in their countries to commit to the objectives of the Mission through an alignment of relevant national/regional initiatives and programmes. Representatives of this network will be included in the Mission governance.

Finally, an "agora" composed of representatives of the cities (including the representatives of their surrounding regions and national governments) that will commit to the Mission objectives will complete the Mission governance and will allow cities to share their experience and good practices.

The overall coordination of the various support structures (Mission Platform, National Network) as well as representative and advisory bodies (Mission Board, Agora, Member States representatives) will be carried out by the Mission Secretariat under the supervision of the Mission Manager in consultation with the Mission Owner Group.

⁸¹ Commission Decision on the coordinated implementation of Horizon Europe and on the operating rules for the Common Policy Centre and the Common Implementation Centre for Horizon Europe, the Framework Programme for Research and Innovation (2021-2027), 24 June 2021, C(2021) 4472 final

Governance structure to illustrate how the Mission will work in practice:



Monitoring for cities

Dynamic and real-time monitoring of the progress towards climate-neutrality will be essential to keep a sense of urgency, achievement and motivation among the cities and stakeholders involved. At the same time, real-time monitoring allows for informed and flexible adjustments to the Mission if and when necessary.

To this end the Mission will establish a simple yet robust monitoring system using established methodologies based on short (progress in implementation), medium (delivery of tangible results) and longer term (impact) indicators⁸²:

- **Implementation indicators** will measure the level of city interest for climate neutrality, their preparedness and diversity;
- **Results indicators** will measure the level of city commitment to climate neutrality, their diversity and mobilisation of EU/regional/national financing;

⁸² The system is compatible with the Key Impact Pathways framework of Horizon Europe.

- **Impact indicators** will measure the actual progress towards the climate neutrality of Mission cities as well as their overall contribution towards the 55% target of the European Green Deal, and ultimately the number of climate-neutral cities.

The Cities Mission will provide a common framework for understanding what climate neutrality means for cities. The Mission strongly encourages cities to use (and continue to use) existing planning and monitoring frameworks. As regards transport, this includes in particular Sustainable Urban Mobility Plans (SUMP)⁸³ and the related indicators developed by the European Commission with the support of 50 cities in the area of sustainable urban mobility. As regards energy, this includes in particular the methodology developed by the Covenant of Mayors and the Sustainable Energy and Climate Action Plans (SECAPs)⁸⁴. A closer linking of SECAPs and SUMP could offer further benefits for cities. The SUMP topic guide on Harmonisation of Energy and Sustainable Urban Mobility Planning already provides a step-by-step guide to the harmonisation of SECAPs with SUMP⁸⁵.

This will support cities in measuring and evaluating interventions in urban transport⁸⁶, while the Mission Platform will provide cities with additional know-how to develop a baseline and a coherent monitoring tool and agreed KPIs to measure and communicate on progress towards achieving the CCC's objectives.

The decreased level of GHG emissions in Europe delivered by cities taking part in the Mission will be measured in line with the three main indicators identified in the Global Covenant of Mayors.

DEFINING CLIMATE NEUTRALITY
For the purposes of the Cities Mission, calculations on climate neutrality should focus on:
<u>Scope 1 GHG emissions</u> for the city within the geographic boundary (mandatory from the beginning of the Mission). This indicator will be calculated based on the emissions from <i>buildings, industry, transport, waste treatment</i> (solid waste and wastewater), <i>agriculture and forestry</i> and from <i>other activities</i> .
<u>Scope 2 GHG emissions</u> for the city (mandatory from the beginning of the Mission). <i>This indicator will be calculated based on indirect emissions due to consumption of grid-supplied electricity within the geographic boundary and indirect emissions due to consumption of grid-supplied heating and/or cooling within the geographic boundary.</i>
<u>Scope 3 GHG emissions</u> for the city (to be considered further but not to be adopted before 2030). Scope 3 emissions would be calculated based on the emissions from " <i>out-of-boundary</i> " emissions from treatment of waste produced within the geographic boundary, out-of-boundary emissions from

⁸³ <https://www.eltis.org/mobility-plans/sump-guidelines> In order to encourage the widespread uptake of SUMP, the Commission published guidelines to support local authorities. These underwent extensive revision in 2019, and the revised SUMP guidelines are accompanied by a range of complementary guides on aspects of specific relevance to SUMP. One of these is the SUMP topic guide on the Harmonisation of Energy and Sustainable Urban Mobility Planning, which provides a step-by-step guide to the harmonisation of SECAPs with SUMP. The role of SUMP may expand in the future under the revised Urban Mobility Framework proposals being developed now by DG MOVE.

⁸⁴ <https://www.covenantofmayors.eu/plans-and-actions/action-plans.html>

⁸⁵

https://www.eltis.org/sites/default/files/harmonisation_of_energy_and_sustainable_urban_mobility_planning.pdf

⁸⁶ https://ec.europa.eu/transport/themes/urban/urban_mobility/sumi_en

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. These emissions are undeniably important in climate change, but because they address individual consumer actions that are well outside the scope of the Cities Mission or indeed the city authorities, they should not be included in the baseline calculations. It is planned to launch one or more R&I projects to consider this matter further, and there is already interest from cities in joining such projects.

So cities would be expected to monitor Scope 1 and Scope 2 emissions in the period to 2030. For the cities that have entered the Mission and concluded their CCC, the indicators and monitoring system will be agreed as an integral part of the contract.

