

Net-zero, resilient and people-centred cities

Action Plan of the
Urban Transitions Mission

Sept 2022



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The Vision of the Urban Transition Mission

The Challenge: Cities account for nearly three-quarters of global energy consumption and 70% greenhouse gas emissions and are a key actor to accelerate progress towards the Paris Agreement goals and pathways to net-zero. To meet the global climate goals, national governments, local governments, the business sector, local stakeholders and civil society must quickly partner to accelerate the implementation of a holistic transition to a net-zero future.

The Goal: The Mission will work with a cohort of 50 ambitious cities worldwide to demonstrate integrated pathways towards holistic, people-centred urban transitions built around clean energy and innovative net-zero carbon solutions. By 2030, these pathways will be validated by a group of 250 cities and inspire cities across world regions on their journey towards decarbonisation.

The Mission: The Mission will mobilise decision makers across all levels of government to prioritise net-zero pathways enabled by clean energy and systemic innovation across all sectors and in urban governance. By accelerating capacity-building and closing the gap between research, development and deployment, the Mission will empower cities to adopt innovative solutions and help reach the tipping points in the cost and scale of those solutions for urban transitions.

Systemic challenges:

1. **Cities account for more than 70% of global energy consumption, 70% greenhouse gas emissions, more than half of the world's population is urban** and this figure is expected to rise. The climate and energy challenge is an urban one.
2. **Current net-zero policies have pitfalls, including a reliance on underdeveloped technologies that overlook local resources and the lack of integration of local governance strategies in national programmes for action.** There is a need to recognize and support the role of urban areas, urban decision makers and stakeholders in the net-zero transition.
3. **Current National Determined Contributions (NDCs) are insufficient – Cumulative CO2 emissions between 2020–2030 are likely to use up 89% of the global carbon budget** and there is a need for integration of urban areas in NDC investment plans. Countries can leverage their cities to accelerate nationwide system transformation with greater ambition and at a faster pace.
4. Already 12.500+ cities and local governments committed to take strong leadership in climate action via the Global Covenant of Mayors alone, **over 75 percent of GCoM signatories have set more ambitious GHG reduction targets than their respective national governments.**
5. GCoM Signatories reported **100,000+ climate actions requiring USD 690 billion (EUR 593 billion) for implementation**, providing opportunities for 11million new green jobs and significantly enhanced urban resilience.




There is a fragmented global landscape that limits the large-scale delivery of solutions for net-zero urban transitions. There are not enough cities being adequately ambitious and their geographical distribution is still not uniformly spread at the global level. Cities need prioritisation and roadmapping support, as well as examples and capacity to be widely available in order to foster ambitious leadership decisions and drive systemic transition.

Innovation and technology play an increasingly central role in planning for net-zero urban futures. However, their deployment needs to be tailored to suit the diversity of the urban context and needs to be inclusive, collaborative and empowering.

Governance and coordination mechanisms are not adequate, and the response of the R&I global agenda needs to be aligned with the needs of cities, filling the gap between the net-zero ambition and its implementation. Despite the critical importance of effective governance structures for urban transitions, adequate local capacity and links between national urban policies and cities have not progressed enough.

A number of initiatives, partnerships and organisations support cities with implementing their climate strategies, building their capacity and organising networking opportunities. There is however a pressing need to align their efforts, increase the collaboration and synergy between similar and complementary initiatives, and leverage on the replication of best practices and integrated approaches at the global level.

The mission aims to address systemic challenges under three areas:

		
<p>Systemic human centred transition in cities</p> <ul style="list-style-type: none"> - Need for cross-sectoral systemic approaches to net-zero urban development - Lack of experience with /exposure to innovative approaches to governance, finance and technology for net-zero people-centred transitions 	<p>Multi-sectoral capacity at the global level</p> <ul style="list-style-type: none"> - Lack of capacity to support the net-zero transition at all levels, from practitioners to policy makers - Need for stronger collaboration and knowledge exchange at global level - Language barriers in the availability of guidance and knowledge to be replicated globally 	<p>Increased Urban Research & Innovation</p> <ul style="list-style-type: none"> - Need for stronger collaboration and synergy between similar and complementary initiatives - Need for better dissemination of effective net-zero urban pathways - Insufficient national R&I investment on urban level <p>Insufficient synergy among events that promote net-zero transitions</p>

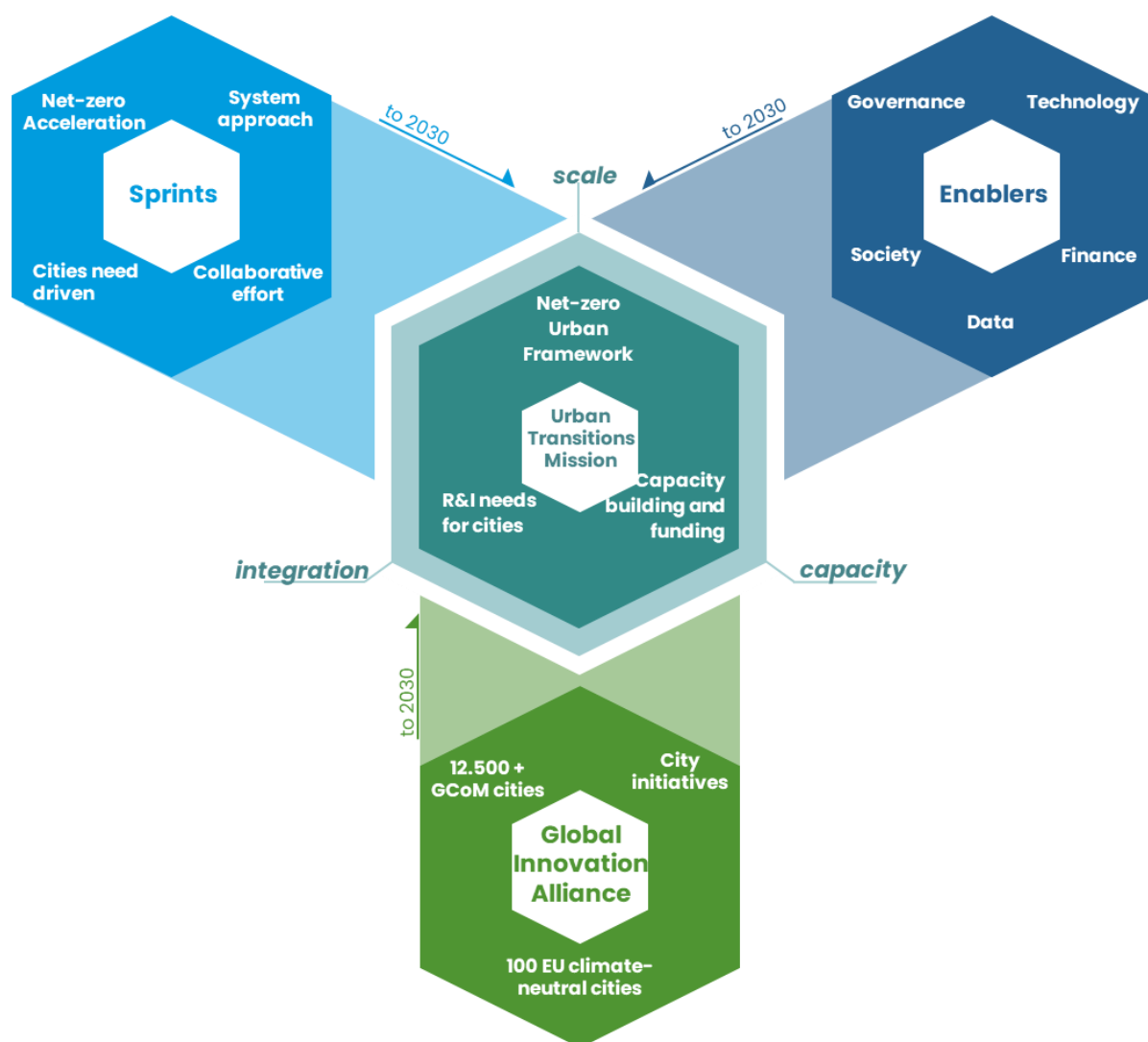
The Mission is co-lead by the European Commission, the Global Covenant of Mayors and the Joint Programming Initiative (JPI) Urban Europe. The growing consortium also includes core members (Austria, India, Sweden, and the MI IC7 Innovation Community on Affordable Heating and Cooling in Buildings) and a diverse Mission Support Group.



