INNOVATE CITIES 4

The Cities and Local Governments Brief

from Accelerating Next-Generation City Climate Action: Findings from the 2024 Innovate4Cities Conference & Update to the Global Research and Action Agenda on Cities and Climate Change Science (GRAA)

GLOBAL COVENANT of MAYORS for CLIMATE & ENERGY

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The Cities and Local Governments Brief from Accelerating Next-Generation City Climate Action: Findings from the 2024 Innovate4Cities Conference & Update to the Global Research and Action Agenda on Cities and Climate Change Science (GRAA)

This report has been developed by the Global Covenant of Mayors for Climate & Energy (GCoM) and the United Nations Human Settlements Programme (UN-Habitat) based on the findings from the 2024 Innovate4Cities Conference and the *Accelerating Next-Generation City Climate Action: Findings from the 2024 Innovate4Cities Conference & Update to the Global Research and Action Agenda on Cities and Climate Change Science (GRAA)* report. It is intended to inform research, policy and public discussions centered on the Global Research and Action Agenda on Cities and Climate Change Science (GRAA).

The authors have sought to ensure the accuracy of the material in this document, but they will not be liable for any ramifications incurred through the use of this report.

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1. Executive Summary: Cities on the Frontlines of Climate Action

Building on findings from the 2024 Innovate4Cities Conference (I4C24), this **Cities and Local Governments Brief** highlights the role of local leaders as drivers of climate-resilient development on the frontlines of climate action.

The brief distills key findings informed by the Global Research and Action Agenda (GRAA), a cornerstone outcome from I4C24 which is designed to support cities and local governments by bringing together existing and emerging challenges of research and innovation. The GRAA provides a knowledge based approach utilizing city systems to scope knowledge gaps and action priorities for city-level climate action.

Evidence presented through the GRAA supports cities in advancing local, regional, and global climate goals, enhancing their ability to attract climate finance, and translate global climate science into actionable, locally driven solutions. Developed in alignment with the IPCC's Special Report on Climate Change and Cities process, the GRAA serves as a critical link between science, policy, and practice, grounding city-scale action in the latest climate research.

As local leaders and practitioners step into their climate action journey, using the GRAA will strengthen research and action through the latest knowledge and practical insights from climate change science. This brief essentially presents a roadmap for policymaking and practice, empowering local leaders and city stakeholders with a foundation informed by the GRAA, embedded in the latest research to build strategies, explore collaboration opportunities and advance climate action.

Every city's climate journey is unique. This brief presents practical takeaways to help cities design and implement strategies tailored to their local context by:

1. Understanding system-level priorities through the Global Research and Action Agenda (GRAA), which frames city-level climate action across mitigation, adaptation, and resilience pathways.

2. Identifying knowledge gaps and action priorities to align local needs with targeted research and innovation efforts, enabling science-based insights to inform progress along the city climate journey.

3. Assessing the city's position along the climate action journey and exploring collaboration opportunities with key stakeholders including businesses, funders, academia, and civil society using tools like the Climate Innovation Readiness Navigator (CIRN) developed by GCoM and partners.

4. Building research and innovation partnerships by identifying early actions aligned with long-term goals and engaging with local and regional partners for technical support, funding and cross-learning opportunities.

5. Actively participating in collaborative research efforts by working with research institutions and practitioners to co-produce solutions that bridges the gap between scientific knowledge, policymaking, and practical implementation.

6. Strengthening local governance structures that foster agility, inclusivity, and long-term commitment to climate action, while developing capacity-building programs for city staff and stakeholders.

7. Leveraging emerging technologies, including AI, to support data-driven climate solutions, improve local decision-making, and enhance climate resilience.

FOREWORD

Leading at the Frontlines

This brief is a reminder to act with purpose, to lead with courage, and to work together to shape a more resilient, inclusive, and sustainable future for our cities.

As mayors, local leaders, and community champions, we feel the urgency of the climate crisis every day. We see its effects in our cities and in the lives of the people we serve. But we also see the solutions and the strength of local leadership in driving change from the ground up.

That's why I'm delighted to introduce this Sector Brief for Cities and Local Governments, shaped by the 2024 Innovate4Cities Conference and informed by the updated Global Research and Action Agenda (GRAA). It reflects a growing movement of cities and climate change science coming together, not just to talk about climate action, but to act based on robust evidence, shared experience, and a deep understanding of our local contexts.

The brief isn't a checklist or a rigid framework. It's a practical guide to help you navigate the path forward at whatever stage your city is at. It offers a glimpse into what's already working, where there are knowledge gaps and action priorities to take into consideration, and how we can build stronger partnerships with researchers, funders, businesses, and our communities to tackle urgent climate challenges.

Every city's climate journey looks different. But we all share the same goal: to build healthier, safer, more sustainable places for people to live and thrive. I hope this brief serves its purpose to support that journey, helping you make informed decisions, access the right tools, and connect with others doing the same work.

Cities are at the heart of climate action, innovation, resilience – and hope. Let's keep leading the way, together.