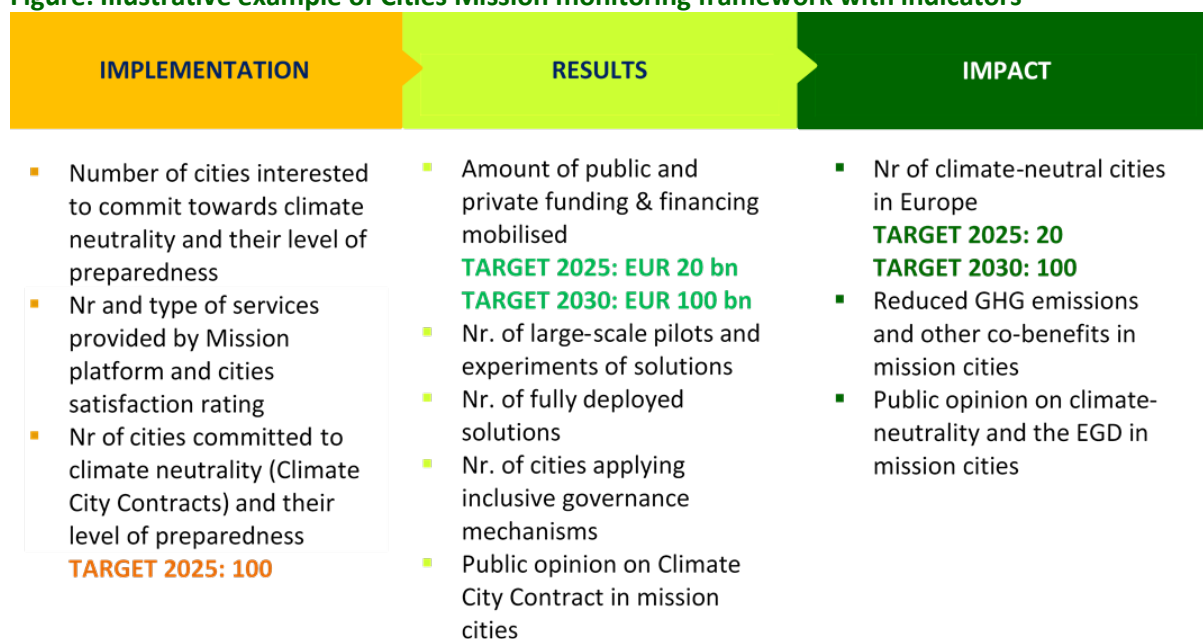
When it comes to pollution, relevant indicators on air quality could be the levels of air pollution within city boundaries as reported under the EU legislation (or as monitored using a corresponding assessment regime, namely:

- PM_{2.5} concentration levels [highest annual mean observed at (sub)urban background stations]
- NO₂ concentration levels (highest annual mean observed at traffic stations).)

Monitoring of the Mission

A first assessment of the Missions is planned in 2023. At that time, it is intended to bring forward detailed planning for the full lifetime of the Mission (i.e., activities from 2024-27). This explains why the focus is currently in detail on the planned actions and outcomes for 2021-23. In order to be able to monitor the implementation of the Cities Mission and assess its functioning, a monitoring framework with indicators needs to be set up. Illustrative examples of monitoring activities and indicators that can be used for this **purpose are provided below:**

Figure: Illustrative example of Cities Mission monitoring framework with indicators



Box: Illustrative example of monitoring activities under the Cities mission:

Results	Indicators:	Milestones:
100 climate-neutral cities by 2030 and all cities by 2050	- Number of cities applying to the EoI - Number of cities committing to G01 and G02 - Number of CCC signed in 2025, 2030, 2040 % GHG reduction in 2025, 2030, 2040 compared to the baseline - Number of cities attaining the objective of climate neutrality by end-2030	Annual monitoring and reporting
100 climate-neutral cities by 2030 and all cities by 2050	- Number of cities supported by the Mission Platform that will respond to G01 and G02 - Total investment made by cities to support the G01 and G02 objectives, share of investment related to digital - Number of cities involved in the Mission that commit to the Living-in.eu Movement - Number of cities involved in the Mission that integrate the NEB principles - Number of large scale pilots and experiments of solutions	Q2 2024 for mid-term reviews assessment
10% of EU funding across the Multi-Annual Financial Framework	HE budget used to support the cities involved in	Q2 2024 for mid-term

and the Recovery and Resilience Facility contributing to the implementation of the CCC	the Mission	reviews assessment
	• LIFE, CEF, DEP share of the budget used for the implementation of the CCC • Number of cities benefiting from EU advisory services • Investment granted by EIB/EBRD to the Cities involved in the Mission • RRF budget used to support the Cities involved in the Mission	
Set-up a global knowledge exchange platform for cities involved in the Mission to share experience and good practice with their counterparts	• Number of international events on climate neutrality organised involving EU cities participating in the Mission • Number of cities outside the EU involved in the platform	Q2 2023 for launching the platform

CONCLUSIONS

The Cities Mission's proposed objectives are challenging and ambitious, but necessarily in view of the critical role that cities play for achieving the European Green Deal objectives: a "business as usual" approach towards supporting climate actions by cities will not be enough.

The first Mission goal, namely to have 100 climate-neutral European cities by 2030, rooted in research and innovation, but with the capacity over time to build on this foundation, is a necessary and major intermediate step. The Cities Mission has the potential to become a crucial support mechanism for the European Green Deal 2030 deadlines. But the ultimate objective is of course to make all European cities climate-neutral by 2050 and deliver on Europe's goal of becoming the first climate-neutral continent by that date.

Consequently, these two objectives are strongly linked. The first 100 cities will make an important contribution to the 2030 targets to reduce GHG emissions by 55%. But they will constitute at the same time the "test beds" for all other cities and provide a powerful showcase on how to achieve the Green Deal objectives at city level.

The participating cities will move towards climate neutrality within a common European framework while at the same time benefitting from the city-focused, demand-driven innovative approach, based on their individual needs. The climate city contracts they develop in co-creation will build in EU, national and regional funding support and set out how they plan to have access to financing from other sources. The contracts will embrace innovative multi-level governance models with a particular focus on involvement and commitment from citizens themselves. The contracts will show how the cities plan to draw on new and existing research and innovations but always focused on delivering results.

The wider ramifications of a successful Cities Mission may ultimately be more political. European cities have a key role to play to win public support for the European Green Deal's objectives, since they perhaps have the best understanding of local people's needs. City authorities are closer than most to the public, on the front line, and continuously delivering a wide range of projects and services that will impact on people's daily lives. They have to make sure that people are aware of the benefits, including the co-benefits, as well as of the inevitable costs, of the different actions to get to climate neutrality. What cities achieve locally will not only carry a large part of both the national and the European load in meeting the Paris Agreement⁸⁷. It can also encourage greater uptake of sustainable solutions outside cities, setting a trend for their Member States to follow⁸⁸ and setting a leading international example: the climate-neutral cities will be at the heart of a wide international network focused on delivering urban solutions for climate neutrality that ultimately extends well beyond the EU.

