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**SEVENTH ASSESSMENT REPORT (AR7) PRODUCTS**

**Outline of the Special Report on Climate Change and Cities**

(Prepared by the Scientific Steering Committee for the Scoping of the Special Report)

(Submitted by the Secretary of the IPCC)

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**SEVENTH ASSESSMENT REPORT (AR7) PRODUCTS**  
**Special Report on Climate Change and Cities**  
**Information on the Organization of the Scoping of the Special Report**

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## 1. Introduction

In paragraph 6 of Decision IPCC/XLIII-6 on the Sixth Assessment Report (AR6) Products and Special Reports, the Panel decided at its 43rd Session that the seventh assessment (AR7) cycle will include a Special Report on Climate Change and Cities (SRCities).

In paragraph 6 of Decision IPCC-LX- 9 on planning for the seventh assessment cycle, the Panel confirmed at its 60th Session that the SRCities will be provided in early 2027.

Thereafter, the Chair of the Intergovernmental Panel on Climate Change (IPCC) established a Scientific Steering Committee (SSC) to undertake the scoping of the SR Cities under the joint scientific leadership of Working Groups I, II and III, and with support from the Working Group II Technical Support Unit (TSU) on operational and logistical aspects of the Special Report's preparation and production.

The Scientific Steering Committee (SSC) comprised:  
Diana Urge-Vorsatz (IPCC Vice Chair and Chair of the SSC)  
Robert Vautard (Co-Chair of Working Group I)  
Xiaoye Zhang (Co-Chair of Working Group I)  
Bart van den Hurk (Co-Chair of Working Group II)  
Winston Chow (Co-Chair of Working Group II)  
Kate Calvin (Co-Chair of Working Group III)  
Joy Jacqueline Pereira (Co-Chair of Working Group III)  
Nana Ama Browne Klutse (Vice Chair of WGI)  
Ines Camilloni (Vice Chair of WGI)  
Laura Gallardo (Vice Chair of WGII)  
Zinta Zommers (Vice Chair of WGII)  
Malak Al Nory (Vice Chair of WGIII)  
Siir Kilkis (Vice Chair of WGIII)

## 2. Call for nominations

A call for nominations for participation in the scoping meeting was issued on 20 October 2023 to IPCC member Government Focal Points, Observer Organisations, and IPCC Bureau Members.

In advance of the call, members of the Working Group I, II and III Bureau developed a list of over 80 example areas of expertise for the nomination of experts and selection of participants for the scoping meeting. The examples were grouped into six categories with indicative expertise in parentheses:

1. Biophysical (expertise examples include urban meteorology and climatology, urban meteorological/energy/water/carbon/air quality modelling and observational monitoring, urban carbon cycle, urban hydrology, urban biodiversity, land-atmosphere interactions);
2. Impacts and risks, including (i) economic and non-economic losses and damages and (ii) compounding and cascading aspects (expertise examples include statistical climatology, detection and attribution of climate extremes, heat islands and urban overheating, air pollution, inland and coastal flooding, critical infrastructure including power, digital communication and transport, water/energy/food/health nexus, food security, health, supply chain, vulnerability, losses and damages, risk management, disaster risk reduction, risk modelling);
3. Sectoral development, adaptation, mitigation and responses to losses and damages (expertise examples include built environment, urban planning, building design and materials, tourism, urbanization trends, informal settlements, migration and urban poverty, water management, energy systems, infrastructure, ecosystems and biodiversity, nature based solutions/ecosystem based adaptation, livelihood and communities perspectives issues, urban scenarios/pathways, transportation systems

and mobility services, industry, urban agriculture and food production, waste management, climate services and early warning systems, environmental psychology);

4. Energy and emissions (expertise examples include emission inventory, urban and embodied emissions, urban energy demand and services, energy mix, urban energy management, power grid layout, standards and regulations, carbon accounting, urban carbon sequestration, renewable energy, life cycle assessment);
5. Governance, policy, institutions, planning and finance (expertise examples include typology of cities and decision frameworks, urban planning, architecture, smart cities, mitigation / adaptation policies, energy security, water security and sanitation, barriers and enabling conditions for urban climate finance, insurance, liveable cities, role of normative principles in governance, science, technology and innovation for sustainable cities, articulation between local and national development priorities, climate resilient development in cities, Sustainable Development Goals, environmental, social and governance reporting);
6. Civil society (expertise examples include social coherence, justice, equity, ethics, gender, intersectionality science, decision making, science/policy interaction, communication, digital/cyber security, indigenous knowledge systems, diversity of urban stakeholders involved in climate responses, city networks / alliances, environmental advocacy).

