



Study supporting the assessment of EU Missions and the review of mission areas

Mission Climate-neutral and smart cities
assessment report

**Independent
Expert
Report**

Study supporting the assessment of EU missions and the review of mission areas EU Mission Climate-neutral and smart cities assessment report

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Study supporting the assessment of EU Missions and the review of mission areas

Mission Climate-neutral and smart cities assessment report

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Table of contents

KEY DEFINITIONS, ACRONYMS AND GLOSSARY	6
ABSTRACT	9
RÉSUMÉ	9
EXECUTIVE SUMMARY	10
1. Introduction	13
1.1. Scope and aim of the assessment	13
1.2. Overview of the methodology for the assessment	14
2. Background and scope of the mission	15
2.1. Timeline of mission selection, design and implementation	15
2.2. Mission goal and objectives	17
2.3. Governance structures	18
3. Assessment of findings	20
3.1. Assessment of mission selection process	20
3.2. Assessment of mission formulation and scope	21
3.2.1. Climate neutrality: scope of emissions	22
3.2.2. 2030: temporal scope	23
3.2.3. Selection of cities: geographical scope	23
3.3. Assessment of governance structures and management arrangements	25
3.3.1. Governance structures in the EC	25
3.3.2. Multi-level governance arrangements	26
3.4. Assessment of mission's implementation to date	28
3.4.1. Intervention logic	28
3.4.2. Theory of change	30
3.4.3. Portfolio of instruments and actions mobilised	33
3.4.4. Budget for the mission's implementation	46
3.5. Progress towards meeting the mission's goals	49
4. Conclusions and future options	53
4.1. Overall conclusions	53
4.2. Options for the mission's future development	55

5. Annexes 60

5.1. List of held interviews 60

5.2. References 61

5.3. Survey tables – responses for Cities Mission 64

5.4. Annex 4. Portfolio of instruments 78

Table of figures

Figure 1. Simplified overview of the methodological framework for the mission assessment	14
Figure 2. Timeline of the mission	16
Figure 3. Governance structures for the EU mission Smart Cities	19
Figure 4. Transparency and inclusiveness of mission selection process (N=80)	21
Figure 5. The mission has been selected in a transparent and inclusive manner (N=80)	22
Figure 6. The governance set up is suitable for steering the mission (N=73)	25
Figure 7. State of implementation of policies at the national, regional, and local level (N=64)	27
Figure 8: Simplified intervention logic according to the smart cities implementation plan	29
Figure 9. Theory of change of the Cities Mission	31
Figure 10. Horizon Europe projects dedicated to the Cities Mission (Work Programme 2021-2022)	37
Figure 11. Beneficiary organisations for HE instruments under the Cities Mission up to April 2023	37
Figure 12: Horizon Europe projects dedicated to the Cities Mission (Work Programme for 2023)	39
Figure 13. EU Cohesion Policy 2021-2027: Specific Objectives (SOs) relevant to Cities Mission	41
Figure 14. Portfolio of important instruments and actions mapped against the two general mission goals	44
Figure 15. Main barriers to mobilising stakeholders and citizens (N=75)	45
Figure 16. Are the available resources sufficient to realise the mission objectives (N=75)	47
Figure 17. Value-added of the Cities Mission (N= 80)	47
Figure 18. The mission is progressing in line with the implementation plan objectives (N=80)	50
Figure 19. The mission's overall objective is achievable by 2030 (N= 80)	52

Figure 20. Mapping progress and immediate challenges against the seven mission specific objectives

59

KEY DEFINITIONS, ACRONYMS AND GLOSSARY

Abbreviation/Acronym	Definition
CCAM	Connected, Cooperative and Automated Mobility
CCC	Climate City Contracts
CEF	Connecting Europe Facility
CINEA	European Climate, Infrastructure and Environment Executive Agency
C40	Global network of nearly 100 mayors of the world's leading cities
DG	Director General or Directorate General
DG REGIO	Directorate-General for Regional and Urban Policy
DG MOVE	Directorate-General for Mobility and Transport
DG ENER	Directorate-General for Energy
DG RTD	Directorate-General for Research and Innovation
EAFRD	European Agricultural Fund for Rural Development
EC	European Commission
EIB	European Investment Bank
EIT KIC	European Institute of Innovation and Technology
ELENA	European Local Energy Assistance
EMFAF	European Maritime and Fisheries Fund
ERDF	European Regional Development Fund
EFSI	European Fund for Strategic Investments

Abbreviation/Acronym	Definition
ETS	European Emissions Trading Scheme
EOI	Expression of interest
ETS	European Emissions Trading Scheme
EU	European Union
EUI	European Urban Initiative
FPA	Framework Partnership Agreement
GPC	The Global Protocol for Community-Scale Greenhouse Gas Emission Inventories
GHG	Greenhouse gases
GKEC	Global Knowledge Economics Council
GPC	Global Protocol for Community-Scale Greenhouse Gas Emissions Inventories
HE	Horizon Europe
Interreg Europe	An interregional cooperation programme, co-funded by the European Union.
InvestEU	Programme supporting investment, innovation and job creation in Europe
JRC	Joint Research Centre
JASPERS	Joint Assistance to Support Projects in European Regions
KOMMUNINVEST	Swedish Local Government Funding Agency
MEL	Monitoring, Evaluation, and Learning
MS	Member State

Abbreviation/Acronym	Definition
NetZeroCities platform	NetZeroCities is funded by Horizon Europe in support of the European Union's Green Deal
NPBs	National Promotional Bank
NRRP	National Recovery and Resilience Plans
OECD	Organisation for Economic Cooperation and Development
PED	Positive clean Energy District
PO	Policy Objective
R&I	Research and innovation
RRF	Recovery and Resilience Facility
SO	Specific Objectives
ToC	Theory of Change
URBACT	Platform to help cities to develop an integrated set of actions for sustainable change
UN SDGs	United Nations Sustainable Development Goals
WP	Work Programme
2Zero	Towards zero emission road transport partnership

ABSTRACT

Focusing on cross-sectoral, systemic, and place-based solutions, the 'Cities Mission' represents a major effort to achieve climate neutrality in specific urban environments and identify the key levers in the governance and achievement of urban transitions towards climate neutrality. This intervention is significant and timely because many cities have already defined ambitious climate targets and long-term visions but are confronted with an 'implementation gap' and challenges that they will not be able to address on their own.

In less than two years, the Cities Mission has been able to bring together 112 European cities from Member States and associated countries, with more cities soon to be added through a 'twinning' programme. In addition, several Member States have set up their own platforms and programmes in support of the mission to extend support to non-selected cities. In addition to a growing network, the Cities Mission has also delivered tangible results in the form of a transnational NetZeroCities platform and the publication of the first climate cities contracts, which outline city-level transformation pathways and investment plans to achieve climate neutrality by 2030.

RÉSUMÉ

Axée sur des solutions intersectorielles, systémiques et locales, la Mission Villes représente un effort majeur pour démontrer la neutralité climatique dans des environnements urbains spécifiques et d'identifier les leviers clés de la gouvernance et de la réalisation des transitions urbaines vers la neutralité climatique. Cette intervention est importante et opportune car de nombreuses villes ont déjà défini des objectifs climatiques ambitieux et des visions à long terme, mais sont confrontées à un déficit de mise en application et à des défis qu'elles ne seront pas en mesure de relever seules.

En moins de deux ans, la Mission Villes a pu rassembler 112 villes européennes des États membres et pays associés, auxquelles s'ajouteront bientôt d'autres villes grâce à un programme de 'jumelage'. En outre, plusieurs États membres ont mis en place leurs propres plateformes et programmes de soutien à la mission afin d'étendre l'aide aux villes non sélectionnées. Outre un réseau en pleine expansion, la mission sur les villes a également produit des résultats tangibles sous la forme d'une plateforme transnationale NetZeroCities ainsi que la publication des premiers contrats de villes climatiques, qui décrivent les voies de transformation et les plans d'investissement à l'échelle de la ville pour atteindre la neutralité climatique d'ici 2030.

EXECUTIVE SUMMARY

CITIES MISSION: FROM LAUNCH TO FIRST DEPLOYMENT STAGE

Climate neutrality entails achieving net-zero emissions by absorbing more emissions than we emit, on the one hand, by drastically reducing our emissions, while increasing the removal of carbon from the atmosphere, on the other. The EU's Climate-Neutral and Smart Cities Mission (hereafter Cities Mission) is a major effort to demonstrate that climate neutrality can be achieved in specific urban environments. The mission has two overall objectives:

- To deliver at least 100 European climate-neutral and smart cities by 2030, and
- 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.

The mission aims to identify the key levers in the governance and implementation of urban transitions towards climate neutrality, focusing on cross-sectoral, systemic, and place-based solutions. This intervention is significant and timely because many cities have already defined ambitious climate targets and long-term visions but are confronted with an 'implementation gap' and funding or capacity challenges they are not be able to address on their own.

ASSESSMENT OF SELECTION PROCESS AND SCOPE

The focus on scope 1 and 2 emissions (those generated within a territory) is justified given the timeframe for the first mission goal. The mission board's proposal to tackle remaining, indirect (scope 3) GHG emissions beyond 2030 is reasonable as it is much more difficult for city authorities to influence these emissions. Tackling direct and indirect emission at the same time would overburden city administrations and render the 2030 objective unrealistic.

Nevertheless, there is a need for greater consistency in communicating on the mission's objectives regarding the relevance of scope 3 (indirect) emissions. Moreover, there may be a need to address potential inconsistencies between climate-neutrality policies in cities and national and international efforts on emission-reductions in industrial value chains. A second issue is that the stakeholders' experience 'on the ground' suggests that the mission formulation is somewhat too abstract and technical for many citizens. The most successful cities 'translate' the mission goals in a clearer language that is relevant for local communities.

ASSESSMENT OF GOVERNANCE STRUCTURES AND MANAGEMENT ARRANGEMENTS

The Cities Mission rightly places a strong emphasis on citizen engagement. The mission board consulted citizens ahead of the mission's implementation. Citizen engagement remains a challenge with the need for new innovative methods to involve citizens to be developed. Indeed, different levels of commitment are observed across the Member States. There is consensus among stakeholders that Member States will need to become more active for the mission to succeed. In this context, city representatives stressed that the European Commission could do more to communicate on and provide political leadership, at high levels, in support of the mission and thereby create political legitimacy for ambitious climate action in the selected cities.

City level administrations often lack the skills and time to interact adequately with the mission platform, develop the necessary systemic changes in a participatory way and interact with other cities. National networks of stakeholders can be an important mechanism as neutral intermediaries between the European and local governance levels, but their role should not be overestimated as the capacity to deliver is needed in the cities to develop workable projects. The Commission's role will also be important once the Climate City Contracts (CCC) have been adopted. There is a need to provide support to cities, ensure a political commitment and clear division of roles and responsibilities, as continuity of action and investment is key to achieving climate neutrality.

Interdepartmental coordination is needed not only at the local and national levels, but also at EU level. The Cities Mission has successfully engaged multiple directorates-generals (DGs) in the formulation and design of the mission. New governance arrangements have been developed, centred on a mission owners group with 12 DG representatives. The mission platform also represents a wide range of expertise, with 33 organisations participating and with support from the EIB. This means that the governance structures put in place include a balanced mix of interests and expertise. However, it could be useful to involve potential financiers beyond the EIB (pension funds, etc.) to learn under what circumstances they would be willing to invest in urban projects. Given that the implementation of the mission requires a mix of research and innovation (R&I) funding and financing for scalable investment projects, with the emphasis on investment (as around 80% of the solutions are already in place and ready to be scaled up), it may be advantageous for the Cities Mission to be co-managed by several Commission directorate-generals (DGs) (R&I, regional policy, mobility, environment, energy) to ensure effective mainstreaming of the mission in funding instruments.

ASSESSMENT OF THE INTERVENTION LOGIC

The mission goals are aligned with the objectives of the European Green Deal, Horizon Europe and the UN's sustainable development goals (SDGs). The challenges identified are suitably strategic and the implementation plan defines a list of specific objectives coherent with the challenges. One issue, highlighted by stakeholders, is the relatively strong emphasis on the role of R&I in the mission framing, given that many solutions are ready for implementation but need to be massively scaled up (housing, mobility, energy, etc.). Indeed, too much emphasis on R&D, in a first instance, could divert scarce local capacity away from new governance models and partnerships for large-scale investment.

The first implementation plan runs until the end of 2023, by when most CCC are expected to be ready. These CCC will provide a clearer picture of the measures needed to achieve the mission's objective, which should lay the foundation for a revised or updated implementation plan for the remaining period until 2030. The intervention logic (theory of change) of the mission suggests that the EC's role in mission implementation will remain important for much of the remaining time until its completion. However, the nature of its activities will likely change from providing infrastructure, to ensure that there are sufficient capacities in the cities to implement the mission. It will be critical to enable access to funding by leveraging and maintaining political support at national and local levels to react to changing circumstances.

ASSESSMENT OF THE PORTFOLIO OF INSTRUMENTS AND FUNDING

The process of developing the CCC is seen as innovative by city representatives. There is a greater focus on outcomes rather than processes, as in standard policies. It also pushes cities to develop investment plans that consider other sources of (private) funding, rather than just public funding. An important added value of the CCC process may be the definition of projects as part of an overall implementation plan, making them the focus of attention and

discussion for policy makers and potential investors. For this to happen, they need to meet the finance sector's quality standards, which will probably be difficult at the beginning, but can be improved over time. An option would be to introduce regular resubmissions and re-evaluation of contracts over time.

Horizon Europe is only part of the mission's portfolio. However, it has reserved EUR 360 million in seed funding over the period 2021-2023 to support the mission's implementation. Overall, the implementation of the Cities Mission is much less reliant on the traditional Horizon programme 'portfolio of projects' than previous EU support for R&I in cities. The Cities Mission will need to rely mainly on other policy instruments at EU level, as well as instruments at national, regional and local levels in Member States, and significant private sector investment. The challenge is to design coordinated financial support from different sources and to make the mission label effective as a 'brand' attracting investment.

While the label can probably be arranged for Horizon Europe calls, where DG RTD has a direct influence, it is more difficult for the large funding programmes managed by other DGs. Even if some first successes can be observed in this direction, it is still hard to foresee how a mission label could provide more than a pointer to funders, e.g. the European Structural and Investment Funds (ESIF) with its various objectives, or the Recovery and Resilience Facility (RRF), and especially to private investors. The latter rely on credit ratings by the rating agencies and their own risk assessment. However, experts consulted consider that the mission label will contribute to cities' ability to raise their profile on green issues with both their citizens and domestic and international financiers.

ASSESSMENT OF PROGRESS TOWARDS MEETING THE MISSION'S GOAL

Although partly delayed, all the governance building blocks envisaged in the implementation plan are now in place and working. The first CCC have been submitted in April 2023. Now, the challenge is to make sure that the instruments put in place deliver what is expected from them. The launch of the mission generated significant interest among European city administrations, leading to 377 (362 eligible) EOI from cities. The high number of applications made it possible to select at least one city from each Member State and consider cities of various backgrounds, including cities from eight associated countries.

Even though it is still early stage, the Cities Mission has been able to deliver tangible outcomes and foster multiple responses across different stakeholder groups. Several Member States responded to the mission by launching national platforms, networks and funding schemes in support of the mission and its wider objective to inspire actions across European cities.

As the mission requires a systemic response, an added value at the local level has so far been that it forces departments in cities to work together horizontally and reach out to stakeholders and citizens because it is not possible to deliver the results otherwise. Whether the mission succeeds depends largely on what is offered to the cities as support and whether the multi-level governance model can be sufficiently flexible in supporting them so that the cities are empowered to deliver the necessary scale-up.

1. Introduction

1.1. Scope and aim of the assessment

In November 2022, the Directorate-General for Research and Innovation (DG RTD) commissioned a study supporting an assessment of the EU Missions, the review of mission areas and the analysis of the missions' portfolio of instruments and actions. The study was coordinated by EFIS Centre in co-operation with experts from the University of Utrecht, KMU Forschung Austria, Visionary Analytics and Claire Nauwelaers.

The five EU missions are:

1. Adaptation to Climate Change: Support at least 150 European regions and communities to become climate resilient by 2030.
2. Cancer: Improving the lives of more than 3 million people by 2030 through prevention, cure and for those affected by cancer including their families, to live longer and better.
3. Restore our Ocean and Waters by 2030.
4. 100 Climate-Neutral and Smart Cities by 2030.
5. A Soil Deal for Europe: 100 living labs and lighthouses to lead the transition towards healthy soils by 2030.

This assessment report assesses four key dimensions for each mission:

1. The selection process, the governance structure and functioning arrangements.
2. EU missions' policy focus, progress towards the fulfilment of each mission's objectives, including policy objectives, and contribution to the goals of Horizon Europe.
3. EU missions' funding arrangements and their evolution over time, including budget appropriations on EU missions allocated through Horizon Europe, other EU funding programmes, national, regional and private funding.
4. An analysis of the intervention logic and portfolio of instruments and policy actions foreseen by each mission implementation plan, within Horizon Europe and beyond.

Following this introduction and a short summary of the methodology, the second chapter of the report provides a factual background to the mission (design and implementation, goal and objectives and governance).

The third chapter presents the assessment findings including the mission selection process, governance structures and management arrangements, the budget and funding for the mission's implementation and progress towards meeting the mission's goals. It also includes an assessment of the intervention logic and portfolio of instruments and actions mobilised. A final chapter provides a set of overall conclusions and future policy options for the mission.

1.2. Overview of the methodology for the assessment

The assessment process (Figure 1) was based on applying of set of primary and secondary research methods to address the four dimensions mentioned above.

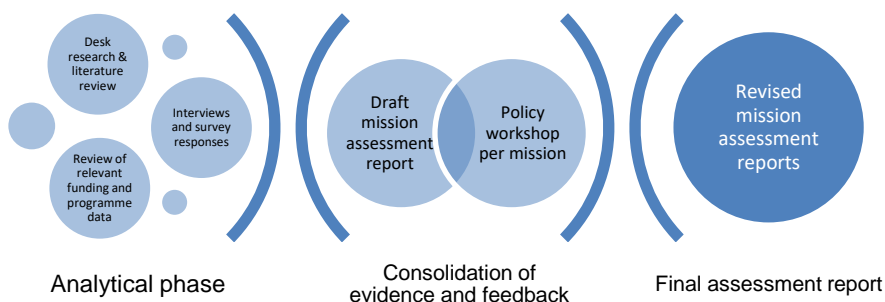


Figure 1. Simplified overview of the methodological framework for the mission assessment

Source: own elaboration

In terms of secondary research, the study team has drawn on:

- Insights derived from a literature review of academic articles carried out for the five missions. The full literature review is annexed to the final study report.
- Evidence from desk research covering technical (e.g. economic, research and innovation, environmental) studies, policy reports and grey literature.
- Relevant data on funding (Horizon Europe, other EU level programmes, national or regional programmes, where available).

In terms of primary research, the following methods were applied to collect the views and opinions of a broad group of Cities Mission stakeholders:

- 13 interviews with 16 interviewees in total were conducted (not including EC mission secretariat) and 14 interviews with 19 interviewees (counting EC mission secretariat) (see Annex 5.1. List of interviewees and the final study report for synthesis of interview results).
- 80 responses for the Cities Mission to a survey conducted by the study team (see Annex 5.3. Survey tables and the final study report for a synthesis of the survey results).
- An online policy workshops held on 11 April 2023 attended by 24 stakeholders (see final study report for a detailed description and synthesis of workshop results).