Last but not least, the Cities Mission can help make the broader case for research and innovation to be right at the heart of European public policy. The cities themselves will become innovation hubs, using research and innovation much more widely in support of European policy objectives than hitherto. By doing so, the Cities Mission – like the other Missions – will showcase the role of science, research and innovation as a foundation of European public policy. This would thereby encompass the spirit of the Horizon Europe Regulation, building the case for future funding and political support of not just "new style, societal" research and innovation that will tend to be based on TRLs 5-8, but also of basic research under TRLs 1-4.

⁸⁷ <https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement>

⁸⁸ <https://energypost.eu/climate-neutral-cities-can-be-the-key-to-winning-public-support-for-the-european-green-deal/>

There is no doubt that action to deliver carbon neutrality now needs to accelerate dramatically, and in complement to what is being done to ensure that the EU is “Fit for 55”, cities are the ideal place to start. The ability of the Mission to deliver a meaningful contribution from cities will be its principal added value. Many cities are now starting to embrace the policies needed for climate neutrality, and the concept of doing so by 2050 is taking hold, as seen in the new commitments taken by the signatories of the Covenant of Mayors just in April of this year. But so far only a handful of cities have committed to full climate neutrality by 2030. Without both the substance of the contribution of this first wave of climate-neutral cities, and the leadership they can provide for others to follow, cities are unlikely to deliver on their full potential.

In short, this Mission represents a major opportunity for the Commission, Member States, regional and local authorities, the private sector and citizens to forge a new and innovative partnership with Europe’s cities to help deliver the response to the defining challenge of this era.

ADDENDUM - Mapping of ongoing EU supported activities and policy initiatives targeting cities

Successful programmes and projects on climate or related “green” initiatives, particularly at the sectoral level, are being run by several Commission services and agencies. A large number of European cities have been engaged in such actions.

ACTIONS	PARTICIPATING CITIES
100 Intelligent Cities Challenge	136 cities receive strategic support to drive a green and digital economic recovery and social resilience, leveraging advanced technologies. One of the five thematic tracks is on ‘green economy and local green deals’.
100 Positive Energy Districts	Implementation of 100 Positive Energy Districts by 2025
CIVITAS	Over 800 innovative urban transport measures and solutions in over 80 living labs in European cities since 2002. Over 300 European cities signed the CIVITAS Declaration, committing to cleaner and innovative transport.
EIT Climate KIC, Healthy Clean Cities	Deep demonstrations of radical climate action in 15 European cities to prove feasibility of rapid systems transformations. Other demonstration areas circular economies, climate-neutral food systems and carbon sinks.
European Universities Initiative	Support in creating local ecosystems of higher education institutions, cities, businesses, civil society and citizens in contribution to developing solutions for Sustainable Cities.
Horizon 2020 Lighthouse Projects	18 projects involving 124 lighthouse, follower and observer cities, 186 project demonstration sites across Europe
Smart Cities Marketplace (SCM)	Wide range of Action Clusters and initiatives from at least three sectors (energy, mobility/transport and the digital sector), with flexibility to expand the scope.
URBACT programme	112 cities have participated in projects on carbon neutrality since 2002
Urban Innovative Actions	38 cities have led projects on air quality (9), circular economy (9), nature-based solutions (5), digital transition (7), energy transition (3), urban mobility (5)
Sustainable Urban Development of Cohesion Policy	684 cities have implemented integrated sustainable development strategies that focus on climate adaptation, air quality, low carbon society, mobility, circular economy, energy or nature-based solutions in the 2014-2020 period (‘Article 7 cities’ of the European Regional Development Fund)
Affordable Housing Initiative	Implementation of 100 lighthouse districts for renovation of affordable and social housing in an integrated approach (energy efficiency, social cohesion and digital transition)
Sustainable Urban Mobility Plans (SUMP)	1,028 SUMPs have been adopted by cities, with over half of them in cities with over 100,000 inhabitants, and 122 SUMPs are under preparation
COMMITMENTS	PARTICIPATING CITIES
Covenant of Mayors	Almost 10 000 cities and other local governments have committed so far to achieving and exceeding the EU climate and energy targets. They translate their commitment into projects and measures through submission of a Sustainable Energy and Climate Action Plan (SECAP) within two years after the local council decision
European Climate Pact	Opportunities for local authorities and stakeholders to make pledges for the planet and mobilise support for climate action.
European Mobility Week	More than 11, 000 cities have committed to sustainable urban mobility at least once since 2002. In 2020, the participation rate was 2,945 towns and

	cities from 53 countries.
Green City Accord	Movement of European mayors committed to environmental management for cleaner and healthier cities, 40 signatories since launch in October 2020.
Living-in.eu Movement	Launched in 2019 with the Join, Boost, Sustain political declaration signed by 90+ EU cities, regions and member states that commit to building the European way of Digital Transformation.
AWARDS & NETWORKS	PARTICIPATING CITIES
CIVITAS Awards	Since 2004, CIVITAS has awarded 53 European cities for their mobility work in categories such as bold measure, technical innovation, resilience, stakeholder and citizen engagement or public participation.
European Capital of Innovation Award	6 winning and 19 runner-up iCapital cities since 2014
European Green Capital Award	13 cities won the award since 2010, with alumni network of winners and finalists covering 31 cities
European Green Leaf Award	11 smaller cities (under 100,000 inhabitants) won the award since 2013, with alumni network covering 17 cities
European Mobility Week Awards	26 winning towns and cities since 2002. For the SUMP Award, 9 winners and 19 finalists since the first edition.
European Network of Living Labs (ENoLL)	Network of benchmarked Living Labs that provides co-creation, user engagement, test and experimentation facilities since 2006 for domains including energy and mobility. 150+ active members worldwide.
POLIS City Network	Network of European cities and regions working together to develop innovative technologies and policies for local transport (air quality, e-mobility, decarbonisation. 80+ cities and regions from across Europe.
Clean Energy for EU Islands initiative	One-stop-shop for Europe's island communities transitioning to clean energies, providing connection with other island communities, technical experts, support on project development, practical materials to help advance the transition.

However successful and popular these actions are, they could benefit from a complementary effort to focus holistically, across different sectors, on the interventions and policies needed overall to deliver city-wide climate action. Second, these actions can gain better traction within an overall, individualised, demand-driven city plan to achieve climate neutrality. Finally, the target date of 2030 provides additional impetus both for these actions and political focus for the city.