Implementation Pathways

The Urban Transitions Mission (UTM) aims at demonstrating that systemic urban strategies along with climate resilience and social aspects of the transition can boost reliable, affordable, feasible and cost-effective solutions for reaching net-zero cities.

Successful urban transitions will leverage innovative policies, technologies, financial instruments, business models and cooperative approaches. These points must be integrated for the satisfaction of citizens' needs, building on renewable energy sources and circular economy principles and enhancing resilience for a people-centred urban transition globally.



An ambitious approach, driven by needs and solutions: The Mission will address the challenges identified above via three interconnected action pillars:

1. Innovative, net-zero urban transition
2. Capacity building and funding for the net-zero urban transition
3. City Research & Innovation (R&I) challenges for the global net-zero transition

As part of a new Global Innovation Alliance (GIA), MI countries, relevant partners and stakeholders worldwide will be engaged in furthering the Mission's goals through targeted activities and flagship projects (i.e. "sprints") under these three action pillars.

An approach that builds on the strengths of the UTM partnership and thrives on synergies:

The Urban Transitions Mission will leverage existing complementary initiatives, partnerships and programmes within and beyond the Mission's consortium. It will also build on strong engagement of national governments to foster the urban transition and on support of the Global Innovation Alliance partners.

Synergies with several initiatives of the co-leads will be instrumental in the delivery of the Mission. Such initiatives include the European Union's Mission on [Climate-Neutral and Smart Cities](#) and the Global Knowledge Exchange Centre for urban climate neutrality, JPI Urban Europe's [Driving Urban Transitions to a Sustainable Future \(DUT\) partnership](#) and [Mical series](#), as well as on the GCoM activities ([Data4Cities](#), [Innovate4Cities](#), [Invest4Cities](#)) and [National/Regional Chapters](#). Synergy with initiatives of the core and support members will play a key role as well, such as [MI Innovation Community of Affordable Heating and Cooling of Buildings](#), [India's Smart Cities Mission](#), [ENoLL's Living Labs](#) and the urban components of the [UNFCCC Global Innovation Hub](#).

The UTM will explore opportunities for collaboration with activities of Mission Innovation (MI) such as the Net-zero compatibility assessment initiative (NCI) and with other MI Missions, such as the Green Powered Future Mission (GPFM).

The terms "city" and "Local Government" (LG) are used interchangeably throughout this document, with the understanding that LG refers to the administrative body of a local community ("city") and that the typologies, responsibilities and mandates vary greatly from country to country. In this document, the term "city" is used to refer to communities of any size (i.e. towns, etc.) Cities may participate if they have at least 50,000 inhabitants. The term city is used to refer to a geographical subnational jurisdiction ("local administrative unit") such as a town or a city that is governed by a local government as the legal entity of public administration, understanding that the institutions of local governments may vary from country to country and terminology used in national contexts may differ.

The Mission value proposition

The Mission will support a growing cohort of cities to accelerate their journey towards net-zero in a global and thriving environment. The Mission will identify support, guidance and tools, broker access to knowledge from global partners across sectors, and connect with national governments to foster engagement and urban innovation. Thanks to the creation of a global community of practice, cities engaged in the Mission will be able to connect, exchange and learn from each other how to strengthen their climate strategies.

What does a participating city get from the Mission

- A **globally designed framework** helping cities to strengthen their own climate plans and strategies, prioritise actions, and reap the benefits of **systemic approaches** to reach their net-zero target.
- A **global platform for knowledge exchange**, that provides cities with direct access to good practices, integrated solutions, peer-learning opportunities and guidance for each step of their city climate journey.
- **Help to identify needs-based solutions** in partnerships with the UTM Global Innovation Alliance, other Missions and in collaboration with other cities across the globe, also granting high international visibility.
- The opportunity to **apply innovation, test, pilot and scale up solutions** and to access **dedicated R&I funding and capacity building** via the [MICall series](#).
- **Engagement with the national level** to foster innovation, access climate finance and collaborative governance models.

How will a participating city engage

- **Revising their existing climate and energy action plans and prioritise actions to reach net-zero.** Cities will showcase their innovation and progress via existing reporting commitments.
- Serving as both a **solution provider to support net-zero pathways** – inspiring, applying solutions, and as an **innovation hub** – identifying R&I gaps and challenges to help other cities in the urban transition to net-zero.
- **Participating in the Annual Innovation Summit and engaging** in knowledge-transfer and capacity building opportunities with other UTM cities to accelerate their journey to net-zero.
- Engaging in **dialogue with the national government** and the Mission's Global Innovation Alliance.