Carolina Basualdo
Mayor of Despeñaderos, Argentina
Board Member, Global Covenant of Mayors

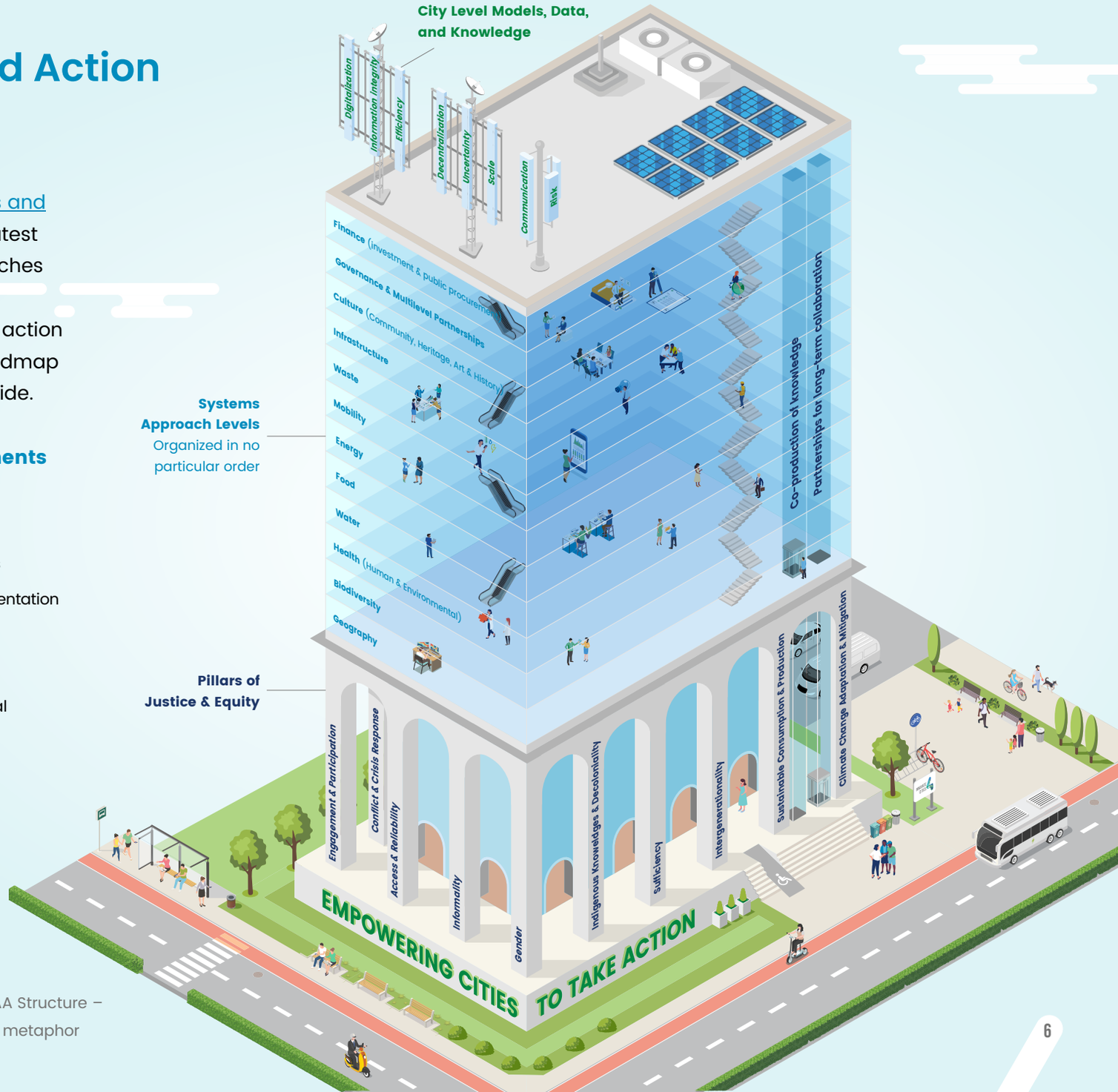
2. The GRAA: Knowledge and Action Across the City Journey

The 2024 Global Research and Action Agenda for Cities and Climate Change Science (GRAA) brings together the latest research, practical experiences, and innovative approaches to urban climate action. The GRAA identifies critical knowledge gaps that limit effective action and outlines action priorities that can drive progress, creating a shared roadmap for researchers, practitioners, and policymakers worldwide.

Why the GRAA Matters for Cities and Local Governments

The GRAA helps you:

- Access cutting-edge climate science 'translated' for urban contexts
- Identify blindspots and opportunities in climate planning and implementation
- Prioritize high-impact actions based on evidence
- Connect local efforts to national and global climate commitments
- Build a strong foundation for city-led research by highlighting global and regional priorities, evidence gaps, and proven approaches
- Build partnerships across city stakeholders and governance levels based on identified Knowledge Gaps and Action Priorities
- Develop climate strategies grounded in the latest scientific understanding and aligned with global best practices



Graphic 1: The GRAA Structure – a functional visual metaphor

Knowledge Gaps for Cities and Local Governments

In the Global Research and Action Agenda (GRAA), 'Knowledge Gaps' **(KGs)** refer to missing or insufficient research, data, or insights that limit the ability to advance climate action and innovation. These gaps exist in areas such as governance, finance, technology to varying degrees across all systems and dimensions of societal sustainability, preventing cities from effectively planning, implementing, scaling, and integrating climate solutions.