The call for nominations closed on 17 November 2023. 1293 nominations were received from 92 member governments, 31 observer organizations and 20 members of the IPCC Bureau. Of the total nominations received, 60% were male and 40% were female. Based on the citizenship provided in the nomination form, 54% of nominated experts were from developed countries while 46% were from developing countries or countries with economies in transition. Additional information on the regional distribution of nominations is provided in Table 2 (below).

### **3. Participants selection process and outcome**

#### **3.1 Overview**

Participants in the scoping meeting were selected consistent with Appendix A to the Principles Governing IPCC Work. The approach defined to support the selection process built on the practices during the AR6 cycle. The approach facilitated the selection of a robust and balanced participant list and ensured a consensus-based process that was efficient and included clear traceability in decisions.

Participants were selected by the relevant respective Working Group Bureau, facilitated by the SSC for the scoping of the Special Report. In selecting scoping meeting participants, consideration was given to the criteria defined in Appendix A to the Principles Governing IPCC Work: scientific, technical and socio-economic expertise, including the range of views; geographical representation; a mixture of experts with and without previous experience in IPCC; gender balance; experts with a background from relevant stakeholder and user groups, including governments. Additional consideration was given to the inclusion of urban practitioners and planners, representatives of civil society organizations and local/regional governments,

#### **3.2 Review of Nominations and Priority Rankings**

All nominations and individual CVs were available for review by SSC Members via the online nominations system. Following the close of nominations, the Technical Support Units compiled nominations into a single spreadsheet and prepared overview statistics of the nominations. Each SSC Member was asked to provide an initial 'ranking' of their top priority nominations, focusing on nominees from their WG, from their own area of expertise, and the nominees from their region, with consideration for the criteria as stated in the IPCC Principles and Procedures.

Each SSC Member was asked to provide up to five '1' rankings, which indicated a 'high priority', and up to five '2' rankings, which indicated a 'secondary priority'. It was noted that there was purposely no '3' or 'low priority' as the intention was not to produce a 'hierarchical ranking', but a focused identification of key individuals that would address the needs of the meeting.

The initial ranking process had been used in previous selection processes as a way to identify overlaps and agreement across members. In addition to the individual rankings, each SSC Member was also provided with the opportunity to include additional 'Comments' to allow for details not captured in the nomination that would be useful for others to consider during the next stage of the selection process. At this stage, WG Bureau Members were also informed of the ability to submit additional nominations in the event that key gaps were identified.

### **3.3 Construction of the Long List**

All input (rankings and comments) received from the SSC Members was compiled. All nominee receiving a '1' or a '2' formed the 'Long List'. Experts who received more than one '1' or more than two '2' were identified for the preliminary Short List.

The resulting Long List, consisting of 112 experts, was then returned to the SSC, along with overview statistics on the Long List and the preliminary Short List to allow for discussion of overlaps and identification of gaps.

### **3.4 Construction of the Short List**

The objective of the next phase of the selection process was to further refine the Long List in the preparation of a preliminary Short List for consideration by the members of the WGI/II/III Bureau in the next stage of the selection process. The SSC met virtually and iterated the list in email.

The resulting 'Short List' included 96 names (83 nominees and 13 SSC members). An additional 19 nominees were identified as reserves and a further 30 nominees were retained from the initial Long List. Summary stats were also produced. The members of the WGI, II and III Bureau were asked to consider the preliminary Short List and provide their feedback on any gaps or overlaps, with consideration for all selection criteria and the limited number of trips available to support the travel of experts from developing countries and countries with economies in transition.