Why should an MI member engage with the Urban Transitions Mission

- **Leverage cities' local climate and energy actions**, aggregate solutions and R&I demand to enhance ambition and accelerate implementation of Nationally Determined Contributions (NDCs) under the Paris Agreement.
- Align and build synergies between local and national level priorities to **steer investments and maximise impacts, benefitting from transnational R&I cooperation**.
- Engage in a community that encourages **networking and exchange of good practices across governance level and sectors**, providing wide-ranging opportunities to showcase the developed innovation internationally.

How can a MI Member Country engage

- **Join the Global Innovation Alliance to co-create solutions** and shape the urban transition framework to net-zero.
- **Leverage R&I investments by joining the [MICall series](#) to address urban challenges** through systemic innovation and capacity building measures.
- Help the Mission identify the **most relevant cities for the cohort**, mobilising them to Express their interest and improving the national ecosystem and support measures to achieve to net-zero.
- Be inspired by the UTM's experience, to **inform, engage and provide resources** developed by existing net-zero urban transition initiatives in the country.
- **Host the Annual Innovation Summit**, showcasing urban innovation, best practice and solutions at the global level.

PILLAR 1 – Innovative, net-zero urban transition

The activities under this pillar aim to engage a growing cohort of cities in the Mission, providing them with guidance and solutions to advance their net-zero urban transition at each stage of their climate action journey. Through this pillar, the mission will:

- Develop and offer a framework for the implementation of innovative and systemic net-zero urban transition action plans.
- Bring together a cohort of 50 pilot cities to test and apply the framework, identifying gaps in current plans, and strengthening them with a holistic approach to net-zero, across multiple sectors.
- Engage an additional 250 cities to review and further redefine the net-zero urban transition framework.
- Work towards a tipping point by engaging a total of at least 500 cities globally, to enhance their action plans by 2030, and establish systemic net-zero pathways as the default option.
- Share worldwide an urban transitions net-zero framework, by leveraging and supporting the alliance of 12,500+¹ GCoM signatories.
- Feed new Research & Innovation agendas based on needs and gaps identified.
- Support sector coupling by bringing together national and local, public and private actors and initiatives into a Global Innovation Alliance.

All activities under pillar 1 will link closely with the implementation of the other two pillars.

The Global Covenant of Mayors for Climate & Energy (GCoM) alliance allows the Mission to reach out to cities and support them with local partnership, thanks to the GCoM Regional and National Chapters active globally. These are locally specific coalitions of cities that have all made a commitment to take action on climate change. Through the GCoM Regional covenants, cities are supported by local, regional, and national city networks as well as other partners who provide support to cities that have made this ambitious commitment.

Focus on Data, Innovation, Finance and action acceleration is part of the different initiatives within GCoM, to which UTM cities can be connected: Data4Cities, Innovate4Cities, and Invest4Cities, as well as the Race to Zero and Race to Resilience under the umbrella of the United Nations Framework Convention on Climate Change – UNFCCC.

¹ Number as of Sept 2022

Mission Activity 1 / Sprint – City selection and engagement

The UTM recognizes the role of multi-level collaboration as essential to accelerate the achievement of the Paris Agreement. With support from MI countries and international partners, the UTM will identify and engage a growing cohort of cities worldwide, willing to take a leading role and raise the innovation and the ambition of their action plans in order to support the net-zero urban transition.

The Mission launches an open call for cities to join the Urban Transitions Mission City cohort on 22 Sept 2022 in the Global Clean Energy Action Forum (GCEAF, Pittsburgh, PA). A first cohort of 50 cities will be identified by the end of 2022, while a second cohort of 250 cities will follow by 2024. A strong role will be given to MI Members, to Global Innovation Alliance, Urban Transitions Mission partners and to GCoM Alliance partners, who are invited to mobilise the cities that have a high potential to benefit from and contribute to the Mission. The selection made by GCoM, in agreement with the Mission's Steering Committee, will follow a robust methodology in line with a defined set of eligibility and assessment criteria. The objective is to ensure the readiness and commitment of cities as well as the diversity and relevance of the cohort for the Mission's goal.

Cities will be able to express an interest to join the Mission until 22 October through a brief online questionnaire that reflects the assessment criteria. The link to the questionnaire will be available on the GCoM website, as well as MI UTM and partner websites, as of 22 September, together with an info pack that details the value proposition for cities, their expected commitment, and FAQs.

A set of defined, transparent criteria for eligibility and to guide the selection will be shared in advance to the call launch. GCoM experts will be tasked with carrying out a robust assessment, against the eligibility and selection criteria, and steering the selection of a diverse cohort of cities in terms of geographical composition, size and context, and transition needs. This will ensure the highest scalability and replication potential for the lessons learnt in the implementation of net-zero urban transition framework.

A second cohort of cities will be selected and announced later, in 2024 (up to 250 cities). The cities that will not be selected in the first cohort but that have fulfilled the eligibility conditions can be included in this second group.

Activities, Milestones & KPIs

1.1 City Selection process and criteria developed

- **Milestone:** call launch on 22 Sept 2022 (GCEAF – CEM13/MI7)

1.2 City selection call(s)

- **Milestone:** cities selected and ready for engagement
- **KPI:** 50 cities in the first cohort (2022– 2023)
- **KPI:** 250 cities in the second cohort (2024)

Mission Activity 2 – Urban Transition net-zero framework

The UTM offers an **urban transition net-zero framework** that will build on:

- the knowledge and expertise of the Global Innovation Alliance
- first-hand experience of the cities engaged

This framework helps cities to:

- strengthen their existing climate and energy action plans, across all steps of their city climate action journey
- prioritise, identify gaps, better assess potential for co-benefits, among others, to adopt systemic approaches to reach net-zero



Infographic: City Journey (Source: <https://www.globalcovenantofmayors.org/journey/>)

Building on existing frameworks such as ICLEI' GreenClimateCities, the C40 AMIA tool, or the GCoM resource centre, the framework will offer access to guidance, tools, resources, good practices on innovative and systemic solutions at each step of the GCoM city climate action journey. Additional resources will be provided through pillar 2 activities on capacity building and the Global Knowledge Exchange Centre, and pillar 3 activities on R&I challenges and solutions.

The framework will be applied and tested by an initial cohort of 50 cities to enhance the ambition and system approach of their climate action plan.