1. **Fragmented governance:** Further knowledge is needed on challenges that arise from disconnected, misaligned, and fragmented governance structures - which can in turn hinder progress on systemic, city-driven climate action. (Relevant KGs: 16, 107, 134, 135, 136, 139)

2. **Misalignment between available finance and local needs:** Funding and financing practices and opportunities should be contextualized across cities and local governments, taking into account their specific financial needs for integrated action including mitigation, adaptation, and energy-related action. (Relevant KGs: 17, 49, 52, 53)

3. **Insufficient integration of AI and digital infrastructure:** Further knowledge is needed on how to harness artificial intelligence and machine learning – while mitigating their resource intensity – into the city climate action journey, prioritizing interoperability, integration, and ease-of-access. (Relevant KGs: 37, 56, 62, 140, 142)

4. **Weak decision-making processes and tools:** Lack of evidence-based decision-making processes and financial tools (e.g., digital finance, green bonds, climate-responsive public procurement) deter local governments' ability to undertake and prioritize urgent climate agendas. (Relevant KGs: 17, 18, 19, 24, 49)

5. **Inadequate knowledge for long-term transformation:** Research on climate governance at local level is often limited to short-term time horizons; more knowledge is needed on how to both catalyze and sustain systemic local climate action that is resilient to political change and rapid demographic changes. (Relevant KGs: 156, 157, 158)

6. **Lack of knowledge from indigenous and informal communities:** Further climate-relevant knowledge from indigenous and informal communities needs to be identified, co-generated, and better integrated with climate and energy policies and governance processes. (Relevant KGs: 46, 150, 158)

7. **Lack of multi-stakeholder climate strategies:** Local governments – especially where small and mid-sized – lack information to design integrated, multi-stakeholder climate strategies that account for locally specific socioeconomic and environmental pressures. (Relevant KGs: 34, 61, 72)

8. **Limited alignment and allocation of budgets with climate objectives:** There is a need to identify best practices which align local government budgets with climate objectives and explore how approaches vary across different city contexts. (Relevant KGs: 9, 17, 18, 24, 49)

9. **Lack of inclusive partnerships and solutions:** There is a lack of inclusive climate partnerships to establish multi-stakeholder networks that include informal economies and vulnerable communities, ensuring equitable and locally driven climate resilience. (Relevant KGs: 16, 46, 150)

10. **Limited inclusivity in nature-based solutions:** Further knowledge is needed on strengthening public participation and community ownership in nature-based solutions and climate resilient development to ensure long-term inclusive sustainability, equity, and impact in city climate action. (Relevant KGs: 4, 16, 46, 150)

Action priorities for Cities and Local Governments

In the GRAA, 'Action Priorities' **(APs)** refer to opportunities that academics and practitioners have identified as valuable in accelerating city climate action and innovation. These priorities are identified based on urgent needs, knowledge gaps, and opportunities for impact in governance, partnerships, finance, technology, and capacity-building.

1. **Strengthen climate governance and coordination:** Strengthen climate governance and coordination through enabling multilevel governance models that integrate local, national and global climate action – supporting decentralized, participatory governance for city leadership. (Relevant APs: 176, 177, 240, 243)

2. **Unlock urban climate finance to meet climate commitments:** Prioritize unlocking and scaling urban climate finance mechanisms to fill adaptation and mitigation implementation gaps. This includes creating an enabling environment for multi-level and cross-sector collaboration, while integrating climate investments into urban planning to drive implementation and deliver on climate commitments. (Relevant APs: 23, 49, 50, 51, 64)

3. **Integrate AI and digital infrastructures:** Improve city-scale data collection systems, particularly for emissions, risk mapping and urban planning – while reducing the burden for local governments. Integrate AI and other digital tools, with necessary safeguards for data privacy, algorithmic transparency, cybersecurity, and equitable access to develop interactive, interoperable, and easy-to-access platforms to track climate action. (Relevant APs: 37, 42, 62, 67, 72)

4. **Implement climate-responsive strategies:** Implement strategies in key city sectors; including new building standards, accelerating efficiency benchmarks, implementing energy-efficient building solutions and quantifying economic and health impacts of action vs. inaction. (Relevant APs: 3, 10, 29, 69, 70)

5. **Mainstream participatory strategies:** Integrate informality through mainstreaming participatory strategies such as co-creation of climate and urban development plans. Implement neighborhood adaptation plans and mitigation actions that minimize unintended consequences for vulnerable communities. (Relevant APs: 5, 39, 45, 46, 49)

6. **Strengthen partnerships between local governments and city stakeholders:** Strengthen partnerships between cities and city stakeholders such as academia, businesses and civil society. City-led research, innovation challenges, and collaborative initiatives create opportunities for local governments to enhance inclusion and to co-develop climate solutions with city stakeholders. (Relevant APs: 40, 49, 50, 63, 65)

7. **Support high-tech and low-tech innovations:** Promote sustainability in city sectors such as transport, energy, buildings, waste, water, land use and others by providing capacity for high-tech and low-tech innovations for urban mitigation, adaptation, and energy access/poverty. (Relevant APs: 10, 30, 64, 69, 70)