The quantitative and qualitative data and evidence collected has been triangulated¹ (for instance opinions of interviewees, survey participants reply to open questions, or workshop participants are linked, wherever possible, to the studied academic literature, grey literature and/or relevant statistical data or other quantitative evidence) to provide as strong and robust an evidence base as possible for the review. A fuller explanation of the methodology for the entire study and relevant annexes (such as the literature review, survey results, etc.) is available in the overall final study report.

2. Background and scope of the mission

2.1. Timeline of mission selection, design and implementation

The mission “100 Climate-Neutral and Smart cities by 2030” (hereafter, Cities Mission) was launched in September 2021 to focus research and innovation (R&I) initiatives in Horizon Europe and align policies across different sectors and levels of government to deliver climate neutrality in European cities (European Commission 2021a). Focusing on cross-sectoral, systemic, and place-based solutions, the Cities Mission represents a major effort to demonstrate climate neutrality in specific urban environments and identify the key levers in the governance and realisation of urban transitions towards climate neutrality.

The Cities Mission supports **100 cities from all EU Member states and 12 cities from associated countries** (European Union 2022b), which began to prepare implementation and investment plans for their respective pathways to climate neutrality following their selection in the first half of 2022. The selection of cities was preceded by an extensive design process during which the mission was formulated and translated into an operational implementation plan (see timeline in Figure 2). For the first stage of the development process, a **mission board** was appointed with the task to develop a proposal for a realistic and ambitious mission within the mission area of “climate-neutral and smart cities”. Following an open call for applications, the EC appointed 15 high level experts as members of the mission board who brought together expertise from varied backgrounds including urban governance and green finance. Over a period of 12 months between September 2019 and 2020, the mission board convened on a regular basis, consulted experts and stakeholders,² and engaged with citizens to propose a mission that would address the main challenges of cities and meet broad support among different stakeholder groups. Mission board members participated in 13 citizen engagement events and 10 stakeholder events (Gronkiewicz-Waltz et al. 2020).

Timetable	Action
Q3 2017	Publication of the Lamy Report on missions as a new cornerstone of EU R&I policy (Horizon Europe, 2021-2027)
Q3 2018	EC/EP propose five mission areas, including “Climate-Neutral and Smart cities”
Q3 2019	Mission board begins with the development of the mission

¹ Methodological triangulation involves using more than one kind of method to study a research question or hypothesis. It has been found to be beneficial in providing confirmation of qualitative and quantitative findings, increased validity and enhanced understanding of studied questions.

² The evidence and citizen engagements upon which the mission selection process was based are reviewed in D4/D7.

Timetable	Action
Q1 2020	Mission board releases an interim report on the proposed mission
Q3 2020	Mission board presents the proposed mission at the EU R&I days
Q3 2020	EC begins to develop the implementation plan
Q3 2021	Publication of implementation plan
Q4 2021	Implementation of NetZeroCities platform
Q4 2021	Launch of call for expressions of interest (EOI) and publication of info kit for cities
Q1 2022	Closing of EOI and selection of 112 cities
Q2 2022	Announcement of selected cities
Q2 2022	Kick-off conference with selected cities
Q3 2022	NetZeroCities platform launches call for pilot cities
Q4 2022	Installation of a new mission board with old and new members
Q4 2022	Publication of Cities Mission Work Programme for 2023
Q1 2023	Selection of 53 pilot cities
Q2 2023	First cities expected to sign climate city contracts
Q2 2023	Conference with mayors and local transition teams of all mission cities in Brussels

Figure 2. Timeline of the mission

Source: documentary evidence reviewed by authors

In its final proposal, the mission board proposed a mission entitled “100 climate-neutral cities by 2030 – by and for the citizens” (Gronkiewicz-Waltz et al. 2020). The proposal **narrowed the scope of the mission by suggesting a clear time frame, quantitative target, and a strong emphasis on citizen engagement and co-benefits for citizens**. The basic constituents of the mission, in particular the number of cities and the timeframe, were chosen at a very early stage in the development process, in the first meetings of the mission board. The board was conscious that the formulation of the mission would need to be closely linked to the mission area as defined by the European Parliament and the European Council. Furthermore, the idea of a mission of “100 climate-neutral cities by 2030” had already been elaborated in a report prepared for the EC by Professor Mazzucato and been put in place in

a previous transnational mission initiative entitled 'healthy, clean cities' (see the mission area review report). Both were important sources of inspiration for the selection of the mission.

The **mission board deemed 2030 a necessary and realistic time frame** for achieving climate neutrality in selected cities, arguing that “technologies and innovative solutions for sustainable energy, transport, food, water and material systems already exist – and more options will be available in the years to come due to Horizon Europe and national R&I programmes” (Gronkiewicz-Waltz et al. 2020, S. 9). The timeframe was contested by some board members, but the general feeling was that an ambitious goal can have performative effects in mobilising the instruments and policies necessary for effective climate action. The foresight study prepared for the mission board concluded that achieving 100% climate-neutral cities would be “ambitious, realistic and economically viable” but did provide an assessment of the timeframe within which this could be achieved (Dinges et al. 2021, S. 17).

Although the notion of ‘smart’ was dropped and de-emphasised vis-à-vis the definition of the mission area, the mission board’s report made clear that smart technologies and systems would need to play an important role, **the EC did not follow all suggestions, opting instead to reintegrate ‘smart’ and leave out the proposed add-on ‘by and for the citizens’**. The decision was made to respect the framing of the mission area, which was the result of a high-level political negotiation process and involved all Member States. The different nuances and emphasis on technological solutions in the implementation plan on the one hand and the involvement of citizens and social innovations in the mission board’s proposal on the other hand, also run through the proposed sets of instruments and activities (see section 3.4.3).

2.2. Mission goal and objectives

The mission has **two general objectives**, (1) ‘to deliver at least 100 European climate-neutral and smart cities by 2030’, and (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’. The mission goals were suggested by the mission board and fully taken on board by the EC. The implementation plan breaks the two general objectives of the mission down into **seven ‘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 R&I pilots and demonstrators within the mission platform to 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 National Promotional Banks (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.

2.3. Governance structures

A central aim of the mission is to establish a better coordinative system for climate actions at the city level and ignite innovations in European multi-level governance structures (European Commission 2021a). To overcome fragmentation and the silo approach at all levels of government, **the EC set up multiple organisational and task-specific units to bring together the different know-hows, perspectives, and authorities needed to develop policies for cross-sectoral innovation** (for an overview, see Figure 3).

At the strategic level, the mission is led by a **mission manager** and **deputy manager**, each of which is in different DGs (DG Environment and DG RTD, respectively). The manager and deputy were responsible for the development of the implementation plan, monitor the overall progress of the mission, and take on a coordinative role in managing the project portfolio, operational activities, and relations with Member States and regional initiatives. Additional strategic intelligence is in the **mission owners group**, which includes representatives from CINEA and 12 DGs. This body proposes R&I needs for the mission, prepares the mission's work programme, and discusses how other EC instruments can be used to contribute to the mission's objectives. Different DGs are also represented in the mission secretariat, which takes on operational responsibilities. According to EC representatives, the strong involvement and frequent (weekly) interactions between multiple DGs is very unusual in the EC and can be considered an important step towards revised governance structures in European R&I policy.

The implementation of the mission also benefits from inter- and transdisciplinary arrangements. The DG RTD clean planet directorate, which hosts the **mission secretariat**, uniquely combines know-how from different fields such as transport and energy.

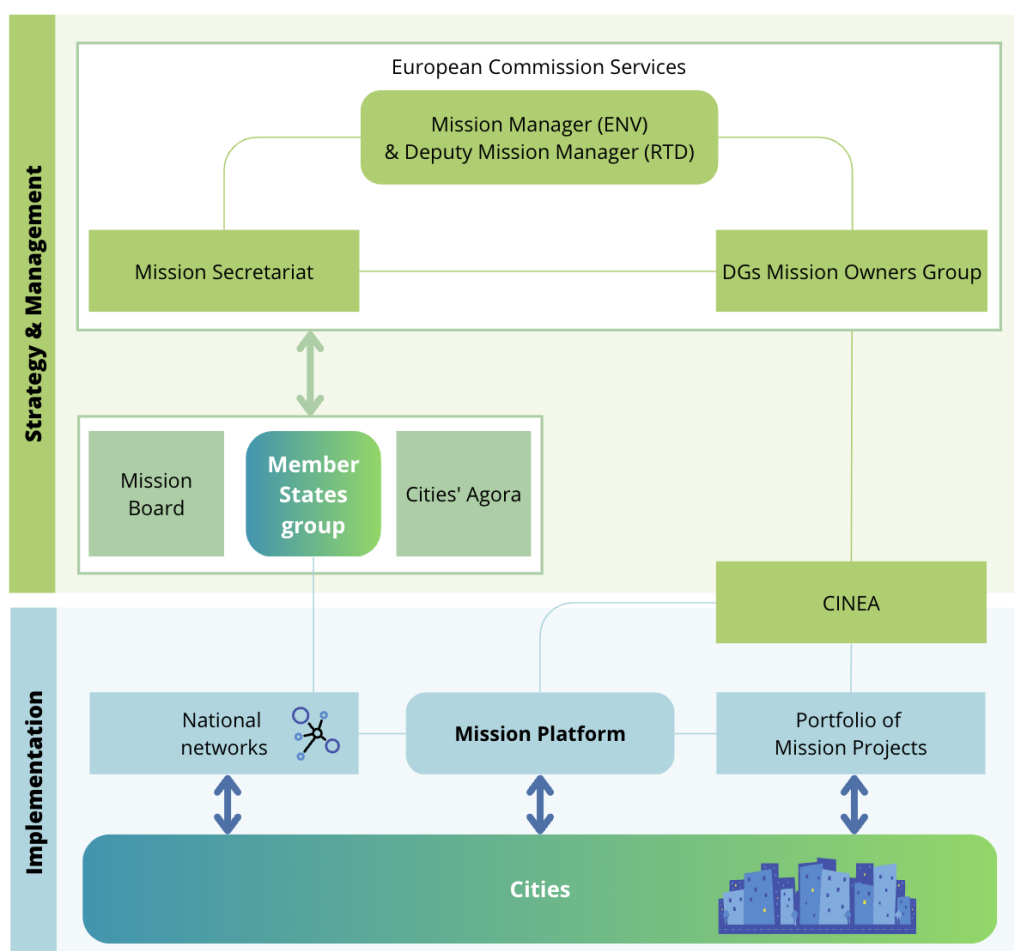


Figure 3. Governance structures for the EU mission Smart Cities

Source: visualisation prepared by the study team

Furthermore, 15 experts³ from diverse backgrounds including urban governance, sustainable finance, clean mobility, environmental assessment, and public policy bring in their expertise as members of the **mission board**, which serves as an advisory body and sounding board to the management team. The mission board also plays an important role in reaching out to stakeholders in their respective countries and cities. The remaining competences are in the members of the **NetZeroCities platform**, which coordinates actions and facilitates knowledge sharing across cities. The platform is a service of a four-year Horizon 2020 project that involves 33 organisations distributed across Member States. In addition to EIT Climate-KIC, who act as coordinators, the consortium encompasses four universities, three think-tanks, eight research organisations, five companies and consultancies, and twelve city networks. The project represents a significant effort towards cross-national knowledge sharing, bringing together many national networks and organisations that have not collaborated previously.

³ The second mission board has been in place since October 2022 (European Union 2022c).

The EC has also begun to interact more intensively with both individual **cities** and city networks, giving cities new opportunities to have their voices heard at the level of the EU⁴. The bottom-up approach of developing the mission, which included interactions with city representatives, represented a departure from the established, more expert-based approach in formulating R&I programmes at DG RTD⁵. To continue dialogues beyond the formulation of the mission, the implementation plan foresees the establishment of the agora, a body supposed to include representatives from cities and their respective regions and national governments. While the agora is yet to be put in place, the EC has been organising conferences to get in direct contact with cities in the early phase of implementation.

3. Assessment of findings

3.1. Assessment of mission selection process

The literature on mission-oriented innovation policy stresses the importance of considering a wide range of stakeholders and involving citizens in the co-design of missions to give societal ownership and ensure the longevity of the mission. The one-year development process leading up to the final report of the mission board provided opportunities for both leading experts and local stakeholders to participate in the selection process.

As far as experts are concerned, the mission board represented a powerful instrument for bringing together expertise from varied domains and developing a cross-national expert community dedicated to the success of the mission well beyond the development process. The commissioning of a foresight study running in parallel to the development process made sure that the mission board could rely on independent expert support and feedback throughout the whole process. The mission board specifically gathered experiences from frontrunner initiatives such as the Swedish ‘viable cities’ programme and the transnational ‘healthy, clean cities’ mission, key elements of which have been taken up in both the mission board’s recommendations and in the final implementation plan. In so doing, the **EC was able to learn from previous initiatives and gain strong support from key stakeholders across Europe**. Our experiences from the consultation of experts and stakeholders confirm that the mission is being carried by a **highly motivated and dedicated group of individuals who have taken ownership of the mission**, many of which have been involved since the early stages of the mission’s development. Overall, most stakeholders participating in our survey judge the mission selection process as both transparent and sufficiently **inclusive**.

⁴ This information has been collected during the interview process carried out as part of the study methodology.

⁵ This information has been collected during the interview process carried out as part of the study methodology.

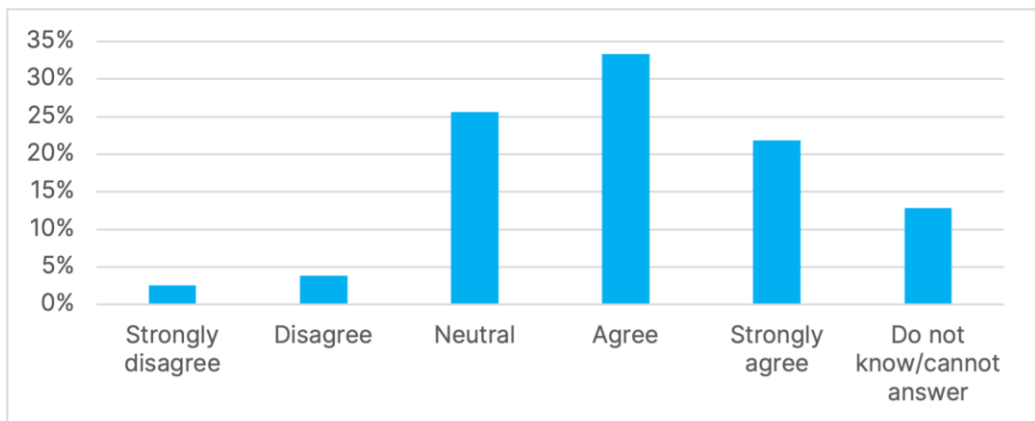


Figure 4. Transparency and inclusiveness of mission selection process (N=80)

Source: online survey conducted by the study team

With respect to the involvement of citizens, the board held a series of citizen engagement events, whereby care was taken to include participants from various socio-demographic backgrounds. Despite logistical challenges due to the COVID-19 pandemic, which required most stakeholder and citizen events organised by the mission board to take place virtually, it was possible to interact with urban residents from 13 cities and at least eight Member states. The feedback obtained from citizens provided confirmation to the mission board that the proposed mission would be met with societal acceptance and that a mission on climate-neutrality would address many key priorities for citizens. However, the citizen engagement did not have a visible impact on the mission formulation, the cornerstones of which were defined already prior to the commencement of engagement events.

Despite the involvement of citizens, the **formulation of the mission was predominantly based on expert judgments and political considerations** related to the mission's correspondence to the mission area as defined by the European Parliament and the European Council. The experience of consulted stakeholders working in cities reveal that 'climate-neutrality' and 'smart' are difficult to communicate to the public, suggesting that a more participatory and open-ended co-design process would have likely led to different formulations of the mission (see report on the review of the mission area). Furthermore, it is noteworthy that the mission board's proposed emphasis on citizens rather than smart solutions has not been taken up in the final formulation of the mission. **While transparent and inclusive with regard to high-level experts and stakeholders, the selection process thus only partially succeeded at developing a mission that is inspirational to citizens and exhibits 'societal ownership'.**

3.2. Assessment of mission formulation and scope

Whereas the formulation of the mission poses challenges in communicating the benefits of the mission to local citizens in the eyes of consulted experts, their own assessments of the mission are predominantly positive. Among survey participants, 80% agreed that the mission is "bold, inspirational and has the necessary scope" (see Figure 5). Indeed, the formulation of the Cities Mission represents an exemplary case of mission-oriented innovation policy, combining a holistic and highly ambitious vision with a clear target. This is still very unusual, as most mission-driven innovation policies emphasise either holistic agendas or clear targets but not both (see the mission area review report). In the following subsections, the mission's

scope is assessed along its three dimensions: the scope of emissions (relating to climate-neutrality), the temporal scope (2030), and the geographical scope (selected cities).

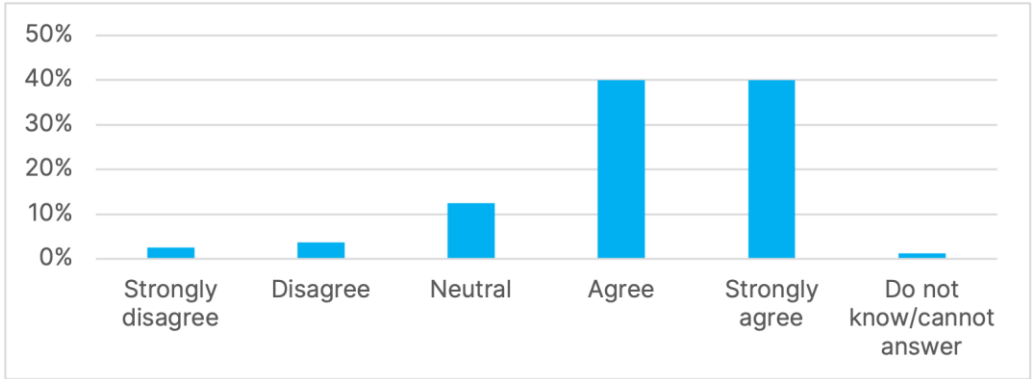


Figure 5. The mission has been selected in a transparent and inclusive manner (N=80)

Source: online survey conducted by the study team

3.2.1. Climate neutrality: scope of emissions

The EC followed the mission board’s proposal to **focus efforts on territorial (scope 1 and 2) GHG emissions⁶ and tackle remaining, indirect (scope 3) GHG emissions beyond 2030**, reasoning that it is much more difficult for city authorities to influence emissions along value chains (European Commission 2021a, S. 42); Gronkiewicz-Waltz et al. 2020, S. 23). The interviewees generally agreed with this assessment, adding that **addressing territorial and indirect emissions at the same time would overburden city administrations and render the 2030 objective completely unrealistic**. Some interviewees suggested that it may not be necessary to include indirect emissions within the scope of the mission since many cities are planning to take them into account regardless. However, other interviewees cautioned that this approach may incentivise the externalisation and outsourcing of production processes, potentially increasing the divide between cities and rural areas. Moreover, leaving out indirect emissions could cause conflicts with circular economy goals targeting emission-reductions along value chains. At this stage, it is too early to assess the likelihood that such conflicts will materialise, but scientific assessment of existing climate goals and targets at the city level suggest that **even ambitious cities may not take sufficient actions to address indirect emissions** (Vanhuyse et al. 2023). This poses (a long-term) risk for the alignment of climate neutrality in cities on the one hand and value chains on the other. An important means to mitigate such risks is to communicate the focus on territorial GHG emissions in a standard way. **The implementation plan** makes this focus explicit but **the treatment of indirect emissions was not consistently reported⁷** While the

⁶ Scope 1 and 2 include, amongst others, GHG emissions released into the atmosphere within city borders (e.g. from industrial processes, fuel consumption of transport vehicles) and those generated from purchased energy (e.g. consumption of electricity, heat). Climate-neutrality includes also 'negative' emissions (i.e. GHG removed from the atmosphere).