The framework will be further refined through the engagement of and support to the second cohort of 250 cities. The Mission will distil the lessons learned from both cohorts, into the urban net-zero framework, then offer it to cities across the globe as a key instrument to accelerate the net-zero urban transition in a systemic way. By 2030, the UTM aims to disseminate the framework to the 12,500+ GCoM Signatories to accelerate the net-zero urban transition globally.

Thanks to the Mission activities, the Mission's global knowledge exchange centre and the Annual Innovation Summit (see pillar 3), participating cities will connect with their national

government and use an international stage to showcase their lessons learnt, provide solutions and aggregate the demand for R&I and funding to implement the net-zero transition.

Further options to provide direct assistance to cities and Mission activities will be investigated with MI members.

The progress made by cities in innovation and in the contribution to the net-zero urban transition will be captured via the city's existing reporting efforts and via available platforms and frameworks, such as GCoM Common Reporting Framework (CRF).

Activities, Milestones & KPIs

2.1 Net-zero urban transition framework

- **Milestone:** Urban net-zero framework publicly available
- **Milestone:** Dissemination to all GCoM signatory cities (12.400+ as of July 2022) (2030)

2.2 Framework implementation in first and second city cohorts

- **Milestone:** offer for cohort mapped (3rd quarter of 2022, reviewed periodically)

2.3 Support multi-level cooperation

- **Milestone:** Mayoral-Ministerial dialogue – side event of the GCEAF on 22 Sept 2022
- **Milestone:** organisation of Mayoral-Ministerial dialogues

2.6 Capture progress made by cities in the cohort

- **KPI:** 50 city action plans enhanced following the UTM City roadmap (2024), 100 (2026), 200 (2028), 300 (2029), 500 (2030 – tipping point)
- **KPI:** # of videos showcasing the cities progress at the Annual innovation Summit

Flagship activity / Sprint: Positive Energy Districts (PED)

Positive Energy Districts are important building blocks on the road towards climate-neutrality and net-zero carbon emissions. They require interaction and integration between buildings, people and the regional energy, mobility and Information and Communications Technology (ICT) system. In this sense, a Positive Energy District is seen as an urban neighbourhood with annual net zero energy import and net zero CO₂ emissions working towards a surplus production of renewable energy, integrated in an urban and regional energy system.

The PED Transition Pathway of JPI Urban Europe's new DUT Partnership aims at developing integrated, innovative solutions for the planning, implementation and replication of Positive Energy Districts globally and considering technological, spatial, environmental, social, legal/regulatory, financial, and economic perspectives. JPI Urban Europe will contribute to

the MI Urban Transitions Mission by opening the DUT Partnership's mission-oriented PED Transition Pathway to partners beyond Europe.

The Sprint aims to:

- Support at least 100 Positive Energy Districts by 2025 as an intermediate objective towards achieving 100 climate-neutral cities in Europe and beyond until 2030.
- Provide a portfolio of 10+ integrated innovation solutions from 2025 onwards.
- Further develop strategic key elements of PEDs, such a transnational joint PED framework definition identifying key challenges, barriers and success factors and continuous mapping of PED projects.
- Build the capacities needed within urban administrations and create an environment that contributes to achieving European and global goals.
- Mobilise PED –specific stakeholder ecosystems on transnational, national and local levels.
- Open up the tailored annual joint calls for projects of DUT to the international level and welcome international participation in other PED activities.

Joint Programming Initiative Urban Europe (JPI UE) is an intergovernmental research and innovation programme dedicated to sustainable urbanisation. With the new European Partnership „Driving Urban Transitions towards a Sustainable and Liveable Urban Future“ (DUT), co-funded by 27 countries and the European Commission, a comprehensive R&I programme is established to address critical issues for urban transitions towards climate-neutral, inclusive and sustainable urban areas. In order to support cities along their specific strategies, the DUT Partnership focuses on three critical urban sectors

- Urban greening through Nature-Based Solutions and circular economies – The Circular Urban Economies Transition Pathway (CUE) promotes actions to relieve urbanisation pressure on the global ecosystem and become more resilient and robust towards climate change effects
- Urban energy transitions through Positive Energy Districts – The Positive Energy Districts Transition Pathway (PED) supports innovative solutions for planning, large-scale implementation and replication of PEDs, aiming for at least 100 Positive Energy Districts by 2025.
- Urban mobility and public space transitions through 15-Minute City approaches – The 15-Minute City Transition Pathway (15minC) aims to foster sustainable transitions in urban mobility and city planning through creating accessibility and connectivity.

Activities, Milestones & KPIs

Detailed activities will be refined in August 2022.

- **Milestone:** PED sprint Launch – 22 Sept 2022 (GCEAF – CEM13/MI7, Pittsburgh)
- **Milestone:** Joint international call launch
- **KPI:** At least 100 Positive Energy Districts (2025)
- **KPI:** Portfolio of 10+ integrated innovation solutions
- **KPI:** # of MI Countries engaged
- **KPI:** amount of € in the PED calls

Flagship activity / Sprint: Data driven decision making on cooling and urban energy issues

Urban overheating is becoming an ever more extreme problem and both cities and national governments are increasingly facing challenges, relating to aspects from emergency response to long term innovative solutions planning.

Leveraging the collaboration between the MI Innovation Community 7 (IC7), GCoM, UNEP, the Rocky Mountain Institute (RMI) and the Cool Coalition, the Urban Transitions Mission intends to support the development and roll-out of rapid decision-support systems to enable city and national decision makers

The IC7 intends to develop an online digital decision-making tool, as well as capacity building and knowledge material on the cooling sector and the integration of cooling with other aspects of the urban transition. These objectives can be supported by the UTM Partnership and will be hosted and integrated in the Global Knowledge Exchange Centre, developed in support of the UTM. The activities and approach will be further developed in QIV of 2022, drafted as follows:

- Application of the indications of the Sustainable Cooling Handbook in a number of cities in India, with the integration of other sectors of the urban transition.
- Identify R&I gaps on urban cooling and system integration
- Identify finance gaps on urban cooling and system integration
- Feed the urban net-zero transition framework on system integration and cooling approaches
- Replicate and adapt the experience of Indian cities elsewhere in the world, with particular potential for 22+ MI Countries and 11,700+ cities (GCoM signatories).
- Provide case studies of globally innovative urban cooling implementation and impacts on energy systems and emissions via the Global Knowledge Exchange Centre
- Generate potential spin-off activities on R&I and access to finance opportunities

Activities, Milestones & KPIs

Detailed activities will be refined in August 2022.