8. **Enable resource sufficiency through mainstreaming local solutions:** Advance climate adaptation and resilience by prioritizing local, community-led and nature-based solutions that promote urban resource sufficiency, enabling cities to meet local needs sustainably while reducing reliance on external resources. (Relevant APs: 5, 37, 45, 70, 71)

9. **Strengthen municipal capacity and knowledge to secure climate finance:** Upskill local staff on climate finance through dedicated training and technical assistance opportunities – including climate finance and risk. (Relevant APs: 46, 50, 64, 255, 257)

10. **Align city climate action with Nationally Determined Contributions (NDCs), National Adaptation Plans (NAPs) and National Urban Policies (NUPs), and other national climate and energy processes:** Strengthen multi-level governance by engaging local-regional-national levels on climate action planning, implementation, and financing. (Relevant APs: 50, 128, 176, 243, 247)

3. Prioritizing Knowledge and Action Across the City Climate Action Journey

Knowledge Gaps

Action Priorities

- Fragmented governance
- Inadequate knowledge for long-term transformation

- Align city climate action with NDCs, NAPs, NUPs, and other national climate and energy processes

- Insufficient integration of AI and digital infrastructure
- Lack of multi-stakeholder climate strategies

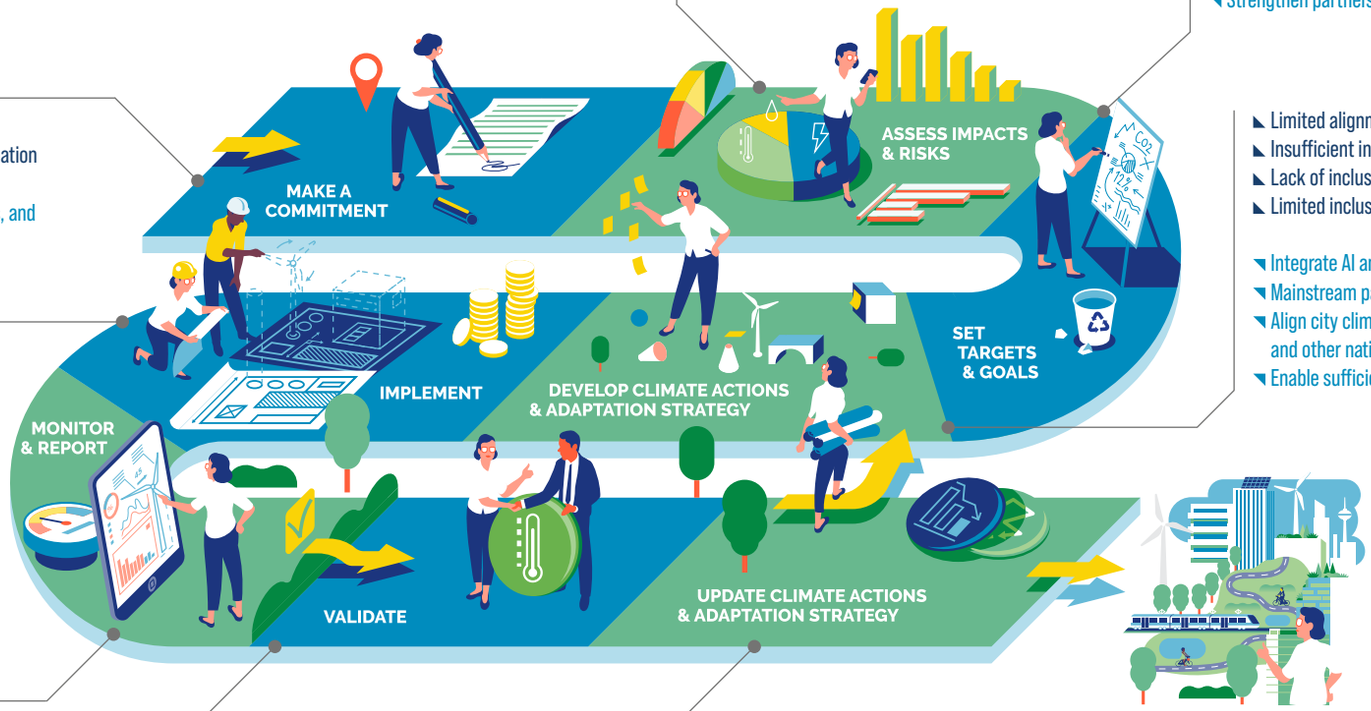
- Integrate AI and digital infrastructures
- Strengthen climate governance and coordination

- Insufficient integration of AI and digital infrastructure
- Lack of knowledge from indigenous and informal communities
- Lack of multi-stakeholder climate strategies

- Integrate AI and digital infrastructures
- Strengthen partnerships between local governments and city sectors

- Limited alignment and allocation of budgets with climate objectives
- Insufficient integration of AI and digital infrastructure
- Lack of inclusive partnerships and solutions
- Limited inclusivity in nature-based solutions