⁷ The implementation plan states that “cities already consume over 65% of the world’s energy and account for more than 70% of global CO2 emissions” with reference to estimates reported on the website of C40 and with a footnote explaining that this figure includes indirect GHG emissions (European Commission, 2021a, S. 6). In other communication materials and reports, the same evidence is presented without explanation (European Commission, 2021b, S. 1; Gronkiewicz-Waltz et al., 2020, S. 6). Furthermore, the notion “climate-neutral” has been retained in the mission title and communication materials despite being broader in scope than the more accurate term “net-zero GHG emissions” (see glossary in IPCC, 2022).

neglect of indirect emissions does not fundamentally affect the relevance and boldness of the mission (see assessments of survey participants in annex), using a more encompassing accounting framework in the communication of the mission nonetheless risks that a significant share (Wiedmann et al. 2021)⁸ of city-related GHG emissions will be overlooked in European and urban climate policy (Shabb et al. 2022)⁹. However, to address such concerns, the mission 'Info Kit' recommends that transport related scope 3 emissions are considered by 2030 (waste/waste-water related scope 3 emissions already being included from the outset). The Info Kit is explicit about the exclusion of other scope 3 emissions, but states that the mission will "re-evaluate the possibility of including other Scope 3 emission sources in the post-2030 era, when leading cities have achieved climate neutrality as currently defined".

3.2.2. 2030: temporal scope

Although a clear time frame represents a core element of mission-oriented innovation policy (Mazzucato 2018), some interviews and the stakeholder workshop indicate that this element is **not fully embraced by all stakeholders involved in the implementation of the mission**. A recurrent theme in interviews was that the 2030 goal should not be overrated vis-à-vis the long-term objective of European cities to become climate-neutral by 2050. Several interviewees and workshop participants emphasised that processes would be more important than outcomes and that the focus should be on collective learning rather than on producing immediate results. With 2030 approaching fast and the goal looking increasingly unrealistic for all 100 cities (see Section 2), some voiced concerns that failing to meet the goal could undermine the legitimacy of an initiative that has already taken significant steps towards meeting the important long-term objective. Furthermore, it was suggested that **the strict time frame and monitoring procedures of the mission can have a flavour of top-down control** if it is not accompanied by sufficient support for cities to make the mission's goal attainment realistic.

3.2.3. Selection of cities: geographical scope

In terms of geographical scope, the EC followed the mission board's recommendation to adopt a flexible definition of cities to take into account varied geographical delimitations (e.g. districts, cities, city agglomerations) and city sizes across Member states (European Commission 2021a). While this comes at the cost of creating uncertainties regarding monitoring and implementation procedures (Shabb et al. 2022), the approach is more conducive to the long-term objective of achieving climate-neutrality in all European cities.

Furthermore, cities are at different stages in the transition to climate neutrality and face varied challenges depending on factors such as local political support, the roles of civil society and research organisations, and the conditions of the built environment (Haupt et al. 2022, Huovila et al. 2022, Pietrapertosi et al. 2019, Reckien et al 2018). To address this diversity and create the conditions for large-scale implementation across European cities the Cities Mission is based on a "demand-led" and broad-based approach to transformation that takes the individual needs of cities with different local conditions as a starting point (European Commission 2021a). In creating a pathway that links the activities of 'frontrunner' cities with the wider ambition of realising climate neutrality across all European cities by 2050, **the Cities Mission adds an important element to previous cross-city initiatives that addresses recent calls in the scientific community to turn attention in climate**

⁸ In global cities, indirect emissions account for approximately 30% of consumption-based GHG emissions

⁹ Shabb et al. (2022) also take note of ambiguities in the implementation plan regarding scope of the mission due to inconsistent use of the notions of "climate neutrality" and "carbon neutrality".

governance towards the scaling of local solutions (Grönholm 2022; Kern 2019; van der Heijden 2018, 2022; Wurzel et al. 2019).

Ahead of a call for expression of interest (EOI) in November 2021, the EC released an info kit for cities outlining the main building blocks of the Cities Mission, the key sectors and activities with regard to urban climate neutrality, and the criteria of selection (European Commission 2021b). To secure a high level of inclusiveness, the mission set out to select at least one city from each Member State. Additional criteria considered in the selection process were the ambitions to achieve climate neutrality as well as diversity in terms of levels of preparedness and decarbonisation pathways. The interviews reveal that the release of the EOI was fraught with significant uncertainties of how cities would respond considering the novelty and ambition of the mission as well as the lack of details on the benefits selected cities could expect. Irrespective of such uncertainties on both parts, the launch of the mission generated significant interest among European city administrations, leading to 377 (362 eligible) EOI from cities (European Union 2022a).

The high number of applications made it possible to select at least one city from each Member State and consider cities of various backgrounds, including cities from eight associated countries (European Union 2022b). Indeed, the number of applications would have been sufficiently high to support more than 112 cities to allow for failures and mitigate the risk of jeopardising the achievement of the first general mission objective. It is optimistic to hope that around 90% of cities would achieve the goal of climate-neutrality by 2030.

According to an analysis of the first 336 cities that had applied by February 2022 (Salvia et al. 2022), almost all applicant cities were already active in at least one other transnational municipal network related to climate action. However, previous levels of engagements in urban climate action initiatives varied substantially, indicating that the EOI was able to attract interest from both, cities with well-established links to other cities and climate initiatives, and cities that were less integrated in transnational activities. Overall, the same study finds that **the sample of selected cities is well balanced, including global frontrunners in terms of climate ambition, a significant number of capital cities, and cities of varying size.**¹⁰ The main difference between selected and non-selected cities identified in the study concerns previous participations in EU-funded projects.¹¹ Whereas 72% of selected cities were previously involved in international projects, only 2% of non-selected cities had this experience. This finding suggests that experience with European-level project applications among city administrations and local research organisations may have been the main success factor to be selected. At the same time, this is evidence that the mission was successful at integrating a significant share of cities (28%) into European R&I networks that were previously unable to benefit from EU-level funding programmes. The experience and efforts of the same cities will likely be instrumental in scaling climate initiatives to other, non-selected cities with a comparable lack of previous involvement.

¹⁰ The interviews corroborate this finding. One interviewee, however, suggested that it is regrettable that none of the nine selected cities from Italy is located south of Rome.

¹¹ The study examined the involvement of cities in the following European funding programmes: H2020, Urban Innovative Actions, Interreg Europe, Interreg MED, LIFE, and URBACT (Salvia et al., 2022).

3.3. Assessment of governance structures and management arrangements

The governance structures put in place to realise the mission’s objective are geared towards decentralised actions at the city level to foster local experimentation, citizen engagement, and cross-city learning. Taking inspiration from previous initiatives such as the Covenant of Mayors and C40, the mission is based on a polycentric and experimental governance model that puts cities in the driving seat by building local governmental capacities for effective climate action and creating favourable conditions for the scaling of solutions (Grönholm 2022; Shabb & McCormick 2023). The empowerment of cities finds strong support both among our interviewees and in the scientific literature¹², which highlight that many cities have taken a leadership role in taking ambitious climate action. Interviewees also stress that cities are closer to citizens and therefore in a good position to develop solutions that meet local needs and find broad stakeholder support. Moreover, the bottom-up experimentation approach is in line with the tenets of mission-oriented innovation policy (Mazzucato 2019; Wanzenböck & Frenken 2020).

While the empowerment of cities is widely embraced, feedback on the suitability of governance setup for steering and implementing the mission is mixed (see Figure 6). The main issue relates to the challenges in aligning resources across different governance levels, but the consulted experts and stakeholders have also identified redundancies and gaps in the existing governance arrangements.

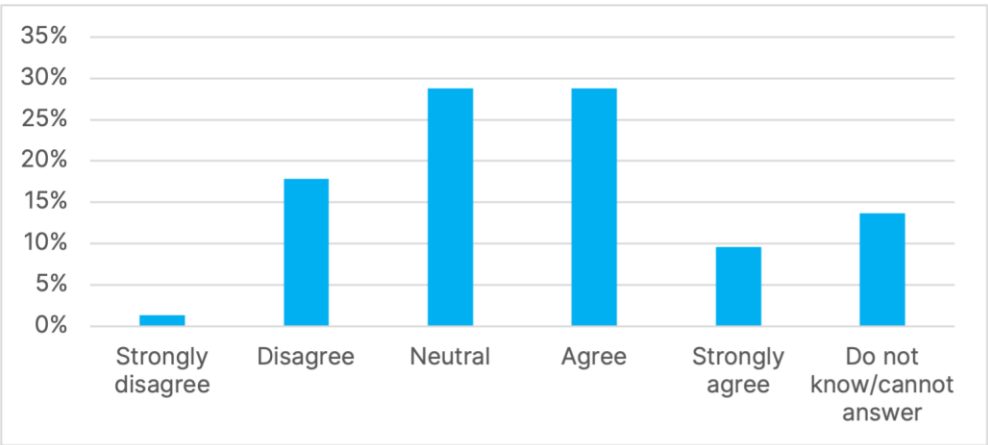


Figure 6. The governance set up is suitable for steering the mission (N=73)

Source: online survey conducted by the study team

3.3.1. Governance structures in the EC

The **governance arrangements provide many opportunities for other DGs to shape the mission**. There is strong consensus among our interviewees that cross-Commission buy-in will be pivotal for the mission’s success and that as implementation progresses, departments other than DG RTD will need to assume a more important role to support urban transitions towards climate-neutral and smart cities. The interviewees’ experiences indicate that **other DGs have not yet given high priority to the mission** and shown some reluctance in terms

¹² See Huovila et al. (2022) and Kern (2019).

of making funds available for the mission (see Section 2.4). Whilst representatives from multiple DGs are included in the formulation and implementation of the mission, interviewees have expressed regrets that this cross-departmental co-creation arrangement does not extend to the conception of other EU-policy instruments relevant to achieving climate neutrality in cities. **To realise a ‘whole-of-government’ approach in the EC towards the achievement of the mission, all relevant DGs need to move from participation to action.**

The mission puts high demands on the managing authorities to balance innovation in governance with a clear allocation of responsibilities. In addition to mission-specific governance arrangements, the mission manager needs to liaise with the **Horizon Europe steering board**, which oversees all missions. Interviewees at the EC argue that this arrangement may not be relevant anymore as the development of the mission moved from design to implementation and tailored approaches become more important vis-à-vis one-size-fits-all solutions for all missions. The implementation could thus be accelerated if the mission manager was given more autonomy in matters of operational management.

To monitor progress towards the achievement of the mission and provide timely feedback on the implementation, the implementation plan foresees a monitoring system that operates on the levels of both, the selected cities and the mission as a whole. The proposed (illustrative) set of indicators covers key results and impacts but needs to be complemented with suitable indicators on planned activities for the management team to draw the right lessons in cases of underperformance. For example, there is no corollary input- or output indicator for the expected result of a certain “number of cities applying inclusive governance.” Furthermore, EC representatives expressed concerns about the **high number and fragmentation of key performance indicators** foreseen at the levels of Horizon Europe, the missions, the Cities Mission, and R&I projects, calling for a consolidation of indicators to provide a clearer perspective on how the implementation is progressing.

3.3.2. Multi-level governance arrangements

A matter of concern to many interviewees is the relatively **low involvement of national governments**. The general impression is that some national governments have not shown the necessary support for the mission to date and that the EC could be more proactive in mobilising support at the national level. The feedback of participants in the stakeholder survey reinforces the impression on the lack of activity at the national level, suggesting that the implementation of specific public policy instruments is still rare (see figure below). With regard to the EC’s mobilisation activities, this task has so far mainly been fulfilled by the mission manager, who held bilateral meetings and visited 20 Member States to date. However, both interviewees and workshop participants stressed that for the mission to be taken more seriously by national governments, commissioners and the EC’s President need to clearly endorse the mission. To date, there are **still uncertainties at the local, regional, and national level regarding the level of commitment of the EC.**

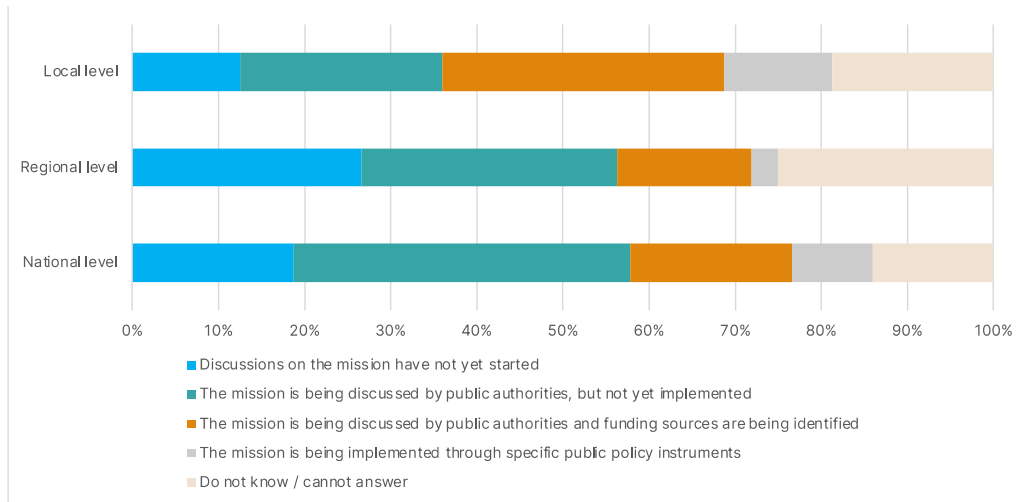


Figure 7. State of implementation of policies at the national, regional, and local level (N=64)

Source: online survey conducted by the study team

Looking beyond governmental bodies, the interviewees reinforced the recommendation of the mission board (Gronkiewicz-Waltz et al. 2020) that the engagement of citizens and civil society organisations should be a core pillar of the mission's governance. With citizen engagements being decentrally organised in cities, it is unclear at this stage whether the mission can make a significant contribution to participative and inclusive urban governance. In the scientific community, the commitments and guidance of the EC with respect to citizen and stakeholder participation in the mission are described as somewhat ambiguous, lacking clarity about how citizens will be included in decision-making processes Boeri et al. (2021), Shabb et al. (2022). In line with this, more than half of stakeholders consulted through the survey indicated that it is unclear how stakeholders can become involved in the mission. This lack of support creates **strong pressures on local governments to navigate possible tensions between the requirements at the mission level, on the one hand, and the management of local participation and communication processes, on the other**. A first analysis of how CCCs have been developed in Sweden suggests that the unprecedented speed at which contracts had to be developed led municipalities to "bypass extensive citizen and stakeholder engagement" in the early phase of development (Shabb & McKormick 2023, S. 8). Furthermore, the experiences of interviewees and workshop participants working outside the EC suggest that the name of the mission is too abstract and technical for many citizens, putting the burden on cities to translate the mission into tangible concerns that resonate with local citizens. These findings indicate that existing multi-level governance arrangements of the mission relating to the facilitation of citizen engagement processes may need to be revised to ease tensions between acceleration and inclusiveness at the city level.

3.4. Assessment of mission's implementation to date

3.4.1. Intervention logic

As developed in the mission implementation plan, the intervention logic (see Figure 8) links the 'specific objectives' of the mission (see section 2.2) with societal challenges and concrete results. The interviews and the literature confirm that **the challenges identified are suitably strategic and have been translated into appropriate objectives**. Some interviewees (mainly from outside the EC) criticised the strong emphasis on R&I in the formulation of objective 1, given that key solutions are ready for implementation and need to be scaled up.

R&I projects could divert resources of city administrations from areas where they are needed most, specifically regarding the development of new governance models and partnerships for large scale investments in, for example, housing renovation, energy supply, or mobility concepts with high rewards for climate neutrality in due course.

Although the mission board (Gronkiewicz-Waltz et al. 2020) and the underlying foresight study (Dinges et al. 2021) placed strong emphasis on behavioural change and demand-side oriented policies as key pillars of a mission for climate-neutral cities, the **intervention logic does not reflect behavioural change** accordingly, and the implementation plan makes scarce reference to activities linked to inducing behavioural change.

The intervention logic further translates the seven specific objectives into activities and results. Some of the activities included in the intervention logic focus on the first implementation phase until 2023. This includes the preparation of CCC and implementation of a mission platform as a delivery mechanism to reach out to, support, and assist cities engaged in the mission process up to the signing of the CCC. Interviewees pointed to the fact that the finalised CCC seem to be a natural interim step for the mission, where it will be important to review what is there, to assess the quality of the proposed actions, and to get for the first time an overview of the volume of funding required. The CCC may provide a solid foundation for developing the implementation plan further to lay out more specific actions beyond 2024.