- **Milestone:** Cooling sprint Launch – Sept 2022 (CEM13/MI7, Pittsburgh)
- **Milestone:** #(td) of cities involved
- **Milestone:** Launch of Spin-off activities on R&I and access to finance opportunities in the integrated cooling
- **KPI:** # of cities involved
- **KPI:** # of case studies of globally innovative urban cooling implementation in the Mission's global knowledge exchange centre (2025)

Collaboration with the Green Powered Future Mission

Ongoing dialogue with GPFM evidenced a high complementarity and a potential strong synergy, in terms of topics, coalition members and stakeholders, that will be instrumental to help both missions to accelerate towards their (overarching) goal. Apart from possibly launching some selected joint R&I activities on the identified mutually interesting R&I topics, the UTM and GPFM could join forces in addressing one or more urban network demos thus, to enable systemic innovation across the energy sector and in urban governance by addressing all technical and social relevant aspects towards net-zero cities. For example, one of the thematic areas of the GPFM National pilots in Italy is the Integrated Urban system Flexibility, in which the cities will be supported in the integration of all the aspects of the transition in a people-centred approach. The cities participating in this GPFM pilot will be asked to apply the urban transitions net-zero framework to integrate all the aspects of the transition in a people-centred approach.

The GPFM National pilot taking place in China has also potential connections with the UTM, as it focuses on off-shore wind and PV systems, possibly adding India, Japan and Korea in the coming years' implementation. The involvement of coastal cities to test and replicate the urban transitions Mission approach can be explored.

PILLAR 2 – Capacity building and funding for the net-zero urban transition

The Urban Transitions Mission wishes to increase the capacity of cities worldwide, empowering them to shape urban transitions based on robust knowledge and a strong net-zero community of support and exchange. The activities in Pillar 2 aim at fostering networking opportunities with relevant partners and providing cities globally with easy replicable tools to accelerate the transition and fill the gap between ambition and implementation towards net-zero transformation. Thanks to increased capacity and access to knowledge, cities will be able to mobilise their inherent strength and the potential of their communities – and develop their own customised solutions to effectively transition to net-zero.

The main elements within this pillar are

- Networking opportunities with relevant partners and other cities.
- Opportunities for dialogue, exchange and mutual learning for different groups of urban stakeholders in cities globally, as well as useful tools to accelerate the transition and fill the gap between ambition and implementation towards net-zero.
- Increased capacity and access to knowledge.
- Mobilise cities' inherent strength and the potential of the community.
- Country and partners outreach via MI Sec, liaison of other Missions, partners diplomatic relationships.

Mission activity 3 – Capacity building

The UTM will continuously support capacity building of the cohort engaged, with co-leads and partners tapping their knowledge and wealth of initiatives and programmes. The capacity building offered and knowledge collected will be structured to respond to the implementation of the urban transition roadmaps developed, and to assist directly the cities engaged by the Mission. This will include:

- GCoM's regular capacity building activities related to Innovate4Cities agenda) and support to signatories' city climate journeys at global and regional level.
- Synergies with the DUT Partnership programme where the JPI Urban Europe will continue to support capacity building and to offer formats for dialogue, exchange and mutual learning for the different groups of urban stakeholders: the objective is to establish a community of practice for urban transitions and to distil essential input for a challenge-oriented R&I programme. This includes leveraging planned stakeholders dialogue (2 per year) and the results of the international stakeholder platform (AGORA) for science-policy exchange, dialogues and learning, to strengthen dissemination and uptake of solutions and good practice and widen the scope beyond the EU.
- Leveraging the European Commission's ongoing initiatives, activities and networking opportunities, (including in connection with the EU Mission on Climate-Neutral and Smart Cities, and the Global Knowledge Exchange Centre).

Activities, Milestones & KPIs

Detailed activities will be defined in QIV 2022 and QI 2023 following the Mission's global knowledge exchange centre project kick-off (see below) and further MI countries engagement.

- **Milestone:** Opportunities for networking and capacity building are included in the Mission's global knowledge exchange centre
- **KPI:** AGORA dialogues (2 per year)

Sprint: Global Knowledge Exchange Centre (name tbc)

An important component of the activities of the Mission is the creation of a **Global Knowledge Exchange Centre on emissions reduction pathways for urban environments (GKEC) (name subject to change)** that will be launched in QIV 2022. It is funded by the European Commission via a EUR 2 million call under the Horizon Europe programme.

Building on the expertise of the Global Innovation Alliance and anchored in the European Mission on Climate-Neutral and Smart Cities, the centre will link European and international climate initiatives and stakeholders to ensure two-way learning and exchanges in support of UTM setup and implementation.

The centre aims to facilitate the management and transfer of global knowledge on urban climate action, steering the international outreach for both the EU Cities Mission and the MI Urban Transitions Mission. It will enable cities to build their capacity in a networking environment with access to knowledge and tools on urban systems integration, technology developments, successful policies, investment and funding opportunities, as well as the co-benefits, mistakes and trade-offs that cities encounter in the pathway towards a net-zero urban environment.

The European Commission is in charge of the implementation of the EU Mission on Climate-Neutral and Smart Cities which shares to a large extent the objective of the Urban Transitions Mission, as it will involve local authorities, citizens, industry and the private sector, r, investors as well as regional and national authorities to:

- Deliver 100 climate-neutral and smart cities by 2030.
- Ensure that these cities act as experimentation and innovation hubs to enable all European cities to follow suit by 2050.

The Mission Platform, set up by the EU-funded NetZeroCities consortium, will contribute to the implementation of the EU Cities Mission by helping cities develop their Climate City Contracts. It will link to the Global Knowledge Exchange Centre as a complementary global outreach platform.

Activities, Milestones & KPIs

GKEC.1 – GKEC Project

- **Milestone:** GKEC call launch – 11/01/2022
- **Milestone:** GKEC kick off – announcement on 22 Sept 2022 (GCEAF – CEM13/MI7), project kick off QIV 2022
- **Milestone:** GKEC online – QI 2023

Mission Activity 4 / Sprint – R&I funding and MI Calls

The topics addressed in the **MI Calls** are based upon the priorities of the DUT partnership and building on the experiences and achievements of JPI Urban Europe. The calls will be designed to provide challenge-driven, innovation-oriented and applicable solutions, approaches and strategies in support of cities' transition agendas. These results will feed into the knowledge base of the Mission and shall allow cities and other urban actors to enhance their capacities, co-design solutions in cooperation with science and realise place-based experiments to drive transitions. Accordingly, the evidence created will be disseminated and made available to the MI community for the development and implementation of roadmaps (as in pillar 1) as well as through dedicated JPI Urban Europe formats and/or the Global Knowledge Exchange Centre.