Below we set out how the Cities Mission will build synergies and complementary actions with some of these initiatives and their wider political context.

Climate Pact and climate action plan:

Achieving the purpose of the Mission must be a process inspired by and with the full involvement of informed citizens as well as local businesses and other economic actors that are key partners in effective local governance. This will help to build consensus that a 'just transition' to climate neutrality is necessary, possible and beneficial, and everyone has a role to play.

The direct involvement of citizens in the **European Climate Pact** as drivers of change and ambassadors for climate neutrality will help the Mission bring citizens closer to the design, implementation and monitoring of mission activities, including by their active participation in the creation and implementation of the CCCs. Our intention, along with the Mission on Climate Adaptation, is to work closely with the European Climate Pact, particularly in the early days of the

Mission, to encourage cities and their citizens to express their interest and consider participating in the Cities Mission. The CCC could constitute a **Climate Pact Pledge**. Learning and interlinking via the **Knowledge Hub** of the Climate Pact would help initiatives achieve greater impact and scale, spreading this knowledge and facilitating the exchange of successful approaches across Europe to accelerate change and capacity building for existing and new actors.

By mobilising and supporting 100 cities transitioning to climate neutrality by 2030, the Cities Mission will also contribute to the objectives of the new **EU Strategy on Adaptation to Climate Change** and will accelerate the rollout and up-scale of solutions tackling both adaptation and mitigation aspects.

Action needed: The Cities Mission will work closely with the Climate Pact, in particular in its inception phase, to develop citizen engagement and “ownership” of what the Mission is trying to achieve.

The EU has quite a long history of engagement with cities and regions of the EU, most recently in the new **Leipzig Charter**⁸⁹, the **Urban Agenda for the EU**⁹⁰, which is a key vehicle for the implementation of the New Leipzig Charter, and the **Pact of Amsterdam**⁹¹. The Mission promotes a multi-level co-creation process engaging cities and their citizens, Member States, the European Commission, and all stakeholders in line with the spirit of the New Leipzig Charter and its operational mechanism Urban Agenda for the EU.

Cohesion Policy:

With its strong city-driven approach and focus on place-based solutions, the mission contributes to the objectives of the new **EU Cohesion Policy** and particularly to the policy objective of “a greener, low-carbon transitioning towards a net zero carbon economy and resilient Europe by promoting clean and fair energy transition, green and blue investment, the circular economy, climate change mitigation and adaptation, risk prevention and management, and sustainable urban mobility”. Cohesion Policy could complement new innovative solutions to cities that will be developed by the Cities Mission, in particular through **integrated urban development strategies** under Article 11 of the ERDF/CF Regulation (the ‘sustainable urban development’ part) when such solutions are in alignment with the strategies supported by Cohesion Policy.

The Mission also contributes to the new policy objective of “a Europe closer to citizens by fostering the sustainable and integrated development of all types of territories and local initiatives” that will support **tailor-made investment strategies at territorial level, in cities and local communities**, to address their diverse challenges, and tapping into their development potential.

As concerns the Cohesion policy programmes and support for sustainable urban development, the Mission platform will seek connections and synergies with the knowledge sharing platform of the European Urban Initiative (EUI). The EUI will be launched as part of cohesion policy’s support to sustainable urban development in the 2021-2027 period (under the ERDF/CF Regulation with the budget of EUR 450 million). The initiative is sought to provide coherent support to cities by

⁸⁹ https://ec.europa.eu/regional_policy/en/information/publications/brochures/2020/new-leipzig-charter-the-transformative-power-of-cities-for-the-common-good. The new Leipzig Charter is a key policy framework document for sustainable urban development in Europe. The Charter highlights that cities need to establish integrated and sustainable urban development strategies and ensure their implementation for the city as a whole, from its functional areas to its neighbourhoods. Member States agreed to implement the Charter in their national or regional urban policies.

⁹⁰ <https://futurium.ec.europa.eu/en/urban-agenda>

⁹¹ https://ec.europa.eu/futurium/en/system/files/ged/pact-of-amsterdam_en.pdf

supporting urban innovation, capacity and knowledge building, territorial impact assessments, policy development and communication. Synergies could be developed between the EUI and the Cities Mission across the pertinent work streams of the EUI, for example, in the context of knowledge sharing and capitalisation for evidence-based policy making.

Action needed: Commission services will develop a memorandum to explain – for example to managing authorities – how the Cities Mission process works and the nature of commitments in CCC in order to facilitate access of cities to funding and uptake of investments in different funding instruments.

Urban mobility strategy:

Deploying successful urban mobility innovation requires a city to work across departments, industries and other stakeholders: from bringing real estate developers to the same table with the public transport provider, to ensuring that the energy fueling its public transport system runs on renewable sources. Most importantly however, smart and sustainable urban mobility is demonstrated by how people travel in the city, the levels of congestion, how clean the air is, how safe people feel to cycle or walk, and how many are using public transport and are satisfied with it. These are key **co-benefits of policies aimed to reach climate neutrality in cities**, many of them focused on reducing our dependence on privately owned, conventionally fueled cars in cities. More will be set out in Q4 2021 in the new urban mobility framework.

The Mission will keep cities at the forefront of the transition towards greater sustainable mobility and will deliver the target of at least 100 climate-neutral cities as included in the **Smart and Sustainable Mobility Strategy (SSMS)**. In practice, the Mission will contribute to making interurban and urban mobility healthy and sustainable, for instance by doubling high-speed rail traffic and developing extra cycling infrastructure over the next 10 years, investing in safe bike lanes, and ensuring connectivity with rural and suburban areas so that commuters are given sustainable mobility options. The Mission will also foster the roll-out of integrated, intelligent transport systems, advanced data analysis, modeling and automated mobility solutions delivering on twin transition objectives at local level. Some examples of indicators to measure these actions:

- Integration of transport modes (e.g. ticketing applications, multi-modal journey planners etc.) - https://ec.europa.eu/transport/themes/urban/urban_mobility/sumi_en
- Data collection of key urban transport indicators (i.e. https://ec.europa.eu/transport/themes/urban/urban_mobility/sumi_en) and mobility management platforms
- Monitoring of travel and traffic flows using data analysis (AI/modelling)
- Data sharing protocols, standardization of data sets and APIs
- Deployment & investments in Intelligent Transport Systems solutions for smart travel and traffic management (e.g. intelligent traffic lights, sensors, dynamic traffic signals, digital parking solutions, ANPR – automatic number plate recognition systems)

Furthermore, under the SSMS, all large and medium-sized cities that are urban nodes on the TEN-T network put in place their own **sustainable urban mobility plans by 2030**. The plans should include new goals, for example on having zero emissions and zero road fatalities.