### **3.5 Construction of the Revised Short List**

Members of the WGI, II and III Bureau submitted a number of comments and suggestions to help refine the participant selection, while also ensuring appropriate coverage of the areas of expertise and broadening geographic representation. All input received from the members of the WGI, II, and III Bureau was assembled into an updated nominations spreadsheet. The feedback received on the Short List was then considered by the SSC to produce a revised Short List that was circulated, with analysis, to the members of the WGI, II and III Bureau. The Revised Short List included 99 individuals (86 nominated experts and 13 SSC members), 34 reserves and a further 28 names from the Long List. The members of the WGI, II and III Bureau were asked to consider the Revised Short List and provide any final feedback on any remaining major gaps or overlaps with consideration for all selection criteria and the limited number of trips available to support travel of experts from developing countries and countries with economies in transition.

### **3.6 Preparation of the Final List for Invitation**

The SSC considered the final feedback submitted by the members of the WGI, II and III Bureau and addressed the remaining concerns to the extent possible in the preparation of the Final List for Invitation. The Final List consisted of 119 invitees (87 experts, 13 SSC members and 21 Bureau members) from 65 countries. The reserve list consisting of 42 experts included all nominated experts previously short listed by the members of the WGI, II and III Bureau during the selection process. An additional 26 names from the initial Long List were also retained for consideration in the event of regrets. An analysis of the final selection / invitation list with information on the geographic representation, gender balance, and other selection criteria is provided in Tables 1, 2, 3 and 4 (below).

Invitations were extended to the selected participants on 26 January 2024. In response to regrets received, an additional ten experts from the reserve list were invited.

### **3.7 Participant List**

The Scoping Meeting, held from 16 to 19 April 2024 in Riga, Latvia, was attended by 90 experts, 13 SSC members, and 16 Bureau members, with an additional 3 experts and 4 Bureau members joining

one or more sessions online. Tables 1, 2, 3 and 4 include an analysis of the participant list for geographic representation, gender balance, and other selection criteria. The Special Report on Climate Change and Cities Scoping Meeting Participant List is provided as Annex 2.

Table 1: Comparison of nominations, selected/invitation list, and participant list for development status.

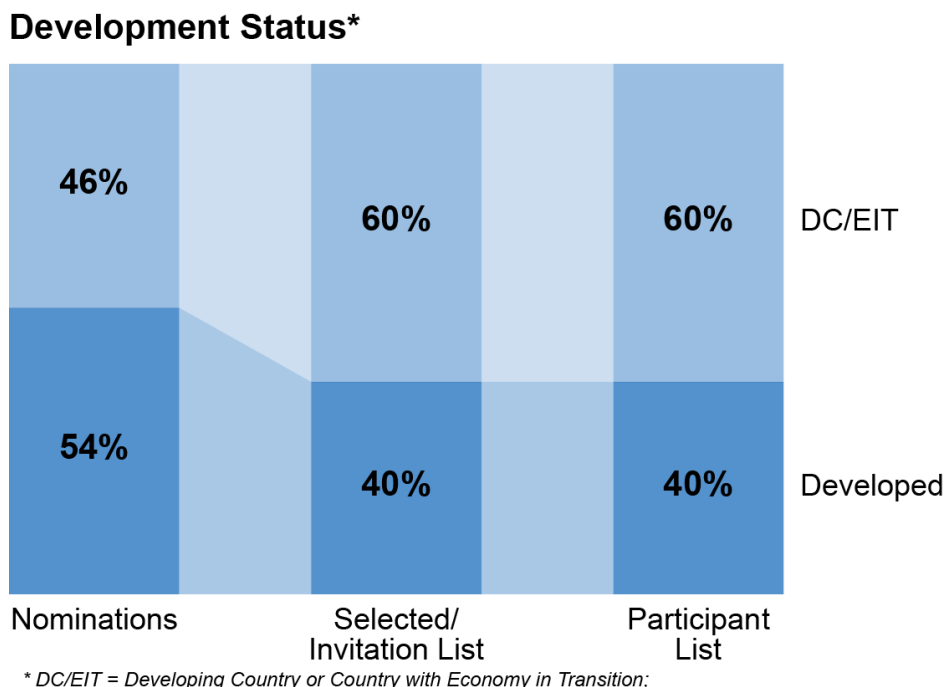


Table 2: Comparison of nominations, selected/invitation list, and participant list for geographic representation.