The upcoming call, **MI Call 22**, is a Mission Sprint. It is facilitated by JPI Urban Europe in the framework of the DUT Partnership. The purpose of this Call is to support transnational research and/or innovation projects addressing urban challenges to help cities in their transition towards a more sustainable economy and functioning. The challenges are grouped into the three priorities of DUT called Transition Pathways: Positive Energy Districts (PED), the 15-Minute City (15mC) and Circular Urban Economies (CUE). The following annual DUT Calls will be open to MI countries, with the ambition to involve more countries globally.

Activities, Milestones & KPIs

4.1 MICall Series (annual)

- **Milestone:** MICall22 launch – 22 Sept 22 (GCEAF – CEM13/MI7)
- **Milestone:** MICall Series – one call /year
- **KPI:** # of MI members committing to co-fund urban topics of the MICalls
- **KPI:** progressive MI Members commitment to increase the national R&I budget addressed to cities needs

During the past 10 years, the JPI UE has mobilised transnational RD&D funding collaboration across Europe, but also in collaboration with China and the international Belmont Forum. With about 130 funded projects that bring together more than 780 beneficiaries from 35 countries throughout Europe and the world, JPI Urban Europe has contracted approximately EUR 130 million in co-creative trans-disciplinary RD&I projects. In the context of those projects, city authorities and urban stakeholders have realised more than 180 Urban Living Labs, co-designing new approaches and concrete solutions for their common challenges. In its latest programme, the DUT partnership, an overall investment in R&I projects of more than 400 Mio Euro is expected, based on current commitments from 27 countries and the European Commission.

PILLAR 3 – Research and innovation challenges for the global net-zero transition

Meeting the goals of the Paris Agreement requires climate action at unprecedented speed and scale – enabled by concrete identification and pursuit of research and innovation (R&I) priorities, opportunities, and initiatives that cross levels of government and sectors of society. The Mission will gather member countries, cities and local governments, and cross-sector stakeholders to help unlock and accelerate deployment of research and innovative solutions across communities of all shapes, sizes, and contexts.

The Mission aims to close the gap between research, development and deployment on systemic transition pathways to net-zero, resilient and people-centred cities through multi-level, multi-sectoral, and outcome-oriented partnerships. Based on the active engagement of the MI Member countries in the partnership and in the [MICall series](#) (pillar 2), the Mission will encourage directing and substantially increasing their national R&I budgets towards activities channelled for and through their cities and local governments. Lessons learnt across Mission activities can enable local governments to fulfil their core needs and evolve into solutions providers themselves and aggregate the demand for R&I at the global level – increasing the speed and scale of deployment of net-zero development scenarios.

The objectives of this pillar are:

- Support the identification of innovative solutions and approaches for the urban transitions based on renewable energy sources, resilience and circular economy principles, and people-centred transition across all sectors.
- Spearhead new R&I and investment priorities following the challenges identified by cities and the development of the activities of the UTM partnership.
- Foster a substantial increase of R&I investment of MI countries and participating cities in support of the net-zero urban transition.
- Involve relevant research groups for the net-zero transition in a discussion group led by the UTM, connecting them with the insights from the IPCC's Summary Report for Urban Policymakers, the Global Research Action Agenda (GRAA) and the City Research and Innovation Agenda (CRIA) and the activities of the GCoM Technical Working Group on R&I and the JPI UE programme.

Mission Activity 5 – R&I priorities

The Mission will group the efforts and expertise of the partners to identify the top R&I priorities that the UTM activities should address. On top of the GCoM's CRIA and GRAA and JPI UE analysis, the Mission will build on and include the results of the activities of other MI initiatives (such as the MI Green Powered Future Mission), research groups and academia, and Global Innovation Alliance (GIA) partners (such as a survey developed by the UGIH addressed to cities). A collated priority list of R&I to accelerate the goals of the UTM will be developed and presented in QIV of 2022.

These identified global and regional priorities enable local governments to transform ambition to implementation. The UTM's shared R&I priorities for cities and local governments – aligned with national counterparts and cross-sector organisations – will be leveraged across contexts and stakeholders, encouraging MI countries to consider overlaps with top priorities in their national programmes and engaging private sector and academia in research and projects that tackle gaps elsewhere. Further developments can be envisioned thanks to collaboration between GCoM, JPI UE, other GIA members and MI initiatives (such as the MI Green Powered Future Mission (GPFM) or MI Net-zero compatibility assessment initiative (NCI)), as well as R&I Clusters (such as Oxford net-zero, Uni Hamburg's CLICCS, Project Drawdown...).

The UTM plans to connect the needs identified by cities with R&I funding and opportunities via the Mission's global knowledge exchange centre.

In response to the critical needs that cities and local governments have identified to accelerate climate action, the GCoM alliance launched the updated Global Research and Action Agenda (GRAA) and the City Research and Innovation Agenda (CRIA) in May 2022. With robust agendas focused on themes, cross-cutting topics, and pathways for local action implementation, the GCoM's Innovate4Cities initiative – through its Research and Innovation Technical Working Group (R+I-TWG) and the 13 Regional and National Covenants – is collating existing and generating new research, projects, and opportunities to scale up city climate action, both globally and within region-specific contexts.

Thanks to the activities of the DUT Partnership, JPI Urban Europe compiled a list of R&I priorities in their Roadmap, identifying key areas of action and themes based on requirements of city authorities and consolidated through consultation processes with urban stakeholders in order to guide the implementation of the three DUT Transition Pathways.

Activities, Milestones & KPIs

5.1 UTM R&I priorities

- **Milestone:** UTM R&I Priorities – QIV 2022
- **Milestone:** UTM implementation activities plan – end 2023
- **Milestone:** Updated UTM R&I Priorities – end 2024

5.2 R&I priorities – UTM implementation activities

Further and detailed implementation activities to address the priorities identified will be explored within the partnership in QIV of 2022 and 2023.