The Mission can also contribute to greening freight transport or first/last mile solutions that include multimodal mobility hubs, park-and-ride facilities, and safe infrastructure for walking and cycling.

Pricing carbon and providing better incentives for users – for instance by pursuing a comprehensive set of measures to deliver fair and efficient pricing across all transport – can also be considered.

'The Commission is also working on a 'Common EU framework for GHG emissions accounting in transport and logistics' at the level of transport services. This will establish a common methodological framework for measurement of CO₂ emissions of individual operations, and provide tools for the transport stakeholders to quantify emissions for road, rail, maritime, air and door to door transport and logistics

Action needed: Set up linkages between the Mission and the urban mobility package. Within the framework of the new urban mobility initiative, the Commission plans to propose that every large and medium-sized city that is an urban node on the TEN-T network should put in place its own sustainable urban mobility plan (SUMP) by 2030

Renovation Wave:

The Cities Mission will contribute to the objectives of the Renovation Wave to increase **energy efficiency** of Europe's building stock and scale up **building renovation** in Europe. This will include applying smart technologies and circularity principles to building renovation, thus reducing consumption-based and materials-related GHG emissions for buildings. The Mission also aligns well with energy policies such as the **Energy System Integration strategy** by supporting citizens to become active energy consumers individually or through local energy communities, decentralized renewable energy, and the voluntary bottom-up initiatives ranging from Covenant of Mayors to Smart Cities & Communities. Cities participating in the Mission are well placed to test the integrated and circular energy flows, virtual power plants, smart-ready building stock and innovative digital energy services promoted by the strategy.

The Mission will also contribute to develop collaborative local governance models to accelerate the transformation of urban environment. It will foster renovation of urban spaces combining sustainability, accessibility and aesthetics in a human-centred way, thus reflecting the values and principles promoted by the **New European Bauhaus initiative** into climate-neutral quality transformations.

With their dense population, cities are best suited for implementing district heating solutions, including heat and energy storage for buildings and undertakings. Cities also control their territorial development plans and can influence the localisation of undertakings to support the reuse of waste heat and cold by placing close by the sources of waste heat and cold and their demand.

Industrial and digital strategies

- a) The new EU Industrial Strategy is structured around **14 industrial ecosystems**⁹², which encompass all players involved in the achievement of a certain socio-economic goal: from

⁹² As announced in the March 2020 Industrial Strategy, the ecosystems lens provides an innovative approach to industrial policy, as it allows for a vision that goes beyond a narrow definition of industry and fully incorporates the systemic importance of all the horizontal and vertical links among economic actors. The ecosystem approach recognises the importance of those activities that were too often considered only as ancillary to industry, as supply of raw material, provision of business services, access to distribution and retail

start-ups and largest companies, or research activities, to regulators, services providers and suppliers. Each of the 14 ecosystems might have moderate to strong interlinkages with economic activity in a city. The **ecosystem on Proximity and Social Economy** has specific relevance to the Cities Mission, as it provides a vision of local economic activity that includes a multitude of services and businesses fostering local and short value chains that link local production and consumption through user-friendly ‘last mile’ (or “15-minute city” model) services. The proximity and social economy ecosystem, and in particular cities, as hubs of proximity economy, knowledge generation, community engagement and innovation, are therefore key building blocks to deliver a people-centric, innovative and socially responsible industrial development and achieve a resource efficient, resilient, low-carbon and socially responsible society.

While pressing ahead with the climate neutrality ambition, the Cities Mission will build upon and promote the capacity building tools of the 100 Intelligent Cities Challenge (ICC)⁹³, that supports cities to lead the green and digital transformation of their local economies and to strengthen social resilience, leveraging the promises of advanced technologies and innovative business models in partnership with the local businesses and citizens. Those are notably the Local Green Deals Blueprint, the Cities Guide for Reskilling, a compendium of best practices in the five thematic priorities of green economy, citizen engagement, localization of supply chains and logistics and green and digital transition in tourism. The Mission will seek to build bridges between CCCs and local green deals.

In this context, a Single Market Programme (SMP) call on “Local Green Deals” (Q3 2021, 2M EUR) will help cities to co-design, and co-create local green deals, to deliver the EU Green Deal and green transformation of industry at local level. It will be based on the Local Green Deals Blueprint and best practices from pioneering cities.

(b) The EU Digital Strategy

The **EU Digital Strategy** and **Europe’s Digital Decade** set out a vision for a values-based digital transformation as an enabler for the European Green Deal objectives.

The Digital Europe Programme (DIGITAL) will build cities’ capacity to pursue their digital transformation and equip them with digital enablers to benefit from environmental and climate related data, by establishing a **data space on climate-neutral and smart communities**, part of the European Green Deal data space, under the **EU Data Strategy**⁹⁴. It will in particular prepare cities, regardless of their digital maturity, to put in place the necessary digital infrastructure and governance, so that they can benefit from the power of AI-enabled solutions such as Local Digital Twins which provide modelling and scenario testing capabilities across domains to aid evidence-based decision making for resource optimisation and climate mitigation, and as a tool for citizen engagement local and regional administrations will have access to technical expertise to support deploying digital solutions from the network of (EDIH) supported by DIGITAL.

networks. The **14 industrial ecosystems** have been identified by the Commission services, based on their economic and technological relevance and for their expected contribution to the decarbonisation, digitalisation and resilience of the EU economy.

⁹³ <https://www.intelligentcitieschallenge.eu/about-intelligent-cities-challenge>

⁹⁴ A European strategy for data, COM (2020) 66

The Cities Mission encourages cities to engage in the “Living in the EU” movement, for the scaling of digital transformation based on shared principles and using open standards and technical specifications⁹⁵.