- Integrate AI and digital infrastructures
- Mainstream participatory strategies
- Align city climate action with NDCs, NAPs, NUPs, and other national climate and energy processes
- Enable sufficiency through mainstreaming local solutions



- Weak decision-making processes and tools
- Untailored finance mechanisms
- Lack of multi-stakeholder climate strategies
- Lack of inclusive partnerships and solutions

- Support high-tech and low-tech innovations
- Implement climate-responsive strategies
- Unlock urban climate finance to meet climate commitments
- Strengthen municipal capacity in climate finance

- Insufficient integration of AI and digital infrastructure
- Weak decision-making processes and tools
- Inadequate knowledge for long-term transformation

- Integrate AI and digital infrastructures
- Strengthen municipal capacity in climate finance

- Insufficient integration of AI and digital infrastructure
- Weak decision-making processes and tools
- Inadequate knowledge for long-term transformation
- Lack of multi-stakeholder climate strategies

- Integrate AI and digital infrastructures
- Strengthen partnerships between local governments and city sectors

- Insufficient integration of AI and digital infrastructure
- Weak decision-making processes and tools
- Lack of multi-stakeholder climate strategies

- Align city climate action with NDCs, NAPs, NUPs, and other national climate and energy processes
- Integrate AI and digital infrastructures

Graphic 2: Knowledge Gaps and Action Priorities across the city climate action journey

The City Journey is an eight-step process designed to support cities throughout their climate action pathway from commitment to implementation. Each stage of the city journey is presented below and associated with the most relevant knowledge gaps and action priorities identified by the GRAA, to help local governments identify what could be addressed for the stage they are in.

Practical Application:

Step 1: Identify which stages of the journey most closely match the current climate status of the city pathway.

Step 2: Identify relevant knowledge gaps to address and action priorities to take.

Step 3: Focus on the strategic action priorities that address your specific challenges and leverage your city's strengths.

City Journey Stage	Knowledge Gaps to address	Action Priorities to take
Make a Commitment	◣ Fragmented governance ◣ Inadequate knowledge for long-term transformation	◥ Align city climate action with Nationally Determined Contributions (NDCs), National Adaptation Plans (NAPs), National Urban Policies (NUPs), and other national climate and energy processes
Assess Impacts and Risks	◣ Insufficient integration of AI and digital infrastructure ◣ Lack of multi-stakeholder climate strategies ◣ Lack of knowledge from indigenous and informal communities	◥ Integrate AI and digital infrastructures ◥ Strengthen climate governance and coordination
Set Targets and Goals	◣ Insufficient integration of AI and digital infrastructure ◣ Lack of knowledge from indigenous and informal communities ◣ Lack of multi-stakeholder climate strategies	◥ Integrate AI and digital infrastructures ◥ Strengthen partnerships between local governments and city sectors