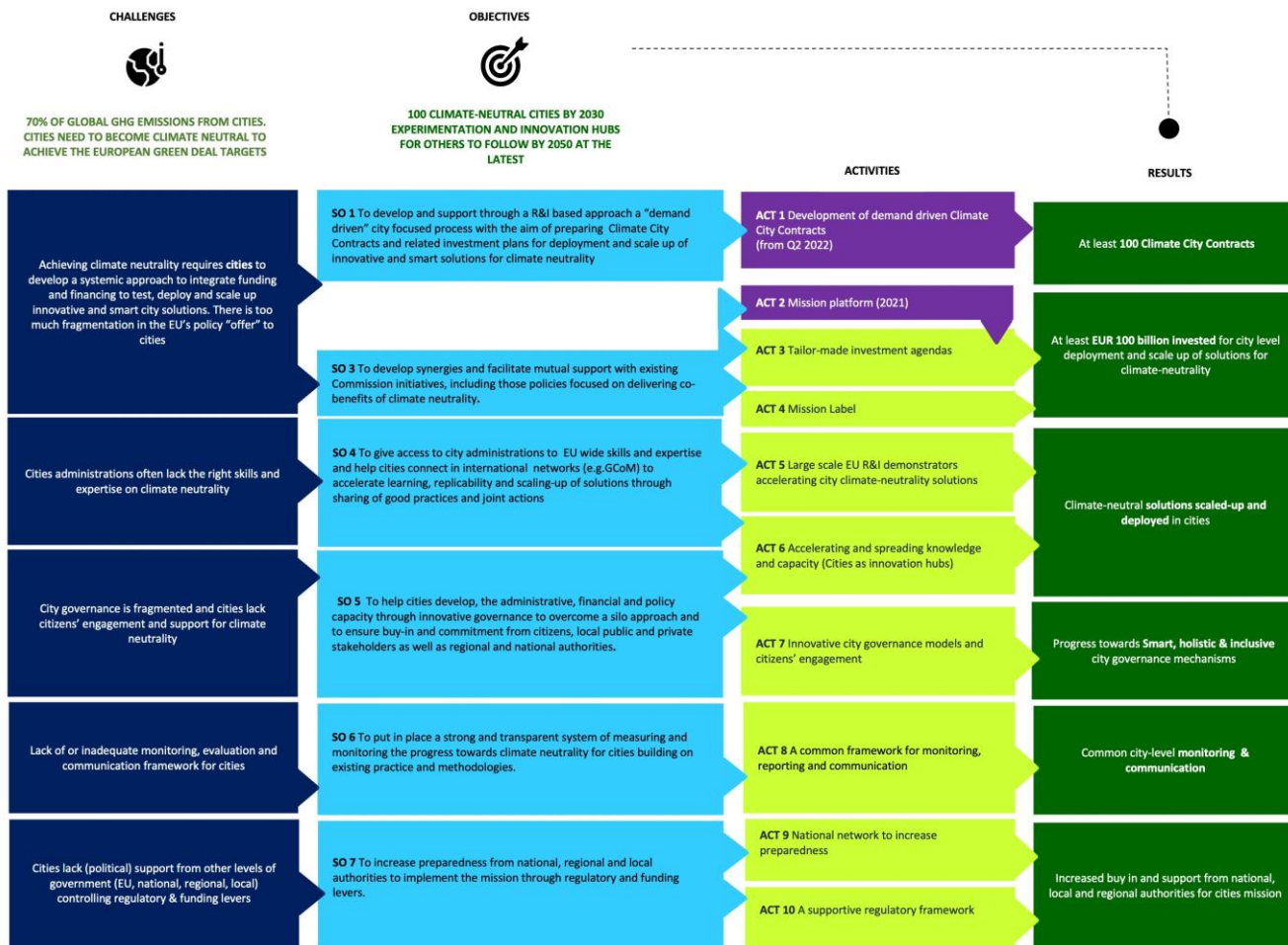


Figure 8: Simplified intervention logic according to the smart cities implementation plan

3.4.2. Theory of change

To understand how the mission is driving change, it is helpful to construct a theory of change (ToC) that expresses how policy actions relate to the changes in behaviours, frameworks, policies etc. that are essential for achieving the mission goal. Such an exercise serves this review's ambition to create an understanding of the mechanisms through which the mission aims to complete its goal, and to address possible gaps in the causal chain from actions to envisaged impacts as foreseen in the implementation plan.

Figure 9 presents a ToC of the Cities Mission, which takes account of the goals of the intervention logic but focuses more closely on the actions, outputs, and outcomes yet to materialise until mission fulfilment in 2030 and 2050, as well as the underlying assumptions and potential external influences.

Building on the implementation plan and the evidence collected in this study, the ToC identifies the main change mechanisms (and their interrelations) and shows how the transformation process might happen. A few key mechanisms can be discerned by reading it from right (impact to outcomes) to left (outputs, activities, resources, as well as the underlying assumptions at the bottom).

- A crucial change mechanism runs along the lines of **multi-level governance and coordinated measures and actions** to generate aligned actions that enable cities to develop the necessary projects for climate neutrality. Here, the interplay between city, (regional) national administrations and the Commission is of utmost importance, with each stakeholder having to fulfil its role.
 - The city needs the political leadership and an empowered administrative structure with the resources and skills to develop the CCC and its projects, as well as the active support of its citizens and stakeholders for implementation, which is the most important level to facilitate or hinder action.¹³
 - The national (regional) administrations must have the political will to support cities in their efforts, which may involve changing the regulatory framework, providing financial support and accelerating institutional innovation to make things happen in time. Their role is therefore particularly important now, when projects are being developed, funding is being discussed and institutional rules and regulations need to be considered.
 - In the first phase of the mission, the EC services have been crucial for the design of the mission and its governance, the most important of which are outlined in the ToC. Thinking through the other parts of the ToC in terms of outputs and outcomes, it becomes clear that the EC's role in mission implementation will remain important for much of the remaining time until its completion. However, the nature of its activities will likely change from providing infrastructure, to ensure that there are sufficient capacities in the cities to implement the mission and enable access to funding more towards leveraging and maintaining political support at national and local levels to react to changing circumstances.

¹³ See also Huovila et al. (2022), the Cities Mission foresight study (Dinges et al., 2021), and the latest IPCC mitigation report (IPCC, 2022).

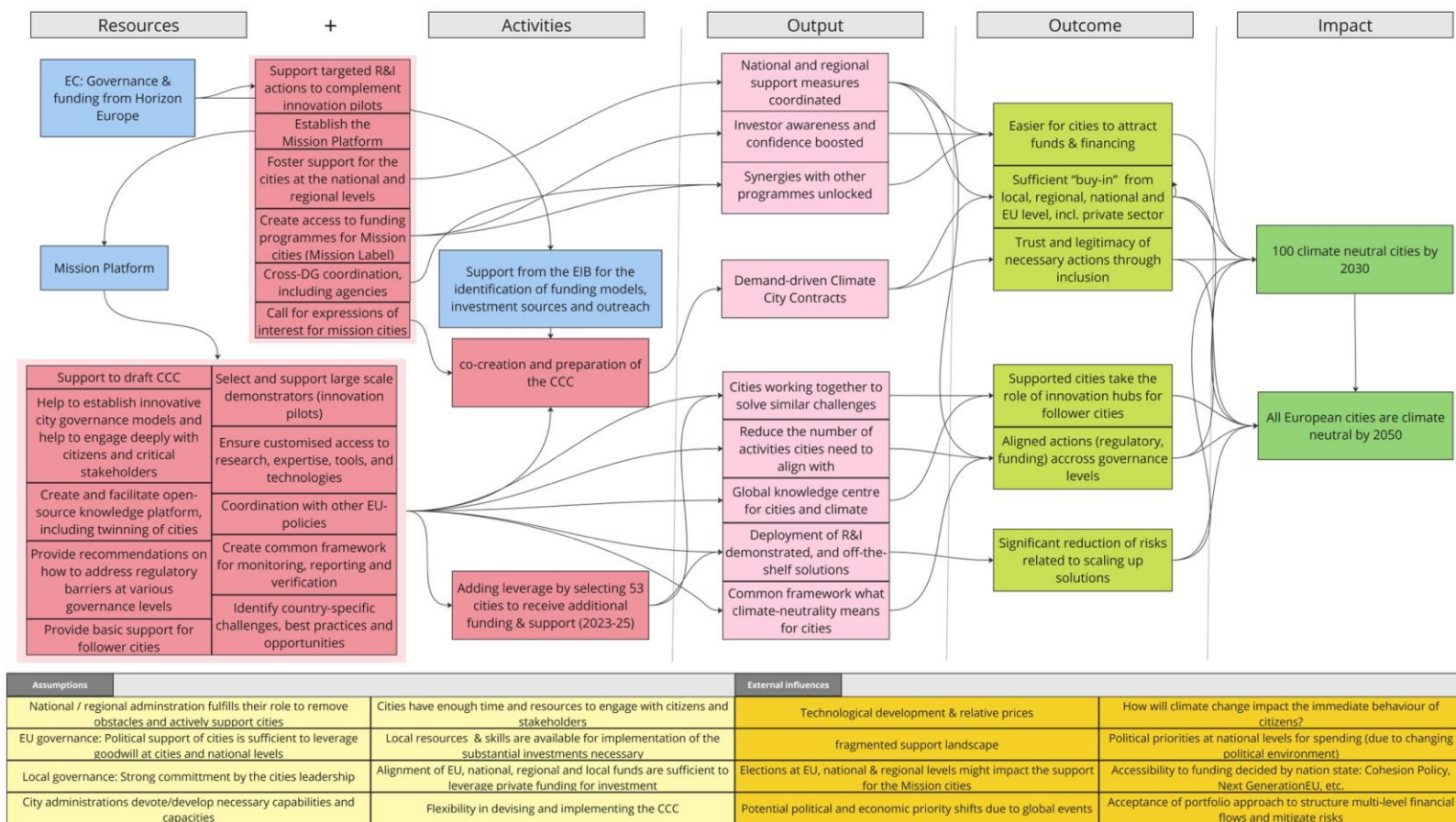


Figure 9. Theory of change of the Cities Mission

Source: Authors based on the implementation plan, literature review, interviews, the survey, and the workshop

- Another important mechanism for change is to **give legitimacy to the whole endeavour** from the bottom up, respecting local needs through cooperation and participation. This is a crucial function of the mission platform, which facilitates processes and cross-learning. Throughout the implementation of the mission, care will need to be taken to ensure that cities have the capacity and time to ensure that these processes take place, especially when time is running short to meet certain targets. The local / national innovation process should not be compromised by targets that lead to short-cuts in quality.
- Another mechanism for change is **access to finance and de-risking of investments**, the latter especially for private capital, which will be necessary given the scale of the investments required. In this context, the mission label is designed to be an important quality mark to signal the suitability of project proposals developed in the CCC. For this to be credible, compliance with industry standards will be paramount, and this is where the European Investment Bank's (EIB) in-depth involvement in the development of the CCC' investment plan comes in.
- A further change mechanism is rooted in **knowledge and technology transfer to support the broad transformation of all European cities** towards climate neutrality. The literature points towards some difficulties on the diffusion of innovations between cities: that there is a danger to mainly facilitate knowledge sharing instead of deep learning (Haupt et al. 2020) and that systemic "deep scaling" has hardly been found in the past (van der Heijden 2022). The immediate main actor is again the mission platform, which, again following closely the recommendations by the mission board, starts twinning cities with similar prerequisites in 2023 to foster 'deep learning'. It has also established an online-exchange platform with NetZeroCities, which serves a more standard approach to information exchange. The Commission's role will again be to facilitate political goodwill and leverage for these cities.

From a conceptual point of view, the intervention logic and ToC of the Cities Mission is coherent and thoroughly embedded in the proposals made by the mission board. Further issues to consider at this point of development are:

- **Securing the political will** in Member States and regions to create the necessary framework for cities to become climate neutral is of paramount importance. The Commission has a role to play in facilitating this and it is urgent to get the framework right. Given that the actual support of EU Member States varies, this is likely to be beyond the capacity of DG RTD staff alone and will therefore require support/ownership from a wider range of DGs in the Commission, sometimes involving the highest political levels.
- Early indications from interviews point to a more **flexible role for the CCC in implementation**, with projects to be defined in the coming years, and therefore needing to be revised over the years. The most advanced cities apply a holistic modelling approach to develop a project portfolio in a participatory way, that lays out investment priorities in a transparent manner, embedded in multi-level strategic financial frameworks. This provides clarity on priorities, facilitates local buy-in, should increase interest from funding sources (with lower interest rates for larger portfolios, perhaps together with other cities), and serves to mitigate risks between different actions.
- The **mission label** needs to provide credible evidence of high quality, somewhat de-risked projects for private capital/pension funds to step in and finance. This is a challenging task, and the investment industry will not accept shortcuts. Financial experts suggested that the benefit of the label should not be over-stated for raising finance. The criteria for accessing the EU's Recovery and Resilience Funds (RRF) and Cohesion

Policy Funds (especially ERDF) funding are largely already set, and there is no earmarking for the Cities Mission. Although, management authorities in some countries may choose to award more points in project calls to cities which can demonstrate their climate engagement (which the label would assure). Similarly, when evaluating credit risk, commercial lenders will be more likely to consider the credit ratings of rating agencies and their own risk assessment. Also, in terms of the EU Taxonomy on Sustainable Finance, the label will not substitute for the determination of “substantial contribution” per the taxonomy criteria or other relevant green financing criteria, and so whilst it may provide support, they will not determine whether lenders can legally classify investment as “green finance”.

- Time will tell how long this process will take before the **portfolios of projects** based on the CCC are ready for implementation. The first CCC will be signed by the most advanced cities in April 2023, which gives some cause for optimism. Others may take until 2024 or longer, depending on how specific the defined projects need to be for being accepted and which compromises the cities are willing to take concerning citizen engagement, because also these need time and resources. The interviews and the survey point towards citizen involvement linked to implementation is still (very much) subordinated to involvement related to the city vision.
- While cities are expected to make long-term commitments until 2030, the **EC has so far committed in budgetary terms only until 2023**. Interviewees were concerned that the short timeframe posed a risk to the mission, also in view of the European Parliament elections and the renewal of the Commission in 2024.
- Less clear is at this stage **how the follower cities will finance** their projects and which kinds of provisions are foreseen for these to reach the goal of climate neutral cities across Europe. This will need to be clarified as the implementation of the mission proceeds.

3.4.3. Portfolio of instruments and actions mobilised

The diverse change mechanisms highlighted in the above analysis of the ToC demonstrate the need for a wider scope of support than the Horizon programme concept of the ‘portfolio of projects’. Beyond technological innovation, system innovation and behavioural change will be vital to ensure success of the mission, together with large-scale deployment of carbon neutral solutions in the participant cities and improved capacities in the city administrations. In terms of the large-scale deployment of solutions, the mission board and the implementation plan estimate, based on a study by Material Economics, that around EUR 100 billion would be needed to achieve climate neutrality in 100 cities averaging 100,000 inhabitants each – substantially more if many participating cities are larger overall, as has turned out to be the case.¹⁴ This far exceeds the resources available to the mission under Horizon Europe. Moreover, a frequent observation to emerge from the interviews was that the necessary technological solutions are already 80% known and that traditional R&I should be less of a focus than roll out of a critical mass of existing innovations in the participant cities. The observation appears pertinent in view of the relatively short time remaining before the 2030

¹⁴ “... 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” (implementation plan, p. 31).

target. In addition to mobilising broader innovation levers like governance and collective action, the Cities Mission therefore needs to ensure effective use of other policy instruments at EU level, plus domestic instruments at national, regional and local levels in the MS, as well as substantial private sector investment, to achieve its ambitious objective. Coordination with other EU policies, highlighted as an activity in the theory of change, becomes in this context a crucial locus.

EU R&I POLICY INSTRUMENTS

DG RTD identified some 1,800 cities-mission-relevant projects from earlier R&I framework programmes, FP7 and Horizon 2020, in addition to Horizon Europe. Dedicated support for the mission from Horizon Europe was planned to be around EUR 360 million in seed funding during the period 2021-23.

The work programme 2021-2022 aimed to kick start the mission's implementation phase through two main calls and other actions, for a total budget of almost EUR 250 million. Topics under the call "Supporting the transition towards climate neutrality within cities" aimed to strengthen the operational capacity of the Mission Platform, support the setup of national mission networks and to foster collaborative local governance models. Under the call "Research and Innovation actions to support the implementation of the Climate-Neutral and Smart Cities Mission" support was provided for innovative approaches to integrated urban planning and design, large-scale demonstrations of Positive Clean Energy Districts, activities to strengthen the innovation and inclusiveness potential of public transport and urban mobility. In 2022, a number of "satellite" projects for the Cities Mission were launched:

- the CapaCITIES project, which helps with the establishment and development mainly of national support networks for the Cities Mission;
- the CrAFt project, which connects the Cities Mission with the New European Bauhaus initiative;
- the urban transitions centre, which supports the Cities Mission's international outreach activities and links to the global urban transitions mission of mission innovation.

The following table provides an overview of Horizon Europe projects relevant to the mission funded under the 2021-2022 work programme.

Key R&I Actions already undertaken or to be completed by the end of 2022	Quantitative indicator of	Status
<p>HORIZON-MISS-2021-CIT-01-01: Supporting national, regional and local authorities across Europe to prepare for the transition towards climate neutrality within cities</p> <p>Funding scheme: Coordination and Support Action</p> <p>Project size: EUR 2 M</p> <p>Budget: EUR 2 M</p>	1 project funded (CapaCITIES)	Complete
<p>HORIZON-MISS-2021-CIT-01-02: Collaborative local governance models to accelerate the emblematic transformation of urban environment and contribute to the New European Bauhaus initiative and the objectives of the European Green Deal</p> <p>Funding scheme: Coordination and Support Action</p> <p>Project size: EUR 2 M</p> <p>Budget: EUR 2 M</p>	1 project funded (CrAft)	T Complete
<p>Other Actions</p> <p>Scientific and technical services by the Joint Research Centre</p> <p>Scientific and technical services to the Mission on 'Climate-neutral and smart cities</p> <p>Funding scheme: JRC Administrative Arrangement</p> <p>Project size: EUR 1 M</p> <p>Budget: EUR 1 M</p>	Administrative Arrangement signed with JRC	Complete
<p>HORIZON-MISS-2021-CIT-02-01: Urban planning and design for just, sustainable, resilient and climate-neutral cities by 2030.</p> <p>Funding scheme: Innovation Action</p> <p>Project size: EUR 11-12 M</p> <p>Budget: EUR 35 M</p>	3 projects selected and funded	Complete
<p>HORIZON-MISS-2021-CIT-02-02: Unleashing the innovation potential of public transport as backbone of urban mobility</p> <p>Funding scheme: Innovation Action</p> <p>Project size: EUR 12-20 M</p> <p>Budget: EUR 40 M</p>	2 projects selected and funded	Complete
<p>HORIZON-MISS-2021-CIT-02-03: Framework Partnership Agreement (FPA) for the Climate-Neutral and Smart Cities Mission Platform and Specific Grant Agreements to the FPA</p>	FPA signed	Complete

Key R&I Actions already undertaken or to be completed by the end of 2022	Quantitative indicator of	Status
Funding scheme: Framework Partnership Agreement Project size: N/A Budget: N/A		
HORIZON-MISS-2021-CIT-02-04: Positive Clean Energy Districts Funding scheme: Innovation Action Project size: EUR 15-20 M Budget: EUR 40 M	2 projects selected and funded	Complete
HORIZON-MISS-2021-CIT-02-05: Global cooperation and exchange on urban climate neutrality Funding scheme: Coordination and Support Action Project size: EUR 2 M Budget: EUR 2 M	1 project selected and funded (GKEC)	Complete
HORIZON-MISS-2022-CIT-01-01: Designing inclusive, safe, affordable and sustainable urban mobility Funding scheme: Innovation Action Project size: EUR 8-12 M Budget: EUR 42 M	3 projects selected and funded	Complete
Other actions Global Mission on Innovation-Driven Urban Transitions under Mission Innovation Project size: EUR 0.3 M Budget: EUR 0.3 M	1 action selected and signed (MI IUTM)	Complete
Other actions Scientific and technical services to the Climate-Neutral and Smart Cities Mission by the JRC Funding scheme: JRC Administrative Arrangement Project size: EUR 2 M Budget: EUR 2 M	2 nd Administrative Arrangement with JRC signed	Complete
Other actions Specific Grant Agreements to the Framework Partnership Agreement (FPA) for the Climate-Neutral and Smart Cities Mission Platform Funding scheme: Specific Grant Agreement – Research & Innovation Action	1 project selected and funded (SGA1-NZC)	ongoing

Key R&I Actions already undertaken or to be completed by the end of 2022	Quantitative indicator of	Status
Project size: EUR 87.24 M Budget: EUR 87.24 M		
TOTAL: EUR 253.54 million		

Figure 10. Horizon Europe projects dedicated to the Cities Mission (Work Programme 2021-2022)

Source: Mission secretariat

Beneficiaries of the mission dedicated Horizon Europe support represent a wide variety of types, including private companies in addition to public sector bodies, higher education institutions and research centres.