Through the ICC, cities and their local stakeholders receive one-to-one strategic guidance and expert support as well as access to advisory services, city networks and capacity building tools. The ICC focuses on five thematic priorities: green economy and **local Green Deals**, citizen participation and digitisation of public administration, upskilling and reskilling, supply chains, logistics and the economics of mobility, and the green and digital transition in tourism. The Mission will seek to build bridges between CCCs and local Green Deals. The Digital Europe programme will build cities’ capacity to pursue their digital transformation and equip them with digital enablers to benefit from environmental and climate related data. It will in particular prepare cities, regardless of their digital maturity, to put in place the necessary digital infrastructure and governance, so that they could benefit from the power of Local Digital Twins.

Action needed: with both DG GROW and DG CONNECT to finalise the language, including for the Expression of Interest, on linkages between initiatives such as Living in the EU and the Intelligent Cities Challenge and in particular to look for ways of mutually reinforcing the initiatives and providing new opportunities for scaling up and deployment.

Education for Climate Coalition:

Although climate change ranks second among EU priorities in last year’s Eurobarometer and despite many young people believing that schools need to give more attention to climate change, the environment and eco-friendly behavior, the gap between concern and action remains a worrying reality. Schools, training institutions and universities are mostly located in cities. They will play a key role in the green transition by engaging with pupils, parents and the wider community on the transformative adaptation needed for a successful transition.

The Cities Mission and the **Education for Climate Coalition**, a flagship initiative of the European Education Area, will mutually reinforce each other. The Coalition aims to become the main bottom-up engagement contribution of the European education community to the Climate Pact and the Green Deal. It will mobilise available expertise, commitment and networks in education across the Member States where cities could play an active role, by supporting and sharing innovative solutions towards the transition to climate-neutrality, engaging pupils and school communities particularly in relation to skills development and change in behaviour.

Zero Pollution:

The Cities Mission will ensure that the many synergies with the zero pollution ambition of the European Green Deal and the **Zero Pollution Action Plan** are realized, while avoiding potential trade-offs. For instance, energy efficiency improvements and non-combustible renewable energy sources will improve air quality, while air pollution from inefficient biomass burning in old household stoves

⁹⁵ <https://www.living-in.eu/declaration> main principles : a citizen-centric approach; a city-led approach at EU level; the city as a citizen-driven and open innovation ecosystem; ethical and socially responsible access, use, sharing and management of data; technologies as key enablers; interoperable digital platforms based on open standards and technical specifications, Application Programming Interfaces (APIs) and shared data models.

and boilers can and should be avoided. Low-carbon sustainable urban transport will help further clean the air and reduce noise in cities.

The **Green City Accord initiative** mobilises European mayors committed to safeguarding natural environment (quality of life, implementation of EU environmental laws locally). Green City Accord cities commit to step up efforts in water, air, nature and biodiversity, circular economy and waste as well as noise by 2030. Around 40 cities have already committed to the initiative and 20 additional cities are being considered.

Action needed: Close links between the Green City Accord initiative as well as the zero pollution action plan and the Mission, including in the co-creation of CCCs, to boost the coverage and impact of all initiatives while avoiding duplication of effort from participating cities.

Covenant of Mayors:

Since 2008 the European Covenant of Mayors has pulled together a strong coalition of large and small cities that gathers together almost 10 000 cities and other local governments that voluntarily commit to achieving and exceeding the EU climate and energy targets. In order to translate their political commitment into projects and measures, Covenant signatories submit, within two years after the local council decision, a Sustainable Energy and Climate Action Plan (SECAP). The plan features a Baseline Emission Inventory to track mitigation actions. This is followed by biannual reporting on their implementation.

Given this long-standing process that is already familiar to the cities under the Covenant of Mayors, the Cities Mission will align its requirements for baseline setting and reporting under the CCC with the SECAP model used by the Covenant. This compatibility in terms of template, indicators and timeline will reduce the reporting burden on local authorities. Synergies are already being implemented between the Covenant, Smart Cities Marketplace and the European Climate Pact to the same effect. A closer linking of SECAPs and SUMPs could offer further benefits for cities. The SUMP topic guide on [Harmonisation of Energy and Sustainable Urban Mobility Planning](https://www.eltis.org/sites/default/files/harmonisation_of_energy_and_sustainable_urban_mobility_planning.pdf) provides a step-by-step guide to the harmonisation of SECAPs with SUMP⁹⁶.

Action needed: The most ambitious Covenant signatories (in particular those aiming for climate neutrality by 2030) are likely to be among the 100 Cities joining the Cities Mission, and we will finalise the language on how they can best benefit from synergies with the Mission process. The rest of the Covenant communities will learn from the experience of their peers

Smart Cities & Communities | Smart Cities Marketplace:

As a further synergy, the Mission Platform of the Cities Mission will factor in the Smart Cities Marketplace, which will continue facilitating the market uptake, upscaling and replication of solutions across sectors to effectively and efficiently support the Cities Mission, while linking to many other initiatives at EU level such as the Covenant of Mayors, Living-in.eu, CIVITAS etc.

This will enable building on the assets delivered by the European Innovation Partnership on Smart Cities and Communities (EIP-SCC) and its still very active community of Action Clusters and Initiatives under the SCM. It will also enable building on the EIP-SCC's subsequent Lighthouse Projects

⁹⁶

https://www.eltis.org/sites/default/files/harmonisation_of_energy_and_sustainable_urban_mobility_planning.pdf

programme and its 18 Lighthouse Projects, which have engaged 124 cities across Europe and triggered a vision on how Europe could lead in the area of urban development, across and integrating various sectors. For instance, the Explore-Shape-Deal process serves to shape and match solutions/project plans with financing (new, replication and upscaling). By early 2021, around EUR 600 million were matched with the interest of the SCM's investor network. In addition, based on the highly holistic and integrated nature of the urban context the SCM operates across sectors, there is a great opportunity for SCM to catalyse and multiply the work of other initiatives, thus serving as a single stakeholder platform for the Cities Mission, closely collaborating with its One-Stop Shop Mission Platform, which focusses on funding.