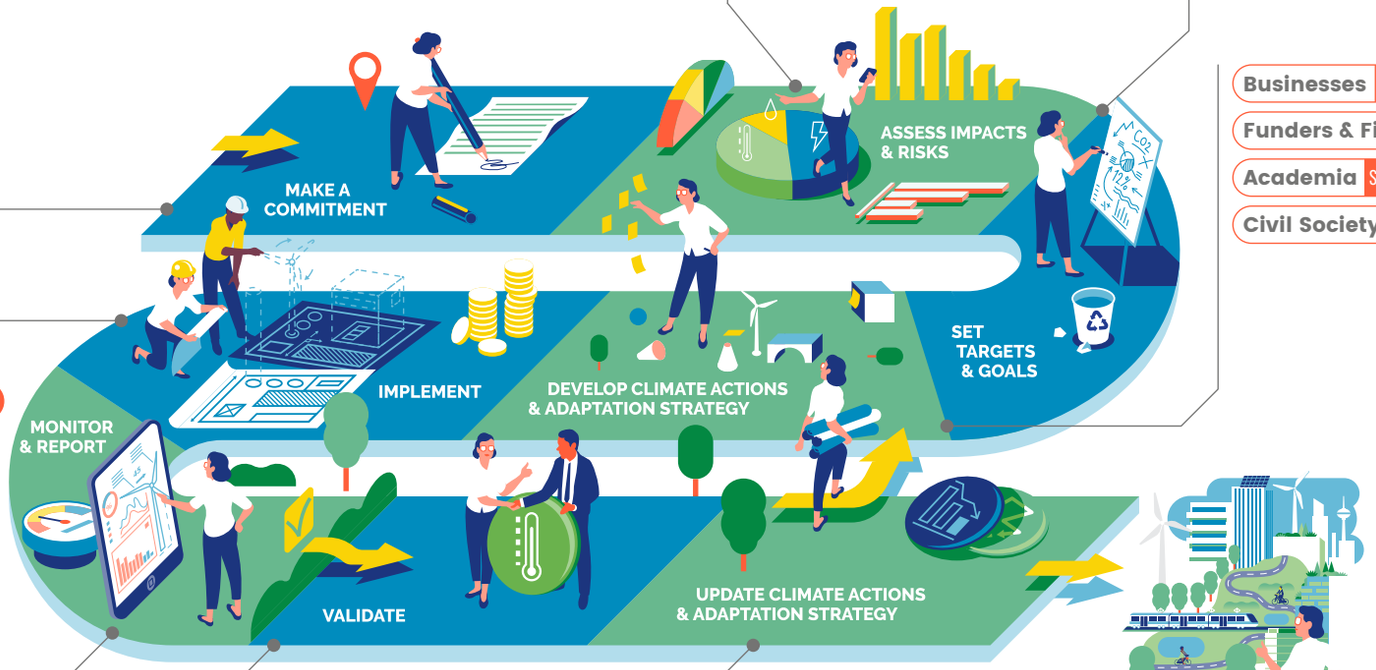
City Journey Stage	Knowledge Gaps to address	Action Priorities to take
Develop Climate Actions and Adaptation Strategies	◣ Limited alignment and allocation of budgets with climate objectives ◣ Weak decision-making processes and tools ◣ Insufficient integration of AI and digital infrastructure ◣ Lack of inclusive partnerships and solutions ◣ Limited inclusivity in nature-based solutions	◥ Integrate AI and digital infrastructure Implement climate-responsive strategies ◥ Mainstream participatory strategies ◥ Align city climate action with NDCs, NAPs, NUPs, and other national climate and energy processes ◥ Enable resource sufficiency through mainstreaming local solutions
Implement	◣ Weak decision-making processes and tools ◣ Untailored finance mechanisms ◣ Lack of multi-stakeholder climate strategies ◣ Lack of inclusive partnerships and solutions	◥ Support high-tech and low-tech innovations ◥ Implement climate-responsive strategies ◥ Unlock urban climate finance to meet climate commitments ◥ Strengthen municipal capacity and knowledge to secure climate finance
Monitor and Report	◣ Insufficient integration of AI and digital infrastructure ◣ Weak decision-making processes and tools ◣ Inadequate knowledge for long-term transformation	◥ Integrate AI and digital infrastructures ◥ Strengthen municipal capacity and knowledge to secure climate finance
Validate	◣ Insufficient integration of AI and digital infrastructure ◣ Weak decision-making processes and tools ◣ Inadequate knowledge for long-term transformation ◣ Lack of multi-stakeholder climate strategies	◥ Integrate AI and digital infrastructures ◥ Strengthen partnerships between local governments and city stakeholders
Update Climate Actions and Adaptation Strategies	◣ Insufficient integration of AI and digital infrastructure ◣ Weak decision-making processes and tools ◣ Lack of multi-stakeholder climate strategies	◥ Align city climate action with NDCs, NAPs, NUPs, and other national climate and energy processes ◥ Integrate AI and digital infrastructures

Table 1: City Journey stages with relevant KGs and APs for local governments

4. Accelerating Climate Action Through Collaboration

Key stakeholders for each city climate action journey stage

This graphic presents the indicative level of engagement and collaboration amongst city stakeholders to maximize impact at each stage of the journey.



Businesses Low
Funders & Financers Low
Academia Low
Civil Society Significant

Businesses Significant
Funders & Financers Significant
Academia Moderate
Civil Society Low

Businesses Significant
Funders & Financers Moderate
Academia Significant
Civil Society Low

Businesses Significant
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Businesses Significant
Funders & Financers Significant
Academia Low
Civil Society Low

Businesses Significant
Funders & Financers Significant
Academia Moderate
Civil Society Moderate

Businesses Moderate
Funders & Financers Moderate
Academia Significant
Civil Society Moderate

Businesses Significant
Funders & Financers Significant
Academia Significant
Civil Society Significant

At each stage of the climate action journey, local governments can accelerate and scale climate action through partnerships with city stakeholders such as businesses, funders and financiers, academia and civil society. To leverage these collaboration opportunities, local governments can use tools and methodologies such as the Climate Innovation Readiness Navigator (CIRN). CIRN helps cities identify partners for specific climate priorities by enabling rapid assessment of climate innovation readiness. It also helps identify intervention opportunities and areas that can be strengthened through strategic partnerships.

Graphic 3: Evolution of the journey with the stakeholder they should be engaging with at each stage

Delivery pathways for cross-sectoral collaboration

Once identified, local governments can choose to grow and facilitate local cross-sector collaboration opportunities and areas of strategic partnerships by taking practical, evidence-based actions informed by the GRAA:

1. Empower city stakeholders such as businesses, funders and financiers, academia and civil society to take scalable climate action:

- **Enable multi-stakeholder partnerships and cross-sector collaboration** to deliver on national climate commitments through scaling local solutions.
- **Encourage co-production of knowledge and co-designed innovations** to undertake informed decision-making processes across local and regional levels to meet global climate goals.
- **Drive the demand for robust monitoring, evaluation and accountability frameworks** that can enable collective progress across cities and city networks for evidence-based action, greater transparency and stronger public trust.

2. Co-production of knowledge

- **Connect local priorities to broader global agendas** by encouraging integrated thinking systems based on multi-level and cross-sectoral knowledge sharing practices.
- **Promote the generation of knowledge and solutions that are grounded in inclusive, participatory processes** ensuring that urgent local priorities are reflected in climate action agendas and that community voices help shape context-specific responses.
- **Leverage AI systems for knowledge synthesis and increased access to local knowledge** to expand evidence for city-level climate action. This is particularly useful for global assessments and processes such as the Seventh Assessment Report of the Intergovernmental Panel on Climate Change (IPCC AR7) and its Special Report for Climate Change and Cities.