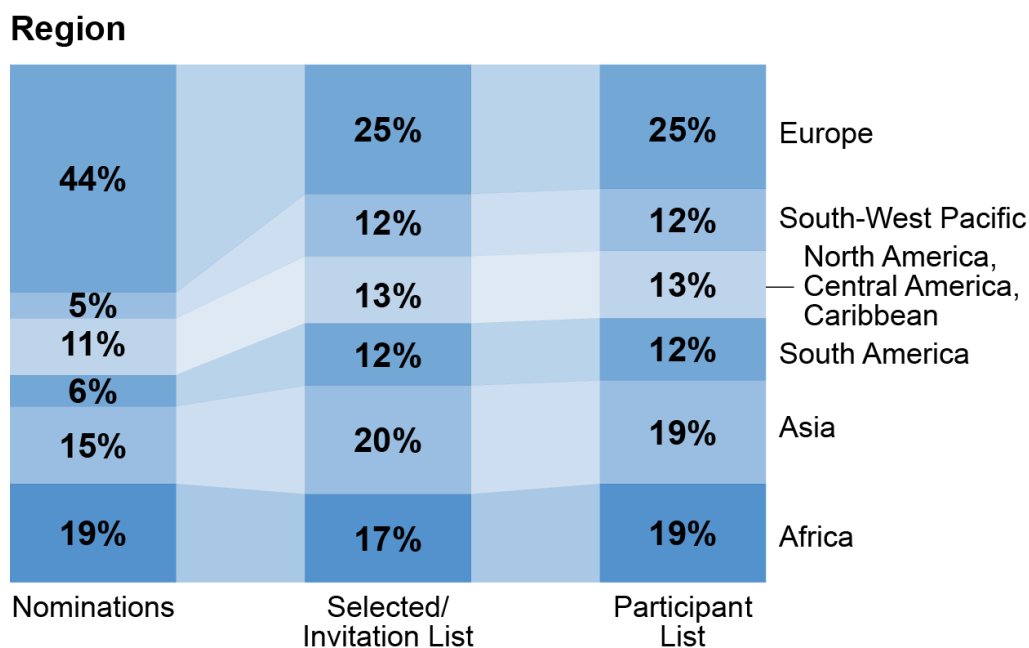


Table 3: Comparison of nominations, selected/invitation list, and participant list for gender balance.

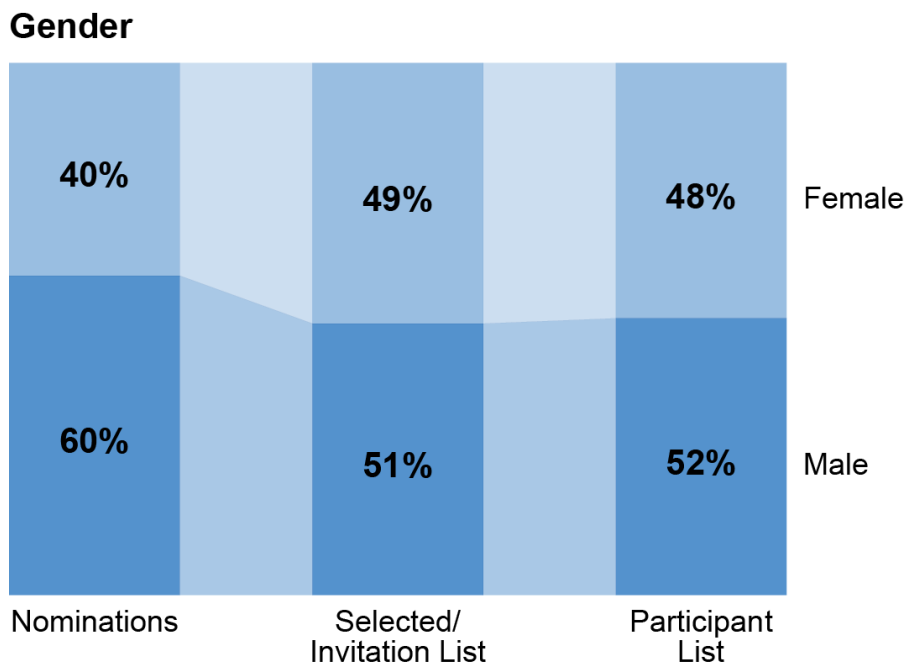
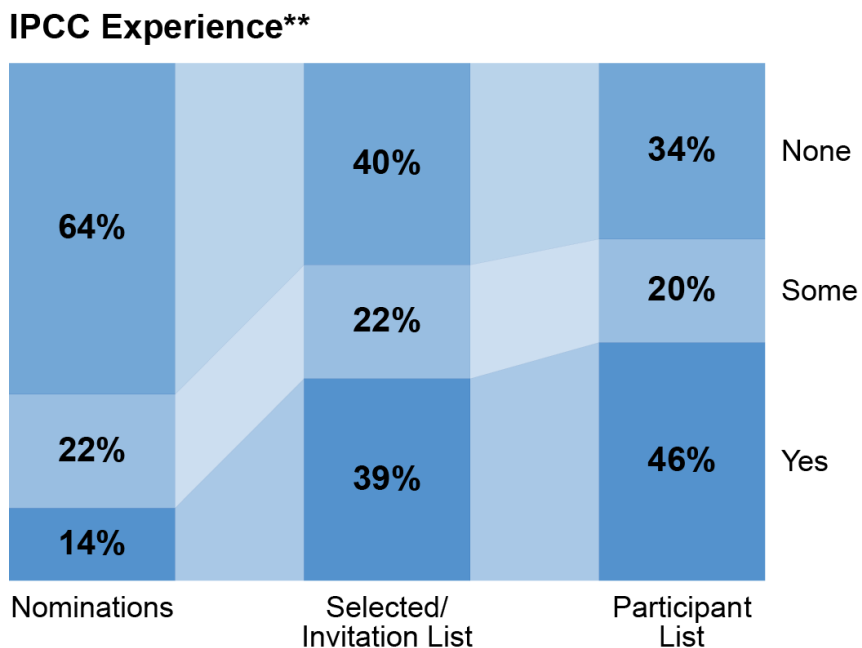