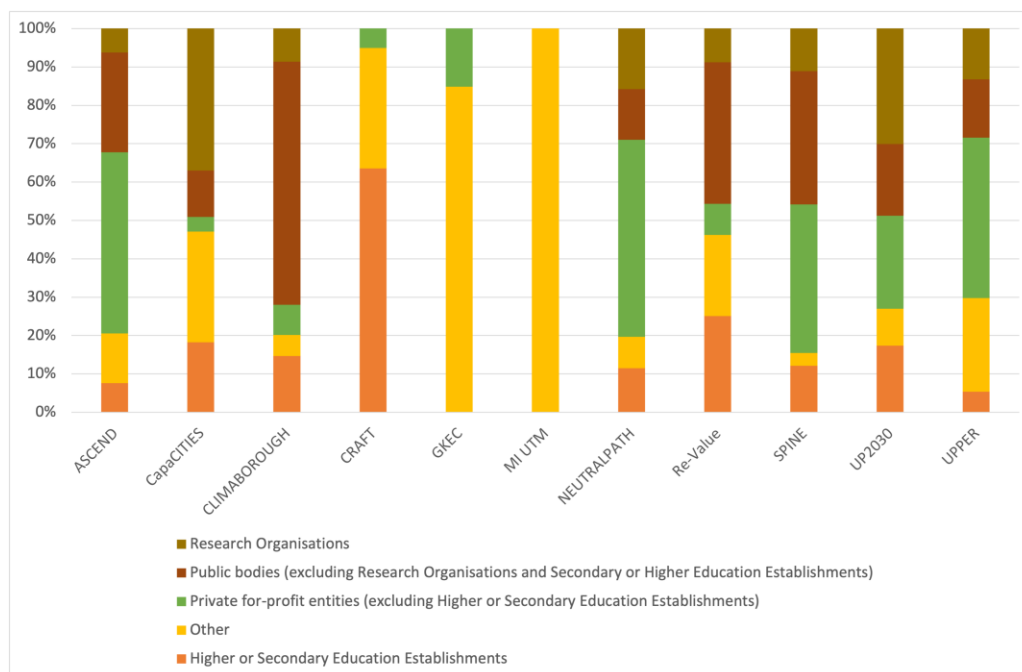


Figure 11. Beneficiary organisations for HE instruments under the Cities Mission up to April 2023

Source: data extracted on 18th April 2023 from the Horizon Europe dashboard; without calls from end 2022 because these contracts are only signed in spring 2023; New European Bauhaus (NEB) projects not included.

The work programme for 2023 has a budget envelope of around EUR 155 million. Topics under the 2023 calls continue the development and scaling up R&I activities and solutions while fostering synergies and joint actions with Horizon Europe Partnerships as well as other EU missions. These include a joint action with the Horizon Europe Partnerships dedicated to Zero-emission RoadTransport (2Zero) and Connected, Cooperative and Automated Mobility (CCAM). There is also a joint action with the CCA Mission based on innovative use of urban greening and nature-based solutions, as well as an action to develop and test a digital twin

of a Positive clean Energy District (PED) covering modelling, management, citizen interaction, self-optimisation, decision support/scenario analysis.

In addition, the operational capacity of the mission platform will be strengthened to ensure support to all the mission cities. as well as to provide basic services to all cities that responded to the call and showed ambition and commitment to achieve climate-neutrality by 2030 but were not included in the final list of selected cities. The platform will extend support to cities responding to the second objective of the mission. Support for financial advisory services is also foreseen in the 2023 work programme to help cities develop and later implement their CCC investment strategies.

Key R&I Actions already undertaken or to be completed by the end of 2023	Quantitative indicator of achievement, if any	Due date
<p>HORIZON-MISS-2023-CIT-01-01 Co-designed smart systems and services for user-centred shared zero-emission mobility of people and freight in urban areas (2Zero, CCAM and Cities' Mission)</p> <p>Funding scheme: Innovation Action</p> <p>Project size: EUR 25 M</p> <p>Budget: EUR 50 M (Includes EUR 25 M from partnerships 2Zero and CCAM)</p>	Expected projects to be funded: 2	Ongoing
<p>HORIZON-MISS-2023-CIT-01-02 Positive clean energy district (PED) digital twins – from modelling to creating climate neutral Cities</p> <p>Funding scheme: Innovation Action</p> <p>Project size: EUR 6-7 M</p> <p>Budget: EUR 20 M</p>	Expected projects to be funded: 3	Ongoing
<p>HORIZON-MISS-2023-CLIMA-CITIES-01-01 Urban greening and re-naturing for urban regeneration, resilience and climate neutrality</p> <p>Funding scheme: Innovation Action</p> <p>Project size: EUR 10-12 M</p> <p>Budget: EUR 40 M (Includes EUR 20 M from Climate Adaptation Mission)</p>	Expected projects to be funded: 4	Ongoing
<p>HORIZON-MISS-2023-CIT-02-01: Associating Ukrainian cities to the Climate-neutral and smart cities Mission</p> <p>Funding Scheme: Coordination and Support Action</p> <p>Project size: EUR 5 M</p> <p>Budget EUR 5 M</p>	Expected projects to be funded: 1	Ongoing

Key R&I Actions already undertaken or to be completed by the end of 2023	Quantitative indicator of achievement, if any	Due date
Other actions Specific Grant Agreement to the FPA to top-up the operations of the Mission Platform Funding scheme: Specific Grant Agreement – Research & Innovation Action Project size: EUR 40 M Budget: EUR 40 M	Expected projects to be funded: 1	Ongoing
TOTAL: EUR 155 million		

Figure 12: Horizon Europe projects dedicated to the Cities Mission (Work Programme for 2023)

Source: Mission secretariat

So far, the Horizon Europe support for the mission has been of a forward-looking, pump-priming nature with **emphasis on demonstrator type actions to encourage dissemination** of relevant innovations, as well as **some focus on system innovation**. Overall, this support represents only 0.4% of the total Horizon Europe budget. **Project sizes are relatively small** and long way short of the considerable investment volumes needed to achieve the mission objectives. They are also of short duration and with the Horizon Europe programming rhythm there is a certain **lack of clarity as to what the cities can expect from 2024 onwards**. Although the work of the mission platform is generally appreciated by the city representatives interviewed and surveyed, there has been little direct assistance to cities for building their own capacities for the mission implementation. The CapaCITIES project under the 2022 work programme, for example, only accounts for EUR 2 million and is targeted towards national networks, which is small in the context of 100 mission cities. In this regard, the strengthening of the mission platform and support for financial advisory services for CCC investment plans are welcome additions for 2023.

OTHER RELEVANT EU POLICY INSTRUMENTS

In terms of EU funding, then, R&I actions under the mission should be seen as catalytic, with an important role to play in accelerating the deployment of much larger and longer-term investments from other EU instruments. The main EU instruments in question can be categorised as follows:

- Complementary EU programmes providing subventions under direct management:
 - The LIFE programme is devoted exclusively to environment and climate action and complements EU R&I support for the mission. Total budget for 2021-2027 is EUR 5.5 billion, divided between four subprogrammes, two of which are climate change mitigation & adaptation and clean energy transition. LIFE projects are generally of highly innovative, best-practice / demonstration type. For 2021-2027, a new category 'strategic nature projects' has been introduced to encourage mainstreaming of action in Member states' own support programmes.

- Large-scale EU instruments under shared management, principally providing subventions:
 - The RRF totals some EUR 724 billion in loans and grants to Member states, delivered through national recovery and resilience plans (NRRP) covering the period 2021-2026, managed at Member State level. Green transition is one of the six Policy Pillars of the RRF and must account for at least 37% of each Member State's NRRP. Around 67% of the EU funding under this pillar is allocated to investment fields of strong relevance to the Cities Mission, including sustainable mobility, energy efficiency, renewable energy and networks and R&D&I in green activities. However, it has not been possible to obtain any detail of financial allocations to the 100 member cities of the mission themselves.
 - The ESIF Funds (mainly the European Regional Development Fund [including Interreg Europe, European Urban Initiative and URBACT], Cohesion Fund and Just Transition Fund) deliver large-scale EU funding of high relevance to the mission, co-financing programmes managed by Member State and regional authorities. The total EU budget for Cohesion Policy 2021-2027 is EUR 330 billion. It is not possible to estimate top down and ex-ante the amount of funds that will be deployed in the 100 cities of the mission. However, according to DG REGIO around a third of the total Cohesion Policy budget for the previous period 2014-2020 was spent in cities¹⁵ and at least the same can be expected for 2021-2027.
 - A minimum 30% of total mainstream ERDF and 37% of Cohesion Fund budgets must be allocated to 'climate action' - encompassing both climate change mitigation and adaptation. The most relevant mainstream specific objectives (SOs) for the mission, in addition to actions foreseen under the Just Transition Fund SO, come under to Cohesion Policy Objective (PO) 2 - A greener Europe. These include SOs for energy efficiency, renewable energy, smart grid and sustainable urban mobility investments. PO 1 - Smarter Europe, channels R&I investment through place-based Smart Specialisation Strategies – in addition to support for technological innovation, these can now provide for smart city and other system-type innovations. PO 3 - Connected Europe, supports investment in sustainable intermodal mobility, which may be relevant depending on location. Finally, PO 5 - Europe closer to citizens, finances sustainable urban development actions guided by local integrated strategies. This is compulsory for all Member states, for 8% of their total ERDF (increased from 5% in 2014-2020) and offers a wide range of potential investment possibilities for mission cities, with an emphasis on connection between projects financed.

¹⁵ EC DG Regio 'Description of the European Urban Initiative' - Description of the EUI.pdf (urban-initiative.eu)

Directly relevant

SO 2.1 Promoting energy efficiency and reducing greenhouse gas emissions
SO 2.2 Promoting renewable energy in accordance with Directive (EU) 2018/2001, including the sustainability criteria set out therein
SO 2.3 Developing smart energy systems, grids and storage outside the Trans-European Energy Network (TEN-E)
SO 2.6 Promoting the transition to a circular and resource efficient economy
SO 2.8 promoting sustainable multimodal urban mobility, as part of transition to a net zero carbon economy

Potentially relevant (including for 'smart city' approaches) depending on projects coming forward

SO 1.1 Developing and enhancing research and innovation capacities and the uptake of advanced technologies
SO 1.2 Reaping the benefits of digitisation for citizens, companies, research organisations and public authorities
SO 1.3 Enhancing sustainable growth and competitiveness of SMEs and job creation in SMEs, including by productive investments
SO 1.4 Developing skills for smart specialisation, industrial transition and entrepreneurship
SO 1.5 Enhancing digital connectivity
SO 3.2 Developing and enhancing sustainable, climate resilient, intelligent and intermodal national, regional and local mobility, including improved access to TEN-T and cross-border mobility
SO 5.1 Fostering the integrated and inclusive social, economic and environmental development, culture, natural heritage, sustainable tourism and security in urban areas

Figure 13. EU Cohesion Policy 2021-2027: Specific Objectives (SOs) relevant to Cities Mission

Source: ERDF and Cohesion Fund Regulation 2021/1058 - EUR-Lex - 32021R1058 - EN - EUR-Lex (europa.eu)

- Within the total relevant Cohesion Policy budget, the European Urban Initiative (EUI) merits special attention. For 2021-2027, the EUI with total allocation of EUR 400 million, brings together the Urban Innovative Actions (UIA) of the 2014-2020 period and the Urban Development Network (UDN) for exchange of experience, in addition to having a coordinating role for URBACT and the continuation of the Urban Agenda partnerships. All these initiatives include themes of high relevance to the Cities Mission, such as energy transition, urban mobility, digital transition and circular economy. The EUI's first call for innovative actions (EUR 50 million) is for New European Bauhaus demonstrators in urban areas, for which applications are currently under evaluation with results to be announced in June 2023. Under the EUI's second call (EUR 120 million) launched in May 2023, one of the three topics 'Greening Cities' will contribute to both the cities and the climate change adaptation (CCA) missions.
- The European Agricultural Fund for Rural Development (EAFRD) and European Maritime and Fisheries Fund (EMFAF) are also major EU instruments delivered through shared management. Whilst these are unlikely to be of major relevance for the mission, they may be of some significance in peri-urban areas and coastal cities, for example in reducing emissions from food production.

- EU-backed financial instruments providing loans and other financing products – addressing both public and private sector bodies, with strong emphasis on leverage of private finance:
 - InvestEU brings the former European Fund for Strategic Investments (EFSI) together with several other EU-level financial instruments under the same procedural framework. It aims to mobilise over EUR 372 billions of public and private investment through an EU budget guarantee of EUR 26 billion that backs the investment of implementing partners such as the European Investment Bank (EIB) group and other financial institutions. At least 30% of the InvestEU Programme must support European Green Deal objectives and 60% of its sustainable infrastructure window investments must contribute to EU climate and environmental objectives.
 - The Connecting Europe Facility (CEF) is associated with InvestEU and supports development of interconnected trans-European networks in the fields of transport, energy and digital services, through financial instruments such as guarantees and project bonds. CEF Transport EUR 26 billion and CEF Energy EUR 6 billion are closest to the mission objectives.
 - EIB itself – in addition to being major partner in InvestEU and CEF - provides a wide range of financial products (loans, equity participation, guarantees etc.) for projects investing in research and development of low-carbon technologies, renewable energy, low-carbon transport solutions and industrial de-carbonisation. EIB is also a partner in the Just Transition Mechanism complementary public loan facility, which contains an element of grant support, covering investments in energy and transport infrastructure decarbonisation, district heating and energy efficiency measures including renovation of buildings. EIB, InvestEU and CEF together are therefore strongly relevant to the mission.
 - Instruments set up under the European Emissions Trading Scheme (ETS) are also potentially useful for mission cities. The Modernisation Fund, a loan facility for public bodies in 10 less developed Member States, supports modernisation of energy networks, financing of renewable energy sources, greening of energy sectors and exchange best practices among the beneficiary Member States. Its budget comes from ETS revenues and is expected to be around EUR 14 billion for 2021-2030. The Innovation Fund supports risk sharing for innovative first-of-a-kind demonstration-type projects in low-carbon technologies and processes in energy intensive industries, carbon capture and utilisation/storage, renewable energy generation and energy storage. With an anticipated budget of EUR 38 billion for 2021-2030, it generally supports large flagship industrial projects, but can provide grant assistance for smaller projects under EUR 7.5m to cover additional innovation costs.
- Matchmaking, advisory and other technical assistance instruments:
 - This category embraces a wide range of initiatives and bodies, including European Local Energy Assistance (ELENA) and Joint Assistance to Support Projects in European Regions (JASPERS) providing technical assistance for EIB investments. There is also agreement concluded between DG RTD and the EC Joint Research Centre (JRC) to provide scientific and technical assistance to the implementation of the mission, as well as the work of the European Institute of Innovation and Technology (EIT) – Climate KIC and CIVITAS promoting in innovation in sustainable mobility, and Smart Cities Marketplace as matchmaking platform for investment

projects. The latter has so far supported 88 projects with a volume of EUR 1.3 billion, of which the EC contribution is EUR 0.8 billion.

Overall, this analysis shows that a **wide range of EU instruments are available**, financing investment fields over the medium term, which can contribute substantially to the mission objectives – more so when taking digital transition instruments into account for related smart city approaches. Putting together potential Cohesion Policy interventions with complementary support from EU-backed financial mechanisms, such as InvestEU and EIB, the financial volumes available could be approaching the scale of investment needed to reach the first mission objective.

However, estimating top-down how much EU funding the 100 cities might receive for the mission, under shared management programmes, is problematic. Much will depend on how effectively the cities can each present a critical mass of sound project applications to the relevant programmes. **The key challenges for the Cities Mission will be not only accessing the range of EU support instruments available and mobilising additional domestic public and private funding, but also having the capacity to implement a vastly increased low-carbon investment portfolio successfully.**

PORTFOLIO MAPPING ACCORDING TO THE TWO GENERAL MISSION GOALS

The portfolio mapping (Figure 14) illustrates the planned and implemented instruments and actions along four essential dimensions/levers for mission implementation for the two overarching mission objectives.

This overview illustrates the current strong focus on mission objective 1. This includes the overall governance structures in the Commission, rooted in DG RTD, and the established mission owners' group as the cross-DG coordination mechanism. Other areas of focus have been the development of the infrastructure for implementation through the mission platform as a central multi-level coordination facility and the stimulation of national platforms to support cities in currently four countries. Another new instrument is the CCC, which consists of three parts: the commitment part, to mobilise political support at the governance level; the action plan, to coordinate individual and collective action; and the investment plan, to provide funding and leverage (it also shows a slight delay in its implementation).

Inspired by previous initiatives such as the Covenant of Mayors and C40, the mission is based on a polycentric and experimental governance model that puts cities in the driver's seat by building local government capacity for effective climate action and creating favourable conditions for scaling up solutions (Grönholm 2022; Shabb & McCormick 2023). In the tradition of European policymaking on urban climate action (Kern 2019), the mission's direct engagement with cities has so far been mainly of a 'soft' nature. Cities have received advisory support on how to implement solutions towards climate neutrality.

The analysis in the previous chapter and the overview above highlight the current under-representation of substantial instruments and actions to support innovative governance models to develop capacity and interdepartmental delivery mechanisms in cities and to involve stakeholders and citizens. For the former, some innovative models already exist in selected places that need to be transferred between cities; for the latter, the interviews point to a general know-how gap that can only be addressed through a joint effort with deep cross-learning exercises.

Objectives

1: Deliver at least 100 European climate-neutral and smart cities by 2030

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

Levers

Levers	Science and technology	<div>R&I actions according to yearly HE work programmes</div> <div>Large scale demonstrators (innovation pilots)</div>	<div>Calls to support replication and adaptation</div>
	Economy and finance	<div>Climate city contract: CCC investment plan</div> <div>Mission labels</div> <div>Blending facility</div> <div>EIB support</div> <div>Dedicated funding opportunities for cities</div>	<div>As the CCC are not finalised yet, there are no specific funding opportunities for follower cities to adapt solutions to their context</div>
	Individual and collective action	<div>Climate city contract: CCC action plan</div> <div>Mission platform</div> <div>Provision of a pool of city advisors</div> <div>Pilot city support</div> <div>Global knowledge centre for cities and climate (NetZeroCities)</div> <div>Support actions for capacity building for relevant stakeholders</div> <div>Promoting contributions from citizens and local stakeholders to the transition</div>	<div>Global knowledge centre for cities and climate (NetZeroCities)</div> <div>Provision of basic support for follower cities</div> <div>Twinning cities programme</div>
	Governance	<div>Governance at EC level: DG R&I and mission owners group</div> <div>Mission platform as multi-level coordinating facility</div> <div>National platforms as facilitating mechanisms</div> <div>Climate city contracts for multi-level commitment mechanism</div> <div>Innovative governance models: cross-departmental delivery of transition including stakeholder/ citizen engagement formats</div>	<div>Mission platform as multi-level coordinating facility</div>

Colour codes

Missing	Promised	Planned	Delayed	Working/in-progress instruments/actions
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Figure 14. Portfolio of important instruments and actions mapped against the two general mission goals

Source: Study team own elaboration

Cities are used to carrying out participatory processes for visioning and strategy processes, but they are not used to participatory processes for large-scale investments where part of the investment is to come from stakeholders and citizens. This may be the reason why almost 60% of survey respondents are unclear about how stakeholders can be involved in the mission, suggesting a lack of tools for involving stakeholders and citizens (see Figure 15).