3. Partnerships for long-term collaborations

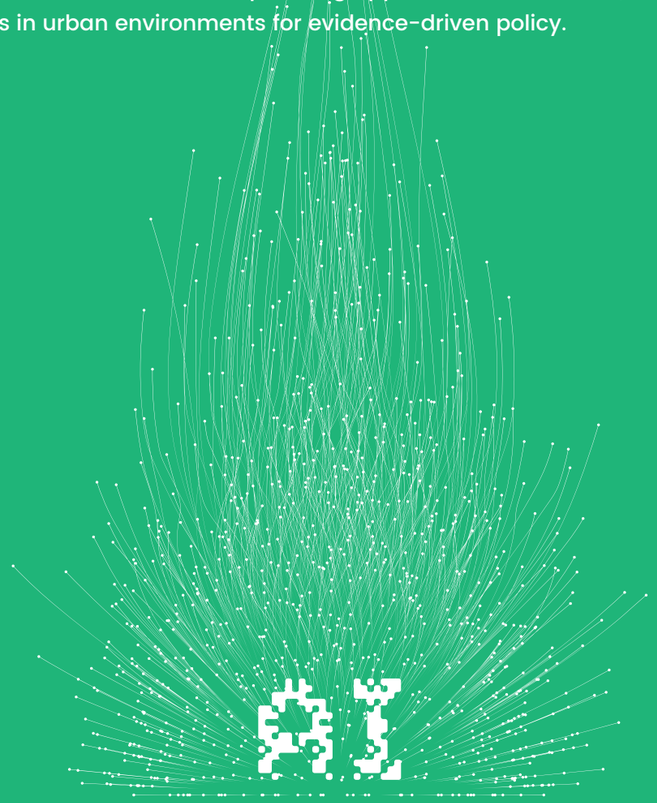
- **Build long-term multi-level partnerships that can inform city-level climate action** while withstanding funding, electoral, project or publication cycles for progress in climate science can ensure that both immediate and future needs are iteratively met.
- **Support knowledge and innovation exchange** through enabling city-to-city partnerships by grounding local climate action in evidence-based approaches, enhancing shared learning across urban networks.
- **Strengthen political will to foster collaboration** and shared opportunities among researchers, practitioners, and local governments, helping to overcome existing and emerging siloed approaches to climate action.

As local leaders work to grow cross-sector collaboration and forge strategic partnerships through practical, evidence-based actions, artificial intelligence (AI) is emerging as a powerful tool to support this transformation. AI systems can accelerate knowledge synthesis, connect local and global agendas, and improve access to locally generated insights enabling more inclusive, data-driven decision-making. By enhancing transparency, scalability, and accessibility, AI can help cities co-produce knowledge, align actions across levels of governance, and contribute meaningfully to global processes.

Deep-dive into Artificial Intelligence (AI) for City Climate Action

Artificial intelligence (AI) can support cities to advance their climate action by providing smarter, faster and connected knowledge and solutions. The AI x City Climate Action Hackathon – which saw 12 teams from 14 countries share solutions to pressing climate adaptation challenges – yielded critical takeaways and opportunities for cities and local governments, including
AI applications for city climate action can include:

- Processing and formatting of data sources to ensure maximum actionability, particularly for small and mid-sized cities that may lack capacity to do so in-house.
- Enhanced technical assistance to the public sector to deliver and utilize fit-for-purpose tools that combine datasets to produce concrete outputs for accelerated data-informed climate action.
- Increased transparency and accessibility to datasets, supporting cities that are undertaking data-informed mitigation and adaptation planning measures.
- Generating digital twins and scenario planning approaches to measure, simulate, and predict changes in urban environments for evidence-driven policy.



Local leaders can take following actions to accelerate the AI ecosystem for city climate action:

- Foster collaborative AI ecosystems grounded in human needs through engaging with regional and global networks where AI and climate experts, city leaders, and stakeholders collaborate on AI-driven climate solutions.
- Advance AI solutions for climate action by supporting research, development, and deployment of AI technologies addressing urgent climate challenges.
- Promote ethical AI governance that ensures ethical, transparent, and equitable use of AI in city climate action, ensuring no community is left behind.
- Empower capacity building by offering training, workshops, and resources to empower communities with the knowledge to implement AI solutions.
- Exchange good practices through identifying, documenting and sharing successful AI climate solutions that help replicate and scale AI driven solutions at a local, regional and global level.
- Champion initiatives that contribute to information and understanding of adopting innovation and the accelerated capacity of AI are beneficial for cities, particularly small and medium sized cities.
- Establish mandates, priorities and dedicated teams to adopt innovation in city climate action and bridge progress in knowledge generation on AI, data and tools with practical implementation for accelerated climate action.
- Catalyze strategic partnerships and collaboration models for city stakeholders such as businesses, funders and academia to increase the supply and demand for AI augmented tools and datasets.