5.3 Show R&I available programmes /opportunities per MI member via the Mission's global knowledge exchange centre

Mission Activity 6 – Partnership for the goal

A **Global Innovation Alliance (GIA)**, formed in the framework of the Mission will actively engage to support the mission goals. It will be composed of the UTM members and include interested MI Member governments, city partner organisations, private sector, urban research & innovation clusters, finance institutions and youth organisations. This engaged group of partners will share solutions, needs and lessons learnt, and co-create innovative approaches to support cities globally to be net-zero climate, resilient, and people-centred. The GIA members will make their knowledge and expertise available, connecting with cities

across the globe via the Mission's global knowledge exchange centre. They will help replicate best practices, adapt and leverage solutions across all sectors, as well as address identified needs and gaps. Thanks to the targeted outreach efforts, the UTM plans to include 10+ MI member governments, 10+ global private-sector partners from different countries and sectors, 10+ global youth organisations, as well as research institutions and civil society organisations to support the global transition.

The scope of the GIA is:

- Gather their expertise and skills across sectors and approaches, in order to support the enhancement of the climate strategies of the cities of the cohort.
- Inform, provide engagement and resources to the Global Knowledge Exchange Centre.
- Connect MI Members, organisations, initiatives and academia during the Annual Innovation Summit.
- Support and shape the creation of a modular and replicable urban transition net-zero framework.
- Connect the UTM with relevant initiatives, programmes and projects addressing the net-zero urban transition.
- Draw attention to the cities' need on R&I.
- Connect the UTM with R&I opportunities, resources and funds for implementation.

The Alliance was launched in March 2022 and meets at least twice a year in conjunction with relevant events such as the Annual Innovation Summit. The GIA members are consulted regularly to advance the Mission's activities. Clear criteria are set for the Steering Committee of the Mission to define the engagement of new members. This allows that the Mission approach is not biased by specific interests, while ensuring adequate expertise, engagement and support to cities engaged in the cohort. Partners outreach will focus on connecting with key initiatives and stakeholders able to support the UTM's mission and vision, via the Knowledge Exchange Centre and Mission activities.

Collaboration of local governments with private sector and academia may foster the application of applied research in cities, used as a sandbox to foster innovation. The example of the Living Labs developed by Enoll can be replicated and further expanded, to test innovative approaches identified within the UTM.

Activities, Milestones & KPIs

6.1 Establish a Global Innovation Alliance

- **Milestone:** Launch Global Innovation Alliance Launch – March 2022
- **Milestone:** Biannual consultations meetings of the GIA

6.2 Partners outreach

- **Milestone:** tbd

- **KPI:** progressive KPIs on composition until GIA is composed of 10+ MI member governments, 10+ global private-sector partners from different countries and sectors, 10+ global youth organisations
- **KPI:** 4 MI Countries from global north and south in UTM / GIA (2022)
- **KPI:** 10 MI Countries from global north and south in UTM / GIA (2026)
- **KPI:** All MI Countries in UTM / GIA (2030)

6.3 R&I clusters engagement

- **Milestone:** tbd
- **KPI:** 1 R&I Clusters / Academia in the GIA – 2022
- **KPI:** 5 R&I Clusters / Academia in the GIA – 2025
- **KPI:** 10 R&I Clusters / Academia in the GIA – 2030

Building on the 2018 Edmonton Cities and Climate Change Science Conference and the resulting Global Research and Action Agenda (GRAA) on Cities and Climate Change Science, the GCoM launched Innovate4Cities: the first city-led research and innovation agenda. Innovate4Cities identifies the specific data, information and technology gaps cities and prioritised and, if addressed, would drive science-based, technology-driven, replicable action and sustainable innovation at the scale the world demands and that cities need. The agenda establishes co-developed research and development priorities around the most significant data, innovation, and technological gaps to provide cities with the tools, information, and partnerships they need to achieve sustainable, liveable, and climate-safe cities.

In the framework of Innovate4Cities, GCoM co-hosts the biennial Innovate4Cities (I4C) conference with UN Habitat and co-sponsored by the IPCC. The conference aims to bring together science and innovation, policy and practice united by the common objective of enabling cities to take accelerated and more ambitious climate action.

Mission Activity 7 – Annual Innovation Summit

The Annual Innovation Summit convenes UTM partners – including MI member countries, cities and local governments, and other stakeholders – to highlight Mission progress, showcase leading efforts across the Mission, and discuss critical opportunities for the net-zero transition. The summit will inspire and guide all actors involved to implement innovative approaches in technology, resilience, governance, policy, finance/investment and social aspects in an integrated, accessible and holistic manner.

Thanks to the Summit, the participating cities and interested urban leaders will also have the opportunity to network and meet regularly with a community committed to net-zero global transition, including representatives of the research and innovation, climate finance, local and national government, sectoral organisations and initiatives, civil society and practitioners. National governments and MI Countries, on the other hand, will have the opportunity to unlock the potential of local action thanks to co-development of policy and approaches, raise their ambition and implement the NDCs jointly. Share and disseminate the Mission findings and provide a networking space.

Scope:

- Mobilise cities, national governments and partners to facilitate the replication of existing solutions, the integration of new approaches and ultimately to accelerate the net-zero urban transition.
- Networking and connection for urban R&I practitioners to foster collaborative research and innovation projects and programmes in cities.
- Share the mission findings on implementation of the city cohort regarding the UTM net-zero innovation roadmaps will be showcased, as well as investment opportunities, R&I gaps and needs and best practices.
- Share experiences on net-zero roadmapping.