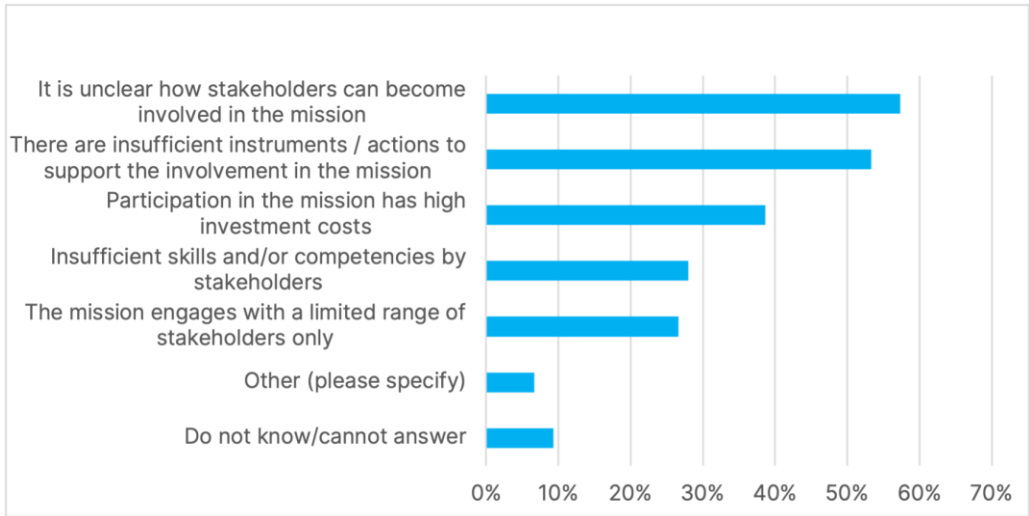


Figure 15. Main barriers to mobilising stakeholders and citizens (N=75)

Source: online survey conducted by the study team

The instruments and actions related to mission objective 2 show that support for follower cities has received less attention so far. The reason for this is that the infrastructure and learning opportunities had to be put in place first, so it can be interpreted as part of a natural sequence of actions. First actions are planned for 2023 with the twinning programme to create some deep learning possibilities between a mission city and several other cities. Further instruments and actions need to be developed in due course once the CCC have brought more clarity about the levels of engagement of cities and the needs of follower cities for capacity building.

As shown in the analysis of the intervention logic, the mapping of the portfolio shows that the political and governance dimension of transition has been somewhat underestimated. Transition projects are often of a systemic nature and need to cut across thematic and administrative boundaries, and sometimes even require different framework conditions (e.g. public procurement, legal framework) for their implementation, for which instruments and measures already exist in other areas but have not yet been applied in the context of the Cities Mission. This conclusion is also supported by the interviews and survey results.

This analysis also addresses the lack of instruments to involve stakeholders and citizens in implementation by creating a high level of trust to mobilise resources. The question is how this can be tackled, as this lack of know-how seems to be more general in terms of how to involve citizens and local stakeholders to build legitimacy for local policies and induce a high level of buy-in with the following behaviour change among stakeholders.

3.4.4. Budget for the mission's implementation

Due to their largely co-financing character, the EU instruments mentioned above will have a substantial gravitational effect on domestic public and private funding in the cities where they are deployed. Beyond the EU financing context, Member State's public sector instruments are also considered crucial - more so than the EU instruments according to the interview research. The national level in this regard is emphasised in the literature, "cities generally cannot acquire money in the same ways as national governments: they lack creditworthiness in international financial markets, they do not have the authority to borrow funds independently, and they face restrictive requirements for bidding and procurement (Brugmann 2012; Lall & World Bank, 2013; Mori 2012)." However, this is not seen as universally true and depends on the national set-up. In Sweden, for example, city administrations have formed a cooperative that issues bonds directly to the financial markets (where the cities' pooled rights to collect taxes serves as collateral), whilst in Germany cities are shareholders of saving banks which can jointly access financial markets. Yet although certain Member States, such as Austria, Spain, Sweden and Greece, have established support structures for the mission and some have set up dedicated funds, the latter are understood to be small. Insufficient domestic financial support for the mission, averaged across national, regional and local levels, was said to be a major concern by some 65% of survey respondents. Certain more advanced cities have begun to search for creative solutions to fund their climate agendas, including revolving loan funds, property assessed financing, and green bonds (van der Heijden 2016). In cases where it is not the cities themselves which seek financing, but rather companies providing public services, a variety of public-private financing arrangements are potentially available. To assess with any degree of accuracy the overall potential contributions to the mission of domestic funding instruments, much will depend on commitments entered in the CCC still to be finalised and approved.

As regards potential private sector investment, the situation is less easy to depict and is likely difficult to include in the CCC in a sufficiently detailed manner. Probably for this reason, some interviewees expressed frustration that although the mission board repeatedly highlighted the importance of private financing, it seemed to have concentrated to date mainly on public sector instruments. Of the focus which had been accorded to the private sector, several interviewees felt that too much importance had been attached to policy interventions aiming to change market structures and encourage new business models, rather than proactively seeking out the needs of private investors active in the sector. Others were more optimistic, stating that the EU instruments were sufficient to de-risk key investment areas and trigger substantial private financial input. Nonetheless, concern was expressed about overall market conditions, such as the price of electricity generated from renewables, which if too low could prevent certain private investors from covering their costs. There was also concern about the schedule for preparation of the mission's lending and blending facility, which was said to be coming too late.

Yet at this early stage, participants interviewed concurred that the EU funding for the mission appears 'front-loaded' in general, in the sense that domestic national and private sector funds are expected to play an ever-greater role as the mission progresses. Commitment periods currently in place for EU funds support this view. Horizon Europe funding dedicated to the mission is only committed up to 2023 at present, whilst RRF financing must be spent by the end of 2026. Cohesion Policy funding will be subject to a mid-term review process, only after which the precise allocations for 2025-2027 will be known. It is clear the European Commission's intention is to encourage domestic public financing and private sector investment to take over responsibility for implementing the mission as it progresses. However, cities still face a high level of uncertainty on how to finance their way to climate neutrality, according to interviews and the survey.

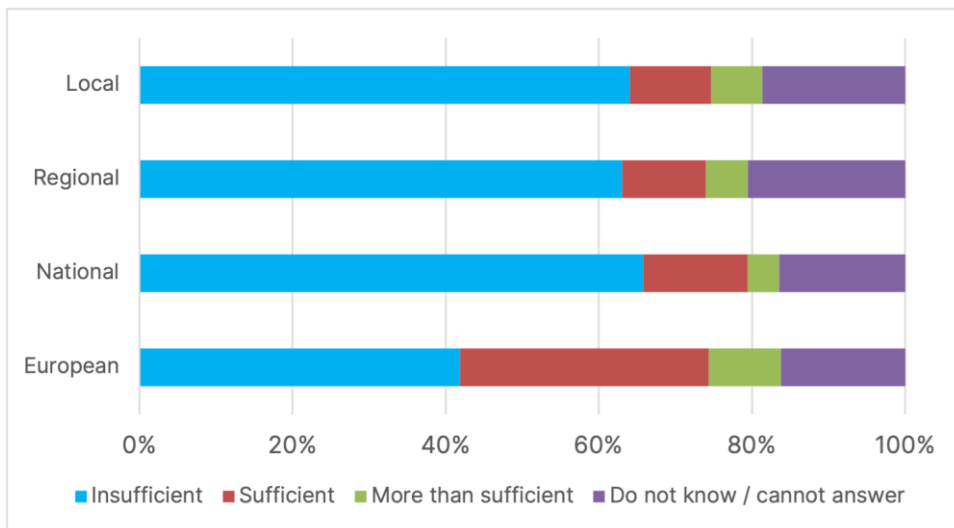


Figure 16. Are the available resources sufficient to realise the mission objectives (N=75)

Source: online survey conducted by the study team)

SYNERGIES BETWEEN INSTRUMENTS FOSTERED BY THE MISSION

The Cities Mission needs to provide the direction and operational framework for interaction between a particularly wide range of instruments. The mission was referred to in the interviews as the 'glue' that should bring all the relevant initiatives together. It is very early to determine with certainty how well the mission is succeeding in this role. However, survey results show that three quarters of respondents agree that the mission adds value to existing instruments and initiatives.

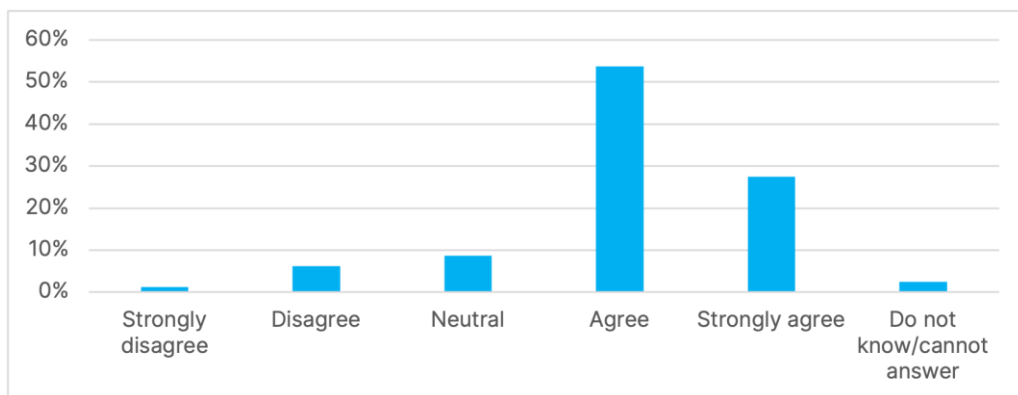


Figure 17. Value-added of the Cities Mission (N= 80)

Source: online survey conducted by the study team

The main activities implemented up to March 2023, have been the establishment of the mission platform run by NetZeroCities and its delivery of a range of information and guidance actions for the partner cities, as well as the preparation of the CCC. A network of national contacts for the mission has been put in place and many of these have set up national hubs to support their cities, in the first instance with the development of their CCC. In addition, national hubs have yet to demonstrate their ability to coordinate action between political

levels within the country. This is the factor most often cited by respondents as limiting the implementation of the mission in the country.

Mission platform representatives described a key role of the platform as the identification of levers to scale up local solutions quickly and effectively, adding that the platform can also show up levers that people in local administrations may be too afraid to point out to their mayors. The platform has recruited city advisors with different backgrounds, who provide the main point of entry for the partner cities. Overall, the mission platform and the interaction with city advisors was felt by interviewees to have worked well so far, although several city representatives said they were selective in their participation in its activities depending on their usefulness for their specific cases. Some felt that more tailored support actions could be developed by the platform, for example workshops dedicated to a small group of cities facing specific common challenges.

Finalisation of the first wave of CCC, anticipated in the mission implementation plan by the end of 2022, has experienced delays. The first CCCs were submitted in April 2023. The mission platform representatives were critical of the exacerbated delay as many cities wait for CCC approval before moving towards implementation of mission related investments. The view conveyed was that mission implementation should be considered as more of an iterative process and the CCC was an experimental tool rather than a proven recipe for success. Cities were said to have reacted differently to the CCC framework. Advanced cities found the CCC template rudimentary and wanted more, whilst the less advanced lacked baseline data and some faced difficulties due to local government changes after the application to participate in the mission had been made. Certain cities struggled conceptually and others more operationally with the CCC framework. Some of the cities interviewed expressed a certain relief at the delay with the CCC, admitting that they had struggled with the early pace due to lack of availability of officials to attend all the meetings and could now do things better.

EC officials were upbeat about progress achieved behind the scenes on creating synergies between certain EU instruments. This includes the addition of an award criterion in relevant calls of the Connecting Europe facility favouring cities participating in the mission. Similarly, under the LIFE programme, special emphasis has been given to the mission in the objectives for climate neutrality plans for cities. In addition, the EIB has participated in national meetings with mission cities in five Member States. They plan to extend this activity to more Member States in the near future and introduce awareness raising actions. The EIB has also recently reached an agreement with the EC on provision of specialist technical assistance to support the review of CCC.

Regarding synergies with Cohesion Policy, the research revealed mixed views. EC officials emphasised positive commitments to the mission which they had obtained in the wording of relevant Cohesion Policy programmes for 2021-2027, as well as in NRRPs, of around half of the EU Member States. However, many interviewees from cities complained that when it came to the actual award of this EU funding to projects, mission participation appeared to have little influence. The specificities of Cohesion Policy and RRF implementation mechanisms and their management by Member States and/or regional authorities were highlighted during the interviews. Even though criteria favouring projects related to missions can be written into selection systems and adopted by programme monitoring committees, it was emphasised that this is by no means obligatory or standardised practice. Nor does it guarantee that the EU funding in question will be awarded to mission projects. In this context, a mission is likely to be seen as one of many deserving cases for priority access to EU support in national or regional programmes. Moreover, several interviewees felt the DG REGIO was not fully engaged in the mission implementation. Whilst EC officials pointed to the potential benefits of the mission label awarded to cities which receive a positive review of their CCC,

many city representatives expressed doubt that the label would make much tangible difference, unless it carried some form of regulatory weight.

Whilst the above **recent developments in building synergies between the mission and other (non-R&I) EU instruments represent an encouraging start**, this kind of activity will **need to be strengthened** as the mission implementation progresses, in order to lever in EU and domestic public and private financing of sufficient scale. The **CCCs themselves will be key tools for directing attention** onto the mix of instruments which mission cities feel they will be able to access, as will the lending and blending facility foreseen. Further **cross-DG reflection appears necessary on the deployment of the mission label** to make this a more convincing tool for the mission cities.

3.5. Progress towards meeting the mission's goals

OVERALL STATUS OF IMPLEMENTED/FORESEEN ACTIVITIES

The progress made since the EC proposed the mission area in 2018 until the end of 2021 includes the formulation of the mission objectives, the development of an implementation plan, devising and launching the governance structure for the mission implementation, including a cross-DG coordination mechanism, and the creation of the mission platform as a crucial delivery mechanism. Following the successful mandate of the first mission board from 2019-2020 and the activities during the first phase (see figure 1 in chapter 2.1), a new mission board has been appointed since October 2022 to help guide the mission, provide feedback and reach out to countries and cities.

The mission platform has been operational from an early stage, as it could build on a precursor project from Horizon 2020, and the contract was signed in September 2021. Its main task is currently to guide the cities during the process of delivering the CCC with the support of 13 advisors. The platform further delivers content for the NetZeroCities online platform to guide the mission cities, facilitates their networking, it also coordinates occasional calls for proposals, and produces knowledge diffusion for non-selected cities via a repository. The portal had nearly 1 400 active users by March 2023.

The call for expression of interest to become a mission city closed in January 2022, and resulted in applications from 377 cities. The selected 112 cities were announced by the EC in April 2022 and a kick-off conference took place in June 2022.

In September 2022, the mission platform launched a call for pilot cities to advance the process. This resulted in 103 applications (involving 159 cities from 33 countries), of which 53 pilots were selected by 1st March 2023. Selected cities receive grants of between EUR 0.5 and 1.5 million for a two-year programme. The calls were open to all cities from EU Member States and Horizon Europe associated countries and selected pilots do not only include cities that are preparing a CCC.

The first cities signed their CCC in April 2023. These include cities from Sweden and Spain where support from the national level is relatively strong, and government representatives are likely to be involved in a supporting role. A larger group of cities is expected to sign their CCC in the autumn of 2023. In March 2023, 46 mayors of mission cities re-confirmed their engagement in an open letter addressed to the EC.

The review of these CCC is carried out by the mission platform (completeness check), the mission secretariat (commitment part), the Joint Research Centre (carbon neutrality action plan) and independent financial experts (carbon neutrality investment plan). After

consultation with the mission board, the mission owners' group representing 12 DGs recommends the CCC for endorsement, which is then finalised by the mission manager. Cities whose CCC are endorsed will receive a mission label as a seal of quality, which should lead to easier access to funding and financing.

With the activities described above, **the progress of the mission implementation was on track until early 2023** (compare the timeline in the implementation plan, p.19, with figure 1 in chapter 2.1). The approval structure of Horizon Europe has led to a later official start and insufficient resourcing of the mission platform to be able to support cities in producing the CCC in 2022. However, the organisational set-up of the mission platform, the negotiation of the CCC and the publication of the first calls have progressed since then. The figure below shows that most stakeholders see the mission as progressing according to the implementation plan.

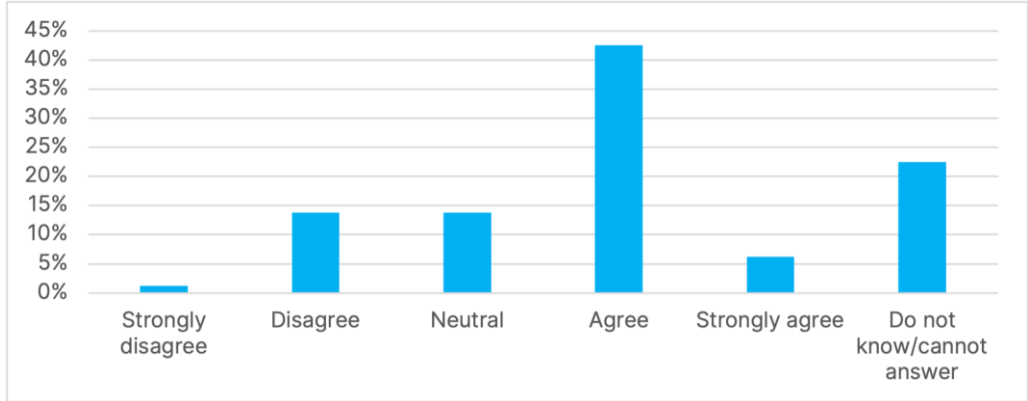


Figure 18. The mission is progressing in line with the implementation plan objectives (N=80)

Source: online survey conducted by the study team

Political support at various levels is seen to be the most important leverage for the mission implementation. Though, the mission has received somewhat stronger support at national level in only selected countries so far. Sweden has played a model for some parts of the mission implementation via its viable cities programme, but also Spain and France could build on already existing national or local structures for the aim of climate neutrality, and there are explicitly advanced cities such as Leuven and Oslo. National governments have launched national support platforms for their cities, including Sweden, Spain, Greece, Portugal, France, the Netherlands, Austria and Belgium. Some further countries integrated the EU mission into national and regional strategies (e.g. in Poland). There has been some success in redirecting financial flows, with interviewees pointing out that **funds from the RRF and Cohesion Policy have been directed to some cities in selected countries**. Other interviewees point out that the Member States are drawing up and updating the national energy and climate plans in 2023, and they are doing the same for the RRF. Therefore, to influence these decisions, the EC and/or the cities would need to react quickly if this is not already part of the discussion in the preparation of the CCC. There are some early signs that national governments are also providing additional funding to complement EU-level support for mission cities. One example is Austria, which has launched support measures to build the capacity of cities to become climate neutral by introducing an exception to public procurement law (because this is not R&I) and has even launched a process to innovate the governance of the R&I portfolio of the ministry responsible for technology and climate, with a particular focus on missions. The same is true for the city of Malmö in Sweden, where the mission inspired the leadership of the city to change its governance structures. In other cases, the

discussions around the CCC led to broader insights, which range around the structure and shape of local energy markets, e.g. who should own the infrastructure of the local heating networks. This led the Netherlands to consider whether renationalisation would be needed to progress.