Local governments – with support from networks and other partners – can also identify and manage risks associated with the use of AI, including but not limited to:

- Pursuing the necessary security safeguards to protect personal information from misuse and prevent harm that may be incurred through the use of AI.
- Where possible – identifying, managing, and mitigating the energy and resource intensity of AI use, especially for municipalities that are home to data centers.

5. Case Studies

Case study 1: The Green Resilient Model Cities Program, Brazil

The Green Resilient Model Cities Program in Brazil, developed by GCoM and C40 with Bloomberg Philanthropies, supports local governments in aligning with national climate goals. It offers free technical assistance, including climate diagnostics and the design of two climate actions per city, one for mitigation and one for adaptation. The Brazilian government announced the first five participating cities at a high-level event in Brasília, representing all regions of the country. Ultimately, 50 cities will benefit from the program. A new digital platform is also under development as part of the program and will provide cities with emissions and climate risk data to support informed, climate-resilient decision-making.

Source: click here

Case study 2: Leading with Accountability and Ambition, Oslo, Norway

Oslo, one of Europe's fastest-growing cities, is leading by example through its pioneering Climate Budget, an innovative tool that integrates climate targets directly into the city's financial planning. First introduced in 2017, the Climate Budget is now considered Oslo's most important instrument for achieving its ambitious goal of reducing emissions by 95% by 2030, in line with the Paris Agreement's 1.5°C target. Developed and overseen by the city's finance department, the Climate Budget is fully embedded within Oslo's annual financial budgeting process. This ensures that all spending plans align with the city's climate goals, making emission reductions a core condition for investment and policy decisions. Over the years, the Climate Budget has evolved: the 2024 version introduced scope 3, consumption-based emissions, and the 2025 edition includes climate adaptation measures addressing all five of Oslo's core climate goals for the first time. Oslo's approach is proving effective, with emissions declining even as the city continues to grow. Its success has inspired other cities to consider similar models, positioning climate budgeting as a powerful example of how local governments can mainstream climate action through rigorous, systemic policymaking.

Source: click here

Case study 3: Illustrated Natural Asset Maps, Kochi, India

Kochi, India, home to vital wetlands, canals, and mangroves, faces growing biodiversity threats due to urbanization, pollution, and habitat loss. In response, a digital mapping initiative was launched to document local ecosystems using traditional knowledge and create visually engaging natural asset maps. These maps raise awareness, support ecosystem integration into urban planning, and offer an accessible tool for officials and citizens alike. The initiative has strengthened community engagement and environmental accountability, showing that visual maps are powerful tools for communicating complex ecosystem data and supporting evidence-based, participatory planning.

Source: click here

Case study 4: Digital Transformation Task Force, Bratislava, Slovakia

Bratislava, the capital of Slovakia, has taken a proactive approach to digital transformation by establishing a dedicated multidisciplinary innovation team within its Department of Digitalisation. Launched just three years ago, the team functions as a service design and innovation unit, delivering process improvements and technological upgrades through the city's open-source portal, Bratislava ID. Working closely with residents, businesses, academia, and civil society, the team co-designs and implements digital solutions that address urban challenges in mobility, environment, inclusion, and governance. This collaborative approach has improved public service delivery, strengthened citizen trust, and fostered an innovation culture aligned with broader European and global goals, including the European Green Deal and the Sustainable Development Goals.

Source: click here

Case study 5: Integrating Nature-Based Solutions and Renewable Energy in Contagem, Brazil

Contagem, a city of over 650,000 people in the metropolitan region of Belo Horizonte, Brazil, is advancing integrated climate and environmental action through renewable energy and nature-based solutions. Supported by the INTERACT-BIO project, the city implemented rain gardens to manage stormwater runoff, reduce flood risks, and support groundwater recharge while enhancing local biodiversity and restoring the water cycle. In parallel, Contagem is installing solar photovoltaic panels on public buildings, generating an estimated 1,205 Mwh annually and avoiding around 40 tCO_2e per year. These dual projects demonstrate how cities can align climate mitigation and adaptation with biodiversity conservation. The co-benefits ranging from lower emissions and improved water management to better public health and increased climate resilience reflect a broader shift toward a more circular, inclusive, and green urban economy.

Source: click here

Case study 6: Driving systemic change through local leadership, Zhytomyr, Ukraine

In Zhytomyr, Ukraine, local leaders have led comprehensive energy transformation to strengthen the city's resilience and reduce dependence on fossil fuels. Facing aging infrastructure and high energy losses, the city prioritized upgrades to its utility networks, cutting heat and water loss to just 4.5%, the lowest in the country. Investments in solar panels, biomass-powered thermal plants, and energy-efficient retrofits for public buildings have significantly improved energy performance. These efforts, supported by decentralization reforms that empowered local financial decision-making, helped the city avoid blackouts during the winter of 2022-2023. Since 2012, Zhytomyr has halved its gas use and aims to reduce it further through alternative fuels like waste demonstrating how strong local leadership can drive systemic change.

Source: click here

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GCoM Research and Innovation Technical Working Group Members:

UCLG
United Cities and Local Governments

UCLG MEWA
BİRLEŞMİŞ KENTLER VE YEREL YÖNETİMLER ORTA DOĞU VE BATI ASYA BÖLGE TEŞKİLATI
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