Action needed: Based on the highly holistic and integrated nature of the urban context in which the SCM operates across sectors, there is a good opportunity for the SCM to catalyse and multiply the work of other initiatives, thus serving as a single bottom-up stakeholder platform in direct support of the Cities Mission and its One-Stop Shop Mission Platform. This, while fully exploiting the synergies between the Explore-Shape-Deal Matchmaking process of the SCM and the funding activities of the Cities Mission, which will bring about further concrete blueprints and solutions for replication and upscaling, a concept which is already in full swing with the signatories of the Covenant of Mayors.

Creative Europe programme:

Creative Europe is the EU's framework programme for support to the culture and audio-visual sectors. The Regulation establishing the Creative Europe Programme 2021-2027 recognizes the importance of tackling climate change in line with the Union's commitments to implement the Paris Agreement and to achieve the United Nations' Sustainable Development Goals.

Without prejudice to its fundamental character, Creative Europe will contribute to mainstreaming **climate actions** and to achieving of the overall target of 30% of Union budget expenditure supporting climate objectives. In line with the European Green Deal as a blueprint for sustainable growth, the actions under the Regulation should respect the 'do no harm' principle. In line with the sustainability/greening priority, projects funded under Creative Europe will also contribute to the implementation of the **New European Bauhaus**, which means future Creative Europe beneficiaries will be able to include activities relevant to the New European Bauhaus in their programme of activities. Local authorities are eligible for support under the Culture sub-programme of Creative Europe and can be among beneficiaries of cultural cooperation projects.

European Capitals of Culture:

Born in 1985, the European Capitals of Culture have become a laboratory for a strategic and sustainable investment in culture, pushing cities and their surrounding regions across Europe to reflect in a participative way on the role culture and Europe can play in their overall development and in the daily life of their citizens. Being a European Capital of Culture has become a catalyst for a wider change in the perception of a city — both by its own residents, and by the world beyond, going much beyond the cultural sphere, and spreading into social, educational, urban planning and even economic and regional dimensions. Cities hosting the title often seize this opportunity to accelerate urban regeneration planning, improve their creative and innovative potential, develop new and more sustainable forms of tourism, foster social and territorial cohesion within city boundaries and beyond or strengthen citizens' role in the city development as well as in the shaping and making of cultural expressions.

Extended description of EU programs targeting cities

FUNDING					
Programme	Involved	Type of support	Who can access	Preconditions	Amount
Connecting Europe Facility	INEA, DG MOVE, DG ENER, DG CNECT	Grants for works	Cities et alia	Identified as Project of Common Interest (PCI). For CEF Calls addressing Urban Nodes (as defined in Article 30 of the TEN-T regulation).	Co-funding varies according to the call and sector from 15% to 60% for project feasibility studies. For TEN-T from 20 to 50% for works under general envelop / up to 85% under cohesion envelop
LIFE	DG ENV, DG CLIMA, DG ENER, CINEA, EIB, NCP	Support in preparing applicants for integrated projects + NGO operating grants to facilitate dialogue within stakeholders and other services.	Cities, others		Standard projects: 500k to EUR 1,5 M Integrated projects: EUR 8 to 15 M. Co-funding 60%-75%. Other Action Grants: 500k – EUR 2 M. Co-funding 95%
Urban Innovative Actions (UIA) (2014-2020)	UIA Entrusted Entity and Secretariat, DG REGIO	Projects and pilots capitalisation, awareness raising, stakeholders' involvement	Cities et alia (applicant city >50k inhabitants)		Project EUR 1-5 M. Up to 80% of project costs.
European Urban Initiative (EUI) (2021-2027)	Future EUI Entrusted Entity and Secretariat, DG REGIO	Projects and pilots on urban innovation, capacity and knowledge building, territorial impact assessments, policy development and communication; complementarities with URBACT	Cities et alia (applicant city >50k inhabitants for projects on urban innovation); for other activities cities of all sizes	Former Urban Innovative Actions calls for proposals will continue under the EUI-Innovative Actions	To be defined by the launch of the initiative in 2022
URBACT	URBACT III Managing Authority and Secretariat, DG REGIO	Projects and pilots on policy making (all phases) capacity building, awareness raising, stakeholders' involvement	Cities, any local municipal entity (even aggregated) with politico-administrative competence.	Partnership composition depending on the phase of application	Between 50% and 85% of project costs depending on development of the region

Connecting Europe Facility	INEA, DG MOVE, DG ENER	CEF Grants for studies	Cities et alia	For CEF Calls addressing Urban Nodes (as defined in Article 30 of the TEN-T regulation)	For TEN-T, up to 50% for studies and up to 85% under cohesion envelope.
European Structural and investment Funds	DG REGIO, in particular CF and ERDF (Managing Authorities)		Cities et alia	Fixed in call	Fixed case-by-case
European Maritime, Fisheries and Aquaculture Fund	DG MARE	Calls of relevance to coastal cities and Blue Economy	Public entities (including cities), private entities, international organisations	Fixed in call	Fixed case-by-case
Digital Europe Programme	CNECT	Calls relevant for the digitalisation of cities: local data platforms deployment, local digital twins, data space for climate-neutral communities		Calls for proposals	

SUPPORT TO FINANCING							
Programme	Involved	Support	Who can access	Preconditions	Amount	Time frame	Reporting
European City Facility	DG ENER CINEA	investment concept development for sustainable energy projects	Cities	SECAP or similar local energy/ climate action plan	Lump sum of 60k€ for any investment size	12 months	Final investment concepts
European Local Energy Assistance (ELENA)	EIB, DG ENER, DG MOVE	Hiring of experts / preparation of bankable projects/ technical assistance	Cities et alia	Programme above EUR 30 M	Up to 90% of technical assistance/project development costs.	2-4 years	Leveraging investment by 20 factor for sustainable energy projects, 10 factor for residential buildings and urban transport.