The question of financing climate neutral cities meets very different circumstances all over Europe. Large cities tend to have more leverage and the capacities for developing the necessary projects. In this case, is sometimes lacks political leadership to push for the necessary innovation in governance. In smaller cities, it is sometimes the other way round: active political leadership is met with a lack of capacities and funds. This is why interview partners tend to emphasize that the CCC need to be seen as living tools to be able to react to changes in local circumstances, if they should be successful.

Spanish cities are strongly represented in the mission: Madrid, Barcelona, Seville, Valencia, Valladolid, Zaragoza, Soria, and Vitoria-Gasteiz are among the 112 cities selected. When the selection process took place, several activities had already been undertaken across cities. Before the Cities Mission started, Madrid was involved in the transnational 'healthy, clean cities' deep demonstration initiative, which set out to achieve climate-neutral cities by 2030 and established intensive multi-stakeholder interactions. This prior involvement was important for demonstrating how intensive multi-stakeholder interactions work in practice and giving an idea of the investments required to achieve climate-neutrality. In addition, cities across the country had formed a 'community of practice' in response to the pandemic to ignite collective actions towards the transformation of cities. Following the official launch of the Cities Mission, the national government put in place 'mirror groups' of representatives from the national innovation ecosystem to mirror what the EU does at the national level. The community of practice network and the mirror group for cities were later merged into the CitiES2030 platform with seed funding of EUR 800,000 from the national government.

In Spain, the mission proved to be a catalyst for cities to work together towards climate action. The seven selected cities collaborated already in the application process, where the group could benefit from Madrid's prior experiences and the engagement of one member in the mission board. Taking note that the entire group but no other Spanish cities were selected, the interviewees believe that the collaboration, in signalling early commitment and willingness to collaborate, was a critical success factor for selection. For example, Madrid was selected despite making clear from the beginning that it would target climate-neutrality for the whole city by 2030. Since selection, interactions between cities have taken place on a monthly basis. Through the aforementioned CitiES2030 platform, which was given the mandate to support also non-selected cities and those with less inhabitants (> 20,000 - < 50,000), the network has grown to 14 cities, with more being expected to join by the end of 2023.

When Spanish cities decided to apply for the mission, they expected the EC to provide not just funding but a clear content and strong commitment to the goals of the mission. So far, the support from the European level was mainly limited to technical guidance and advice, which is not what the cities were seeking for the most. In addition to a lack of local capacities, the main issue for achieving the mission in many Spanish cities is not new funding per se (but a potential combination of existing funding for the Cities Mission) but the insufficient political legitimacy of taking ambitious climate action. A stronger commitment to the mission at EU level is considered urgent to strengthen the legitimacy of the mission. Other important levers for building legitimacy and motivation mentioned by interviewees are support in developing narratives that can be communicated to different audiences and actions to give visibility to mayors of selected cities, and support in the inclusion of stakeholders and citizens in the mission, who have to contribute the most for the mission's success.

Box 1. Case study: Spain

Source: authors based on literature and interviews

CAN THE MISSION OBJECTIVES BE ACHIEVED?

While the first cities signed the CCC in April 2023, most cities are likely to do so in autumn 2023 or 2024. The reasons for this are as varied as the circumstances: Lack of capacity in the cities, as the mission does not lead to an increase in the local government workforce, long-term structural commitments due to recent investments, the need for residents to agree to renovate housing stock, lack of regional or national support, delays due to local elections, etc. **The CCC are seen by those close to implementation as a working document that will need to evolve over time as the proposed projects become more concrete and linked to financing packages that will be successful in attracting not only public funds but also major investors (pension funds, companies, etc.).** This might take years. Cities and their representatives cannot be expected to come up with well-developed major investment projects in a matter of months that will attract the necessary level of financial support. They will be based on previous plans, which may have a different focus and need to be redesigned. This has even been shown for CCC of cities in advanced countries, where Shabb & McCormick (2023) made an early assessment of Swedish CCC and concluded that few had the necessary financial and policy instruments. It is highly advisable for the EIB to assist in this process, as it will be able to facilitate the process with its expertise and financial leverage, but it seems that some flexibility in the timeline for implementation will be necessary. The EIB already had an active working relationship with 45 of the selected cities prior to the mission and is currently advising 20 cities under the mission mandate.

The question of whether the envisaged timeframe for achieving the mission's objectives appears feasible or realistic, given the level of implementation in early 2023, can only be answered once the CCC have been submitted and reviewed. For Sweden, which is already well advanced, a scenario analysis suggests that there are feasible pathways to climate-neutral cities (Vanhuyse et al. 2023). The experts interviewed for this early assessment are somewhat critical of the general objective one to be achieved by all 100 cities, in the sense that 2030 is fast approaching, that changing local governance structures and public participation takes time and skills, and that a huge investment push to scale up solutions is somewhat daunting if cities have not already started this process in the past. The following figure shows the survey respondents assessment on whether they believe the mission's overall target by 2030 is achievable given the level of implementation. There is a high degree of heterogeneity in the assessment, depending on the role they play in mission implementation and the country in which they are located.

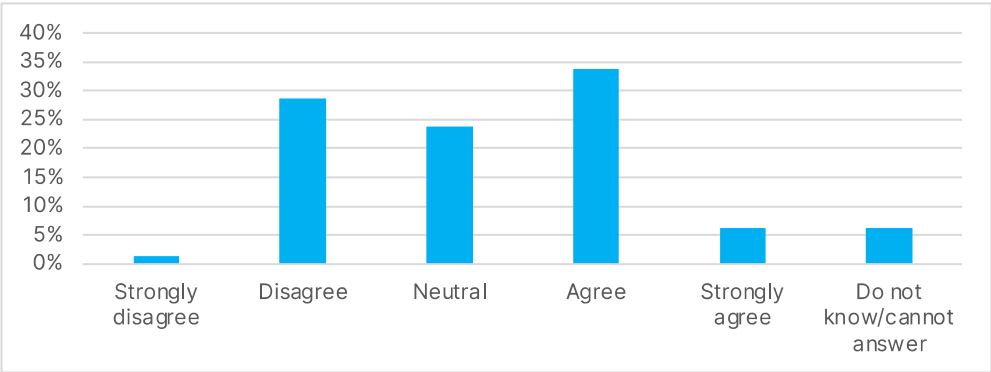


Figure 19. The mission's overall objective is achievable by 2030 (N= 80)

Source: online survey conducted by the study team

The second general goal of becoming carbon neutral by 2050 was not questioned, even if respondents did not believe that the 2030 goal would be achieved. **The longer-term goal of the mission is seen as good and motivating by all interviewees and respondents**, and it is simply necessary to apply pressure early on to succeed. Institutional inertia takes time to change course, but once working solutions and the money are found, it can pick up speed if deep knowledge- and technology transfer manifest itself between the cities.

4. Conclusions and future options

4.1. Overall conclusions

In less than two years, the Cities Mission has been able to bring together 112 European cities from Member States and associated countries, with more cities soon to be added through a 'twinning' programme. In addition, several Member States have set up their own platforms and programmes in support of the mission to extend support to non-selected cities. In addition to a growing network, the Cities Mission has also delivered tangible results in the form of a transnational NetZeroCities platform and the publication of the first climate cities contracts, which outline city-level transformation pathways and investment plans to achieve climate neutrality by 2030.

The achievements made so far can be linked to several **success factors**:

- a mission that is perceived as bold and inspiring by key stakeholders;
- a mission design process that built on the experiences made in previous initiatives;
- a transparent and inclusive mission selection process;
- a large group of highly motivated and committed individuals who have taken ownership of the mission and are promoting it across different levels of government and Member States;
- a high level of trust at local level in the EC's commitment to the mission, given that the details could not be worked out at the outset;
- and a clear added value through the focus on holistic solutions and the introduction of novel policy instruments (in particular, the climate city contracts and the mission label).

The same factors were instrumental in overcoming key challenges associated with the launch and implementation of the Cities Mission, which introduced cities to a new form of interaction with R&I funding at European level. From the perspective of local governments, the launch of the mission was very much appreciated, but also accompanied by uncertainty about the level of longer-term EC commitment and the specific benefits for selected cities. **The early phase of implementation was, and still is, characterised by efforts to manage mutual expectations and establish a culture of learning**, against a background where stakeholders have become accustomed to managing R&I projects rather than cross-sectoral societal transitions. Resisting the 'projectification' of transition processes and refocusing efforts on the broader challenges of developing appropriate governance structures, securing multi-level and cross-departmental buy-in, and establishing appropriate financing arrangements are likely to remain critical well beyond the initial implementation phase.

The review of the CCCs will provide a clearer picture of where cities stand and what they need to realise the mission's ambitions. However, the expertise and feedback from key stakeholders involved in the development and implementation of the mission collected for this early assessment of the mission point to a range of issues that can be addressed immediately. Furthermore, their perspectives add an important layer to the information contained in climate city contracts by providing indications of the key challenges in the governance of the mission and in the 'scaling' of solutions beyond individual cities. On this basis, the assessment revealed three areas in which further action is needed to achieve the mission objectives: demonstrating commitment, local capacity building, and citizen engagement.

DEMONSTRATING COMMITMENT

Political commitment is a key lever to **secure buy-in and keep up the momentum**, especially in a mission that depends so much on the inputs from local, regional and national levels and thus puts the multi-level governance model to the test. There is consensus among stakeholders that Member States and regions will need to become more active on a broader basis for the mission to succeed, because this has been variable so far. As political leadership is of paramount importance, it is probably best addressed at this level, hence **political leadership in the EC could be strengthened** so that the EC can engage more effectively with the Member States on this issue.

The role of the EC will also be important throughout the mission period. Showing longer-term commitment and providing support to cities, a clear division of roles and responsibilities and continuity are key to achieving climate neutrality.

Given that the implementation of the mission will require a mix of R&I funding and funding for scalable investment projects, with the emphasis on investment (experts estimate that around 80% of the solutions are already in place and ready to be scaled up), it is also time to reflect on how the governance model is set up within the EC. DG RTD in the lead has the advantage of centralised coordination and available funding from Horizon Europe, with the cross-DG mission owners group (as an innovative governance mechanism for the EC) to discuss contributions also from other DGs. The drawback is that Horizon Europe funding is focused on R&I only and provides access to relatively small pots of money, leading to a 'projectification' of the mission that should be avoided or at least mitigated. A further drawback seems to be that access to the larger funds of other DGs seems to be difficult, even if the mission label may facilitate this to some extent, although this is questioned by financial experts.

LOCAL CAPACITY BUILDING

Apart from leading cities, city level administrations often lack the skills and resources to design systemic change at the local level, to interact with different stakeholders and multi-level governance administrations, and to develop and implement high quality project portfolios at the scale required to achieve climate neutrality by 2030.

The work of national networks as neutral intermediaries between different levels of government and at the local level can be an important mechanism for learning and mediating but should not be overestimated. **Implementation capacity is needed in cities** and other relevant local actors to develop workable projects. This means building capacity in the cities, while avoiding too much advisory work. The scope of this goes considerably beyond what is now being offered.

It takes a good team to match investment with projects, and this needs to be organised effectively in the triangle of local actors, the mission platform with explicit financial expertise, and the member state. How it is organised is the key to its success. This is also one of the main arguments of the OECD (2023), which points out that better governance is likely to help leverage private investment.

CITIZEN ENGAGEMENT

While much emphasis has been placed on citizen engagement in the Lamy report (European Commission, 2017), in the expert reports prepared prior to the launch of the mission (Mazzucato, 2019), and in the implementation plan, **the Cities Mission has yet to outline a convincing plan for how citizens will be involved in the mission**. The evidence gathered for this assessment study suggests that the level of citizen involvement in the preparation of climate city contracts has been low. This is partly a question of timing, but also a question of know-how. Given the impact of climate-neutral and smart cities on everyday urban life, high levels of investment will also be required from local stakeholders, businesses, and households: Given the behavioural changes expected from local stakeholders and private households, one would expect the mission to be much more widely known among European citizens. Stakeholder feedback also suggests that the choice of instruments is insufficient to support citizens' participation and that it is not clear enough how stakeholders can become involved.

4.2. Options for the mission's future development

The Cities Mission has great potential to contribute to the success of the Green Deal and has made a promising start. As with any truly innovative, and in this case systemic, intervention, there are many opportunities to learn and adapt along the way in order to take the next steps successfully. This is a very important learning phase for new governance mechanisms across Europe. This first assessment at the beginning of the implementation did not have many results on which to build, but it proved useful in gathering initial indications of how and where things are going. The following suggestions for action can be drawn from the study.

DEMONSTRATING COMMITMENT

1. **Ongoing political support over the whole mission implementation time:** The EC's active support will be needed beyond the signing of the CCC to ensure the alignment of funding and financing instruments and to facilitate the appropriate contribution to the mission by all levels and stakeholders. Cities need political commitment from the EC to keep the momentum going at the local and national levels, which is probably more important than direct funding from their side given the scale of necessary investments. The implementation of the mission would benefit from strong support at the highest European and national levels, not only to ensure a further visible commitment beyond the establishment of the CCC by the EC, but also by the nation states, which will play a crucial role in the implementation phase of the Cities Mission. Sectoral policies and investments in, e.g. in mobility and energy infrastructure, including their regulatory frameworks, have an important role to play in facilitating or hindering cities' efforts to become climate neutral. Such a strong signal of support could also help leverage private capital from funds, banks and investors.
2. **Building stronger links between other EU funds and the mission:** To show strong governance and the will to experiment also at the level of the EC (as is expected from the cities and national levels) the EC could showcase a good practice example of governance innovation and establish a common Cities Mission ownership and

responsibility among several DGs, of which some combination of REGIO/MOVE/ENER/ENV/R&I seem to be natural candidates.

LOCAL CAPACITY BUILDING

3. **Investing in capabilities of cities:** Cities often lack the skills and resources to engage with other cities (and sometimes even the mission platform) and wider stakeholders at the level required to meet the challenging demands of developing zero emission plans and projects to a high-quality standard. To ensure the necessary capabilities at city level, they need resources not only for the implementation phase, but already to develop their investment portfolio and to engage with stakeholders and the mission platform to be able to absorb what is offered and develop their project portfolio with the support of the mission and national platform. This is currently foreseen for the 53 pilot cities, and to a very small extent via the CapaCITIES programme. There is a need to strengthen this and combine it with innovative approaches to kick-start local governance innovation to support system innovation. A special focus to transfer of knowledge to develop and manage such governance models would be beneficial for many cities. Whatever will be the best practice model developed from this, the need for support will be even more the case for follower / twinning cities in the future.¹⁶
4. **Enable deep learning:** The twinning strategy seems to be a useful way forward for deep learning between cities with similar challenges. Nevertheless, and if the resources of the mission platform allow for it, a stronger connection with Covenant of Mayors signatories and other cities networks would be advisable as there are many synergies between the initiatives that can be explored. Close alignment with existing cities initiatives could result in sharing resources, e.g. capacity building, training, the monitoring/control systems, and to ensure that the Cities Mission is accessible to like-minded cities (second mission goal) and to avoid a confusing narrative for the cities, which have to focus their limited resources and capabilities.

CITIZEN ENGAGEMENT

5. **Spreading the message:** Without knowledge of the Cities Mission's existence, citizens cannot be expected to engage proactively. A strong effort of disseminating the mission with the support from the European level can provide much added value vis-à-vis communication activities in individual cities by signalling the ambition and *societal* relevance of the mission and imbuing a stronger sense of commonality. The Cities Mission in particular has the potential to bring the EU closer to citizens and make its actions visible, while sending out an invitation for citizens to get involved in shaping their local environments.
6. **Translating the mission into narratives:** The mission on its own is insufficient to convey the benefits of the initiative to citizens and different local stakeholders. Narratives are needed to make 'climate neutrality' and 'smartness' tangible. Narratives need to be able to outlast political cycles and speak to key concerns in people's lives. While supporting materials for cities are being prepared at EU level, ultimately narratives need to be translated into different languages as well as varied local and political contexts. Taking into account experiences at the local level will therefore be critical. In so doing,

¹⁶ According to DG RTD, a new call for pilots will be launched in the coming months, and the idea is that all mission cities will eventually become pilot cities. The twinning programme, which will match additional cities with the pilot cities, is intended to extend this knowledge and skills to additional cities.

the mission can already build on first efforts towards a better story-telling in countries like Sweden and Spain.

7. **Making citizen engagement an integral part of the implementation plan:** The evidence gathered so far indicates that the reliance on R&I projects and city administrations as the main levers for engaging citizens in the mission is insufficient. Again, building corresponding local capacities is critical for city administrations to be able to govern urban transition processes in a socially inclusive manner. Furthermore, other actors such as the EC as well as national and regional governments can be important levers. Overall, this requires a clear anchoring of citizens in the implementation plan as key pillars of the mission's governance.

OTHER ACTIONS

8. **A challenge is how to make the mission label work.** While this can be arranged for Horizon Europe, where DG RTD has a direct influence, it is more difficult to foresee for other large funding programmes, e.g., Cohesion Policy with its objectives, etc., and for private investment. Experts see the mission label as a means to raise the profile of the cities on green issues with both their citizens and external domestic and international entities. This signalling effect and sign of commitment can also be welcomed by potential financiers, who will be reassured that climate-oriented investments align closely to the city's strategy. However, we should not over-state the benefit of this for raising finance because the criteria for accessing EU RRF and ESIF funds are largely already set. To make the mission label more relevant for private financiers, it will be useful to involve potential financiers, even beyond the EIB (pension funds, etc.) to learn under what circumstances they would be willing to invest in urban projects.
9. **An important added value of the CCC process should be the definition of projects with an implementation plan, making them the focus of attention and discussion for policy makers and potential investors.** For this to happen, they need to meet the industry's quality standards, which will probably be variable at the beginning, but can be improved over time. An option would be to introduce regular resubmissions and re-evaluation of investment plans, rather than checking monitoring indicators every two years that have little relevance to implementation.
10. **Assess the content of the CCC once they have been received, and further develop the implementation plan** on this basis to fit the needs for the mission's success, and include what has been learned, including new actions as discussed above.

Finally, the following table maps the seven mission objectives against the implementation steps taken to date and addresses the immediate challenges ahead. The purpose of this table is to provide a concise but structured overview along each objective.