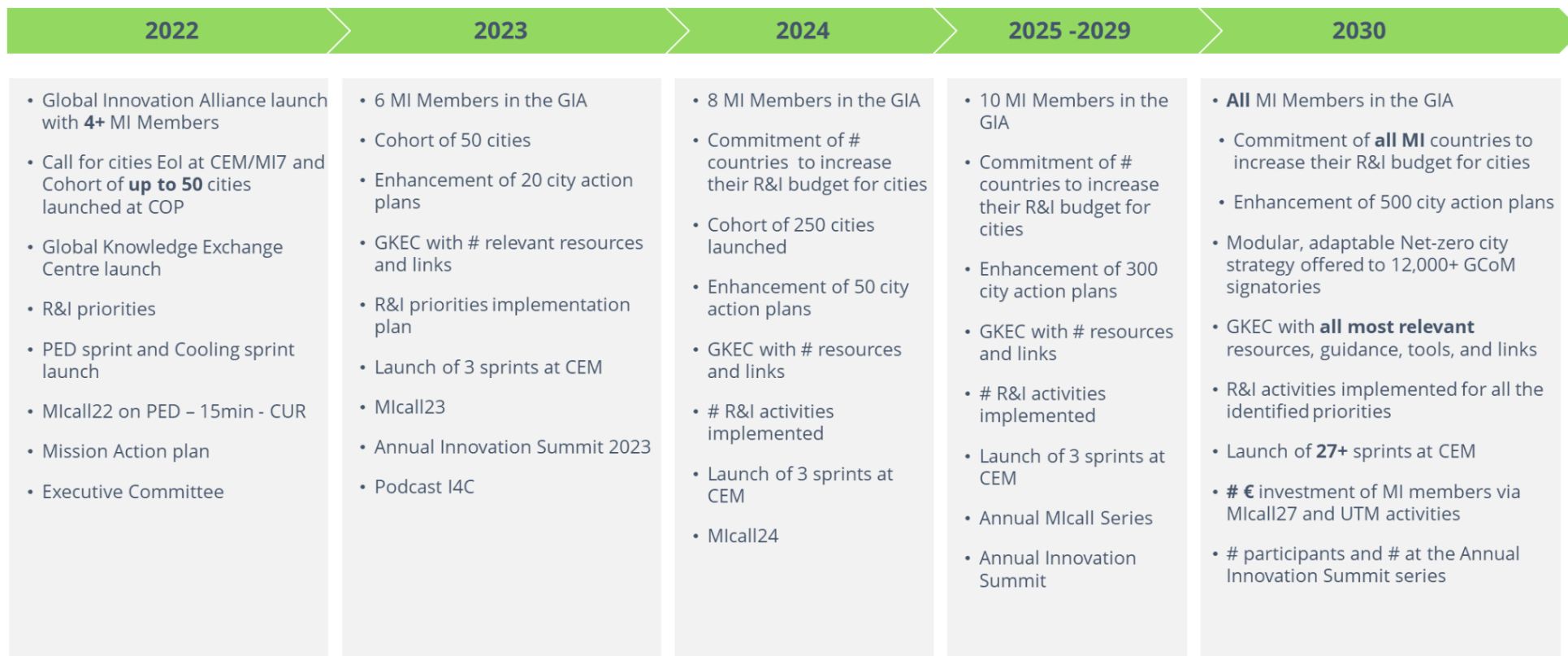
There is identified funding through the Global Covenant of Mayors, which is going to be the lead host of the Summit thanks to EC funds via the Horizon Europe programme. The Annual Innovation Summit will be aligned with the biennial [Innovate4Cities \(I4C\) conference](#) co-hosted by GCoM and UN Habitat and co-sponsored by the IPCC, and other international conferences, events and consultations focused on the net-zero transition and complementary themes. These include the World Urban Forum, C40 Cities, ICLEI and UCLG World Summits or relevant international events hosted by any of the UTM members, such as the annual JPI Urban Europe policy conference, or the IRENA Innovation week.

Activities, Milestones & KPIs

7.1 Annual gathering focused on R&I at the city level and net-zero transition

- **Milestone:** 1 Summit per year
- **Milestone:** Annual innovation award tbd
- **Milestone:** Launch of the Podcast Innovate4Cities
- **KPI:** # of participants, new collaboration formed
- **KPI:** # outcomes

Timeline



Private sector engagement

The Mission already engaged with the following partners, that confirm their interest in taking part in the Urban Transitions Mission consortium

- International Energy Agency (IEA)
- World Economic Forum (WEF)
- MI Innovation Community on Affordable Heating and Cooling of Buildings (IC7)
- International Renewable Energy Association (IRENA)
- UNFCCC Global Innovation Hub (UGIH)

Because of their focus, they are key partners in the engagement of the private sector and to maximise the impact of the Mission.

The Urban Transitions Mission will address other partners and initiatives to fill gaps identified in our evidence review. The Mission team will reach out to initiatives focusing on systemic energy systems integration, the transport and mobility sector and infrastructure agencies. Conversations and exchanges are ongoing with the following

- Mission Possible Partnership (MPP) via the Rocky Mountain Institute (RMI)
- Energy Transitions Commission and SystemIQ through the MPP
- Glasgow Breakthrough

Other initiatives that have been already identified and where opportunities for engagement will be explored ahead of CEM13/MI7 include:

- CCFLA – Cities Climate Finance Leadership Alliance
- World Business Council for Sustainable Development (WBCSD)
- International Coalition for Sustainable Infrastructure (ICSI)
- Global Alliance for Buildings and Construction / World Green Buildings Council (WGBC)/ Built4People Co-Programme Partnership
- Sogesca / Padova FIT Expanded
- CBCA – City-Business climate alliance (CDP-C40-WBCSD)/ We Mean Business

Additional engagement opportunities will continue to be explored as the Mission plan develops.

Thanks to the engagement of WEF and energy focused initiatives (such as Glasgow breakthrough, Mission Possible Partnership, or MI Green Powered Future Mission), the UTM wishes to connect with some of the biggest energy service solutions providers and some of the more progressive energy utilities to pave the way for the transition in cities.

GCoM is also exploring the engagement of private sector companies in data collection, big data and digital solutions. GCoM has a partnership agreement in place with Google, around their Environmental Insights Explorer data in particular, and new transport data is expected

to be made available to a large cohort of cities later in 2022. Their engagement in the context of the Urban Transitions Mission will be explored, starting from a collaboration on a side event proposed for the CEM13/MI7 in Pittsburgh.

Collaborations of GCoM are also in place with Arup on city data and reporting, and with CDP, whose matchmaker work is great on linking to investment opportunities and further links to the business sector engagement.

Finally, a large part of GCoM funding comes via Bloomberg Philanthropies, but through them we have engaged with BNEF and others, and their Pathfinders to Net Zero work was recently presented to GCoM's Mayoral Advisory Board for example and could provide some useful case studies and exemplify a range of routes towards net zero.

High level plan

The planned activities will be achieved by leveraging funds and resources of co-leads and MI Members engaging with the Mission, as well as building on existing initiatives implementing projects at the city level.

Some highlights of the contribution and resources of the co-leads EC, GCoM and JPI UE to the activities have been included in the boxes within each pillar and activity of the Mission, which will be accompanied by a thorough mapping of existing initiatives on the ground.

Synergy with similar and complementary initiatives aims at leveraging the impact of existing funded activities and efforts towards the same goal. Synergy with other initiatives – no funds at the moment, but direct link to capacity to integrate

A risk mitigation plan is going to be detailed and implemented, to anticipate and address challenges and avoid them to impact on the goal.