Joint Assistant to Support Projects in European Regions (JASPERS)	EIB, DG REGIO	Advice to support better project preparation for ESIF projects	Cities et alia				
LIFE (Energy)	DG ENER CINEA	PDA for sustainable energy project pipelines	Cities, public authorities, others	For investments around EUR 7,5M-50M	Other Action Grants: Co-funding 95%	2-5 years	Leverage factor of 20 for sustainable energy projects. LF 10 for residential buildings projects
Natural Capital Financing Facility - Technical Assistance	EIB, DG ENV, DG CLIMA	Technical assistance to access Natural Capital Financing Facility	Cities et alia	Focus on: ecosystems, impacts of climate change, financial sustainability, contribute to LIFE, meet EIB criteria.	Up to EUR 1 M per project		
Smart Cities Marketplace (merge of EIP-SCC Marketplace and Smart Cities Information System)	Service Contract coordinated by DG ENER (in collaboration with DGs MOVE and CNECT)	In the frame of shape and deal meetings to close deals for financing of concrete projects	Cities, businesses, financing community, researchers	None	variable, depending on the deal prepared/closed during the matchmaking process	variable	reporting on the outcomes of the matchmaking process in the form of aggregated figures
URBIS	EIB, DG REGIO	Technical assistance and advice on accessing EFSI	Cities et alia	Urban Agenda targets, advice for an integrated urban investment programme: short/medium term, investments are typically >EUR 20 M.		3-5 years	

100 Intelligent Cities Challenge	DG GROW	One to one strategic guidance to cities to shape visions and strategies; capacity building tools, blueprints, best practices, guides, peer-review mechanisms, KPIs for progress monitoring	Cities including their local stakeholders and civil society	Being a participant city in the Intelligent Cities Challenge	EUR 7,5 - 15 M (SMP) with potential of renewal	2-5 years	DG GROW
Affordable Housing Initiative	GROW, ENER	Support to local industrial partnerships, involving cities, to renovate social and affordable housing district following a holistic approach.	SMEs, cities, social housing providers	EU-level cross sectoral partnership set up through a call for proposals	EUR 1.2 M (SMP)+ 10 million Horizon Europe for lighthouse demonstrators		GROW, ENER
European Energy Efficiency Fund - Technical Assistance		Technical assistance to access European Energy Efficiency Fund	Cities et alia	Preselection companies to carry out the investment programme's implementation works. Tender within the 2 years of funding.		Open application, first come first served. Fast contract (> 2 months between application and signing. 2 years	If energy plan is not selected by the EEEF, the technical assistance is not reimbursed.

						support.	
--	--	--	--	--	--	----------	--

FINANCING						
Programme	Involved	Support	Who can access	Preconditions	Amount	Timeframe
Connecting Europe Facility - Blending Facility	DG MOVE, INEA, EIB, EBRD, National Promotional Banks (BG, FR, HU, PL, SI, ES, IT and discussions with BE; DE; NL; SE as of April 2020)	CEF Grant	Cities et alia	In line with TEN-T policy and CEF Regulation, Grant conditional to leveraging debt (min. EUR 5M), focus on green mobility (and ERTMS).	Minimum grant amount of EUR 1M. Co-funding rates from 10 to 20% for green mobile assets and supporting infrastructure.	Cut-off dates every 3 months, next one in mid-May 2020 and then up to February 2021 or until exhaustion of the budget.
Connecting Europe Facility - Debt Instrument	DG MOVE, ENER, CNECT, EIB. CLIMA for NER300 funds	EIB Debt / Quasi-equity products. Includes Future Mobility product for high risk deployment of innovative green mobility	Cities et alia	In line with Trans-European Network (TEN) policies.	EIB operation amount, usually higher than EUR 10M	Approval of operations under CEF-DI until end 2022. InvestEU to take over in next MFF.
European Fund for Strategic Investment (EFSI)	EC, EIB	Project loans, loans for R&I projects, equity, risk-sharing.	Cities et alia	Due diligence	Loans (up to 50% project cost, starting at EUR 25 M). Direct investment loans for large urban investment projects (>EUR 100 M).	Long-term. For smaller investments (<EUR 50 M) 3-5 years return plan.
European Structural and Investment Funds, in particular CF/ERDF	Managing authorities, DG REGIO	Possibility to fund FI from structural funds	Cities et alia	Project in line with operational programme of region/ares.	Co-funding fixed case-by-case	
Green Economy Transition: Green City Action Plan	EBRD	Variety of instruments: credit lines, loans, equity.	Cities (mainly EU 13 countries and non-	>100k inhabitants, identification additional financial	variable	Variable, typically 10 years targets

			EU)	sources, tutor/train new stakeholders		
Invest EU	EC, EIB					
Just Transition Fund (2021-2027)	REGIO	Primarily provides grants	Territories most affected by the climate transition	In line with territorial just transition plans; focus on economic diversification as well as on reskilling and active inclusion of workers and jobseekers	Co-financing fixed according to category of region in which projects are located	
Municipal Loans	EIB	Large project-specific loans and multi-component loans	Cities et alia	Project investment costs > EUR 25 M. Economically, technically and environmentally sound. Financing condition depend on security offered by third parties (i.e. banks).	Large projects: up to 50% of total cost (public and private promoters), on average 33%. Most flexible loans available for cities.	3-5 years
Natural Capital Financing Facility	EIB, DG ENV, DG CLIMA	direct and/or intermediate debt financing and equity investment funds depending on project types and conditions	Cities et alia	Focus on: ecosystems, impacts of climate change, financial sustainability, contribute to LIFE, meet EIB criteria.	Finance Facility: loans and equity EUR 2-15 M. Debt financing: up to 75% total project costs. Equity: up to 33%	
Smart Cities Marketplace (merge of EIP-SCC Marketplace and Smart Cities Information System)	Service Contract coordinated by DG ENER (with MOVE and CNECT)	In the frame of shape and deal meetings with the aim to close deals for financing of concrete projects	Cities, businesses, financing community, researchers	None	variable, depending on the deal prepared/closed during the matchmaking process	variable

Blue Invest Platform under the European Maritime, Fisheries and Aquaculture Fund	DG MARE	Grants	SMEs	market- and investment-ready SMEs with innovative products, technologies and services for the blue economy	BlueInvest call 2020: EUR 20 M	
European Energy Efficiency Fund	EIB, EC, Cassa Depositi e Prestiti, Deutsche Bank	senior and junior debt, mezzanine instruments, guarantees, and equity as well as leasing structures and forfeiting loans	Cities et alia	Investments must achieve at least 20% primary energy savings for EE projects, Investments in the transport sector will also target a 20% reduction of CO2 emissions. Project size: EUR 5-25 M		

A complete overview of EU R&I activities and initiatives targeting cities is available at <https://op.europa.eu/en/publication-detail/-/publication/9fb7a8ce-aefa-11e7-837e-01aa75ed71a1>