Specific mission objectives	Implementation steps taken	Challenges ahead
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)	<p>Early coordination with EIB</p> <p>Mission platform in operation, supporting 112 cities with 13 advisors in developing CCC</p> <p>Conferences 2022 & 2023 with cities</p> <p>53 pilot cities chosen to receive EUR 32M for two years</p>	<p>Role of CCC: non-binding, but ‘guiding’ documents with need for update on a rolling basis</p> <p>Engaging the nation state to actively support the transition of their cities</p> <p>Defining structured and attractive (R&I and) investment project portfolios to attract funding & financing (also from private sector for large scale-up investments) - avoid ‘projectification’</p>
2. To support tailored research & innovation pilots and demonstrators that will be funded in HE and to scale-up and replicate solutions developed in past R&I programmes	<p>A number of “satellite” projects for the Cities Mission were launched</p> <p>Project fiches of the results of 1800 Horizon projects with city focus made available at NetZeroCities</p>	<p>Developing easier access to funds and financing (private/national/EU) via the mission label as quality seal</p>
3. To develop synergies and facilitate mutual support with existing Commission initiatives, including those policies focused on delivering co-benefits of climate neutrality	<p>Cross-12 DG working group and EU agencies coordinate on a weekly basis to coordinate joint-up planning</p>	<p>R&I programmes are partly smallish and highly competitive</p> <p>Uneven access to funds with relevant volumes like ERDF / RRF / SEIP, facilitated by the nation-state with sometimes opposing views (political colour) to cities</p>
4. To give access to city administrations to EU-wide skills and expertise and help cities connect in international networks to accelerate learning, replicability and scaling-up of solutions through sharing of good practices and joint actions	<p>Best practise repository by mission platform NetZeroCities also accessible to non-mission cities</p> <p>Conference attendances by mission platform</p>	<p>Create stronger connection to networks / follower cities (e.g., Global Covenant of Mayors, URBACT)</p> <p>Set up a twinning and teaming programme in 2023</p>
5. To help cities develop the administrative, financial and policy capacity through innovative governance to overcome a silo approach and to ensure buy-in and commitment from citizens, local	<p>Whole mission approach including the application process created momentum</p> <p>Feeling in the cities that something serious needs to be achieved that one</p>	<p>Cities with highly variable finances, human capabilities, and also political support need tailored support and/or seed money.</p>

Specific mission objectives	Implementation steps taken	Challenges ahead
public and private stakeholders as well as regional and national authorities	department cannot deliver (leaving behind the usual 'process documents production approach')	Cities sometimes overwhelmed by timing.
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	Monitoring frameworks of GPC, Climate-KIC and the Covenant of Mayors as input	<p>In development, starting with a Monitoring, Evaluation, and Learning (MEL) framework for pilot cities</p> <p>Keep the structure of this 'light', not distracting from implementation at the local level</p>
7. To increase preparedness from national, regional and local authorities to implement the mission through regulatory and funding levers	Bilateral meetings with some national administrations	<p>Securing buy-in of the nation states and regions might justify an effort at the highest levels of the EU</p> <p>Following: regular procedures for interaction highly advisable</p>

Figure 20. Mapping progress and immediate challenges against the seven mission specific objectives

5. Annexes

5.1. List of held interviews

Stakeholder group	Organisation	Interview date
Mission Secretariat	EC DG RTD C2, Unit Future Urban and Mobility Systems	03 Feb-2023
Mission Secretariat	EC DG RTD C2, Unit Future Urban and Mobility Systems	03 Feb-2023
Mission Secretariat	EC DG RTD C2, Unit Future Urban and Mobility Systems	03 Feb-2023
Mission Owner Group	DG ENER	23 Feb-2023
Mission Board Member	Former Vice Mayor of Vienna	02-Mar-2023
French representative in the SPC sub-group	Ministry of higher education and research (France)	03-Mar-2023
Mission Board Chair	Polish Parliament	07-Mar-2023
Mission platform	Climate KIC	13-Mar-2023
Deputy Mission Manager	EC DG RTD	14-Mar-2023
Policy network	Covenant of the Mayors	16-Mar-2023
Case: City	Ajuntament de Barcelona; Director del Gabinet Tècnic de Programació, Gerència d'Agenda 2030, Transició Digital,	17-Mar-2023
Case: City	Ayuntamiento de Madrid; Subdirector General de Energía y Cambio Climático	21-Mar-2023
Financing instruments	EIB	22-Mar-2023
Financing instruments	EIB	22-Mar-2023
Financing instruments	EIB	22-Mar-2023
Financing instruments	EIB	22-Mar-2023
Mission Manager	EC DG ENV	30-Mar-2023
National policy network	EIT Climate-KIC Spain and national platform management	31-Mar-2023
National policy network	National platform manager and former mission board member	31-Mar-2023

Nb: interviewees were informed in writing that the list of named interviewees would be included in the assessment report.

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5.3. Survey tables – responses for Cities Mission

What type of organisation do you represent? Please select the most applicable.

Response	Number of responses	%
National government institution or public agency	24	25%
Regional (local) government institution or public agency	16	22%
Higher education institution (including academic research centres)	10	12%
Member of a mission board	7	9%
Research and technology organisation (public or not for profit)	6	9%
EU institution or body	5	7%
Non-governmental organisation (e.g. environmental organisations, civil society organisations)	3	3%
Not for profit associations and networks (e.g. European networks of regions, research organisations, patient organisations).	3	2%
Business	2	2%
Private sector association (e.g. chamber of commerce, business federation)	0	1%
International organisation (outside of the EU, e.g. OECD, United Nations, etc.)	0	0%
Other	4	7%

Source: Data from the study survey. N = 80

Please explain how you are involved in the selected EU Mission. Select one or more of the following options.

Response	Number of responses	%
My organisation is involved in the implementation of the mission	33	41%
My organisation is exploring future participation in the mission activities	25	31%
My organisation is a beneficiary of project funding from the Horizon Europe's Mission Work Programme,	21	26%
My organisation took part in one or more events organised by the mission	21	26%
I or someone from my organisation has been involved in the mission board or other activities undertaken to define the mission area, objectives, or implementation plan	19	24%
My organisation is part of a national or regional level initiative relevant for the mission (including funding bodies)	19	24%
My organisation is part of a European level initiative relevant for the mission	16	20%
My organisation is a beneficiary of project funding from other parts of Horizon Europe supporting or addressing the mission objectives	15	19%
I have been involved in the activities of an EU Cohesion Policy Managing Authority / Intermediate Body (or pre-accession programme equivalents)	2	3%
Other	10	13%
Do not know/cannot answer	1	1%

Source: Data from the study survey. N = 80

The mission is bold, inspirational and has the necessary scope: To what extent do you agree with the following statement about the mission?

Response	Number of responses	%
Strongly agree	32	40%
Agree	32	40%
Neutral	10	13%
Disagree	3	4%
Strongly disagree	2	3%
Do not know/cannot answer	1	1%

Source: Data from the study survey. N = 80

The mission has been selected in a transparent manner, including through the consultation of relevant stakeholders: To what extent do you agree with the following statement about the mission?

Response	Number of responses	%
Strongly agree	17	22%
Agree	26	33%
Neutral	20	26%
Disagree	3	4%
Strongly disagree	2	3%
Do not know/cannot answer	10	13%

Source: Data from the study survey. N = 78

The mission's overall objective is achievable by 2030: To what extent do you agree with the following statement about the mission objective?

Response	Number of responses	%
Strongly agree	5	6%
Agree	27	34%
Neutral	19	24%
Disagree	23	29%
Strongly disagree	1	1%
Do not know/cannot answer	5	6%

Source: Data from the study survey. N = 80

To what extent do you agree with the following statements?

Response	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Do not know/ cannot answer
The mission is progressing in line with its implementation plan	6% (5)	43% (34)	14% (11)	14% (11)	1% (1)	23% (18)
The mission is creating or is likely to create added-value compared to existing initiatives or instruments	28% (22)	54% (43)	9% (7)	6% (5)	1% (1)	3% (2)

Source: Data from the study survey. N = 80

The following list presents factors (barriers or drivers) that may influence mission implementation. Please rate the importance of the listed elements.

Response	5 – Very important	4	3	2	1 – No important	Do not know/ cannot answer	Total N
Bold yet realistic mission objectives	34% (26)	49% (37)	11% (8)	3% (2)	0% (0)	4% (3)	76
Clear research & innovation objectives	37% (28)	39% (29)	21% (16)	3% (2)	0% (0)	0% (0)	75
Political support at the EU level	67% (50)	21% (16)	9% (7)	3% (2)	0% (0)	0% (0)	75
Political support at the national level	62% (47)	22% (17)	14% (11)	0% (0)	1% (1)	0% (0)	76
Political support at the regional and local level	72% (53)	14% (10)	9% (7)	3% (2)	1% (1)	1% (1)	74
Transparent governance and decision-making structures	47% (34)	36% (26)	15% (11)	0% (0)	1% (1)	1% (1)	73
Sufficient funding available at the EU level	55% (41)	30% (22)	12% (9)	3% (2)	0% (0)	0% (0)	74
Additional funding at the national, regional, and local level(s)	54% (40)	24% (18)	15% (11)	5% (4)	0% (0)	1% (1)	74
Broad stakeholder involvement and citizen participation	49% (36)	27% (20)	16% (12)	3% (2)	1% (1)	3% (2)	73
Outreach and communication activities	29% (20)	42% (29)	25% (17)	3% (2)	0% (0)	1% (1)	69
Other	/	/	/	/	/	/	15

Source: Data from the study survey. N = 78

What are the key elements that should help the mission to create value added? Select up to THREE options.

Response	Number of responses	%
Effective coordination between EU, national, regional, and local levels	64	85%
Coherence between available funding and mission objectives	43	57%
Strong commitment by different stakeholders	41	55%
National or regional policy instruments are complementary to the EU level mission instruments	24	32%
Effective cross-policy coordination at EU level	23	31%
Mission specific instruments create synergies with other existing policy programmes and initiatives	19	25%
Do not know/cannot answer	0	0%

Source: Data from the study survey. N = 75

The governance setup of the mission is suitable for steering and implementing the mission: To what extent do you agree with the following statement about the mission?

Response	Number of responses	%
Strongly agree	7	10%
Agree	21	29%
Neutral	21	29%
Disagree	13	18%
Strongly disagree	1	1%
Do not know/cannot answer	10	14%

Source: Data from the study survey. N = 73

In your view, what are the barriers to effective mission governance? Select up to THREE options.

Response	Number of responses	%
Challenges in aligning resources across different governance levels (EU, national, regional, etc.)	52	69%
Lack of clarity of responsibilities among the mission governance bodies	33	44%
Lack of clear cooperation structures between the mission governance bodies	30	40%
Low involvement of non-governmental stakeholders	25	33%
Divergence in the interests of different governance bodies	25	33%
Unfit communication channels	13	17%
Other	3	4%
Do not know/cannot answer	4	5%

Source: Data from the study survey. N = 75

What governance factors are present and enabling successful management? Select up to THREE options.

Response	Number of responses	%
Clear cooperation structures between the mission governance bodies	28	38%
Clearly defined responsibilities	27	37%
Clear and well-functioning communication channels	25	34%
Resources that are aligned across different governance levels (EU, national, regional, etc.)	23	32%
Convergence in the interests of different stakeholders	18	25%

Response	Number of responses	%
Effective involvement of non-governmental stakeholders	13	18%
Other	6	8%
Do not know/cannot answer	13	18%

Source: Data from the study survey. N = 73

To what extent do you agree with the following statements about how the mission is developed and implemented at the national, regional, and local levels?

Response	Discussions on the mission have not yet started	The mission is being discussed by public authorities, but not yet implemented	The mission is being discussed by public authorities and funding sources are being identified	The mission is being implemented through specific public policy instruments	Do not know / cannot answer
National level	19% (12)	39% (25)	19% (12)	9% (6)	14% (9)
Regional level	27% (17)	30% (19)	16% (10)	3% (2)	25% (16)
Local level	13% (8)	23% (15)	33% (21)	13% (8)	19% (12)

Source: Data from the study survey. N = 64

What are the factors limiting the implementation of the mission in your country? Select up to THREE options.

Response	Number of responses	%
Insufficient coordination between policy-making levels within the country (national, regional, local levels)	28	47%
Lack of interest on missions in national policy planning circles	22	37%
Engagement of the private sector	20	33%
Insufficient coordination between the EU and national policymakers	16	27%
Lack of interest on missions in regional / local policy planning circles	12	20%
Divergence in the interests of national / regional / local stakeholders concerning the mission implementation	12	20%
Insufficient availability of skills	10	17%
The mission is not sufficiently relevant at the national level	8	13%
The mission is not sufficiently relevant at the regional level	7	12%
The mission is not sufficiently relevant at the local level	6	10%
Other	9	15%
Do not know/cannot answer	3	5%

Source: Data from the study survey. N = 60

What are the key enabling factors for mission implementation? Select up to THREE options.

Response	Number of responses	%
Effective coordination between the EU and national / regional local policymakers	24	41%
The mission is sufficiently relevant nationally	23	40%
The mission is sufficiently relevant locally	23	40%
Effective coordination between policymaking levels within the country (national, regional, local)	16	28%
Engagement of the private sector	15	26%
The mission is sufficiently relevant regionally	14	24%
The national policy plans/strategies include a focus on one or more missions	14	24%
Convergence in the interests of national / regional / local stakeholders concerning the mission implementation	13	22%
Sufficient availability of skills	9	16%
The regional / local policy plans/strategies include a focus on one or more missions	8	14%
Other	2	3%
Do not know/cannot answer	0	0%

Source: Data from the study survey. N = 58

To what extent do the mission's objectives influence the R&I policy agenda at following levels of government?

Response	5 – Strong influence	4	3	2	1 – No influence	Do not know/ cannot answer	Total N
Supranational policies and initiatives	16% (12)	19% (14)	28% (21)	12% (9)	4% (3)	21% (16)	75
National policies and initiatives	15% (11)	16% (12)	25% (19)	20% (15)	5% (4)	19% (14)	75
Regional or local policies and initiatives	14% (10)	23% (17)	22% (16)	19% (14)	7% (5)	16% (12)	74

Source: Data from the study survey. N = 75

The mission encourages broad engagement and active participation of stakeholders and citizens: To what extent do you agree with the following statement about the mission?

Response	Number of responses	%
Strongly agree	15	20%
Agree	33	44%
Neutral	18	24%
Disagree	5	7%
Strongly disagree	1	1%
Do not know / cannot answer	3	4%

Source: Data from the study survey. N = 75

In your opinion what are the main barriers to mobilising stakeholders and citizens? Select up to THREE options.

Response	Number of responses	%
It is unclear how stakeholders can become involved in the mission	43	57%
There are insufficient instruments / actions to support the involvement in the mission	40	53%
Participation in the mission has high investment costs	29	39%
Insufficient skills and/or competencies of stakeholders	21	28%
The mission engages with a limited range of stakeholders only	20	27%
Other	5	7%
Do not know/cannot answer	7	9%

Source: Data from the study survey. N = 75

What are the key enabling factors for broad engagement and active participation in the mission? Select up to THREE options.

Response	Number of responses	%
The mission is inspirational and highly relevant for stakeholders, citizens and communities	44	60%
Communities and local actors benefit from their involvement in the mission	44	60%
Instruments and actions are in place to support broad involvement in the mission	33	45%
Information is available on how to become involved in the mission	32	44%
Stakeholders having relevant skills and/or competencies	15	21%
Other	1	1%
Do not know/cannot answer	4	5%

Source: Data from the study survey. N = 73

In your opinion, are the allocated resources sufficient to realise the mission objectives at the EU, national, regional and local levels?

Response	More than sufficient	Sufficient	Insufficient	Do not know / cannot answer	Total N
European	9% (7)	32% (24)	42% (31)	16% (12)	74
National	4% (3)	14% (10)	66% (48)	16% (12)	73
Regional	5% (4)	11% (8)	63% (46)	21% (15)	73
Local	7% (5)	11% (8)	64% (48)	19% (14)	75

Source: Data from the study survey. N = 75

Are you aware of any national, regional actions or instruments that contribute to the mission objectives?

Response	Number of responses	%
Yes	36	51%
No	24	34%
Do not know/cannot answer	11	15%

Source: Data from the study survey. N = 71

5.4. Annex 4. Portfolio of instruments

Instrument	Type of instrument	Total financing for the instrument in	Governance level
Mission platform	Support action	EUR 53 million	EU
Climate city contracts	Contract	EUR 2 million for integrated New European Bauhaus principles in the CCC	EU / national / regional / local
National platforms	Support action	EUR 2 million	EU / national
JRC support activities	Support action	EUR 1 million	EU
Mission label	Communication	No budget	EU
Horizon Europe Partnerships	R&I support	EUR 55.3 billion unknown contribution to cities	EU
Recovery and Resilience Facility of NextGenerationEU	Grants and loans	EUR 338.0 billion in grants EUR 385.8 billion in loans; unknown contribution to cities	EU / National
Cohesion Policy Funds	Financing	EUR 48 billion ERDF 226 billion (2021-27), unknown contribution to cities	EU
Invest EU	Financing	38 billion financed by the ETS until 2030, unknown contribution to cities	EU
European Climate Pact actions to increase citizen engagement	Support action	nknown	EU
100 Positive Energy Districts	Funding	EUR 0.74 billion in R&I funding over the period of 2018-2025; unknown contribution to cities	EU

Instrument	Type of instrument	Total financing for the instrument in	Governance level
CIVITAS	Funding	unknown	EU
EIT Climate KIC, Healthy Clean Cities	Funding	unknown	EU
European Universities Initiative	Funding	2023 Erasmus+ European Universities: EUR 387.2 million	EU
Connecting Europe Facility	Funding	EUR 20.73 billion, unknown contribution to cities	EU
LIFE	Funding	EUR 5.43 billion, unknown contribution to cities	EU
European Maritime, Fisheries and Aquaculture Fund	Funding	EUR 6.11 billion (2021-2027) unknown contribution to cities	EU
Digital Europe Programme	Funding	EUR 7.5 billion unknown contribution to cities	EU
European City Facility	Support to financing	EUR 16 million from 2019 to 2024, unknown contribution to cities	EU
European Local Energy Assistance (ELENA)	Support to financing	EUR 200 million in grants since 2009, unknown contribution to cities	EU
Joint Assistant to Support Projects in European Regions (JASPERS)	Support to financing	EUR 223.5 million, unknown contribution to cities	EU
Smart Cities Marketplace (merge of EIP-SCC Marketplace and Smart Cities Information System)	Support to financing	EUR 900,000 2022-2024, unknown contribution to cities	EU
URBIS	Support to financing	unknown	EU

Instrument	Type of instrument	Total financing for the instrument in	Governance level
100 Intelligent Cities Challenge	Support to financing	EUR 247 million Leveraged public funding from EU, national and regional sources	EU
Affordable Housing Initiative	Support to financing	unknown	EU
European Energy Efficiency Fund - Technical Assistance	Support to financing	unknown	EU
European Structural and Investment Funds - contribution to cities unknown	Financing	Cohesion Fund: 48 billion; ERDF 226 billion (2021-27)	EU
Green Economy Transition: Green City Action Plan	Financing	unknown	EU
European Energy Efficiency Fund	Financing	planned budget for the period 2021-2030 amounts to EUR 733 million	EU
Innovation Fund (ETS)	Financing	approx. EUR 10 billion 2020 -2030	EU
Modernisation Fund (ETS)	Financing	approx. EUR 48 billion 2021 - 2030	

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The Cities Mission is a major effort to achieve climate neutrality and transform urban environments. The intervention is significant and timely as many cities have defined ambitious climate targets but are confronted with an implementation gap. In less than two years, the mission has mobilised 112 cities. The Cities Mission has also delivered tangible results in the form of a transnational NetZeroCities platform and the publication of the first climate cities contracts, which outline city-level transformation pathways and investment plans to achieve climate neutrality by 2030.

Studies and reports