Table 4: Comparison of nominations, selected/invitation list, and participant list for IPCC experience.



\*\* Yes = had participated in an elected (Bureau Member) or selected (Coordinating Lead Author, Lead Author, Review Editor) role, Some = Contributing Author, Expert Reviewer, Chapter Scientist, Focal Point, Government Delegate, No = no previous experience in the IPCC.

#### 4. Background Document

The SSC prepared a Background Document on the expected outcomes of the SRCities scoping meeting (i.e. title and chapter structure for the Special Report, an indication of the relative size of the various chapters, and an indicative list of topics to be addressed under each chapter by the authors).

The main objective of the Background Document was to provide a summary of the coverage of cities and urban systems in AR6 and a systematic overview of topics emerging from science on climate change and cities across the main domains of expertise in the Call for Nominations (see section 2). The document was intended to provide a factual summary of the available knowledge from IPCC reports and recent areas of focus in the scientific literature on cities to serve as a foundation for the SRCities scoping meeting. The document also briefly provided context about the Panel's request for the Special Report.

The document sets out the basic definitions of cities and other urban-related concepts and agglomerations based on the AR6 Glossaries. It includes other definitions relevant to cities in Appendix 1. The document also provided an overview of the pre-scoping surveys and webinars held prior to the scoping meeting, with all experts nominated but not participating in the scoping meeting (see section 5).

Three Appendices were provided with the Background document:

Appendix 1: Definitions based on the Glossaries of the IPCC Sixth Assessment Report

Appendix 2: Relevant Points of Emphasis Based on the Scientific Evidence in AR6 SPMs

Appendix 3: Synthesized Output of the Pre-Scoping Webinars and associated survey

## 5. Pre-scoping webinars

Three pre-scoping webinars were held 18-19 March 2024 to solicit input from experts who were nominated but not selected to attend the scoping meeting, along with Focal Points and Bureau Members. The webinars aimed to facilitate inclusive engagement of a broad set of experts in SRCities scoping process. The output of the webinars was included in the Background Document to inform the scoping meeting participants.

Prior to the webinars, invitees were asked to respond to a registration questionnaire consisting of the following five questions:

- a) *What is/are the most important/urgent issue(s) cities are facing in the context of climate change?*
- b) *What new and relevant findings in science and practice have become available since AR6?*
- c) *What are key gaps in knowledge/current research on urban areas and climate change?*
- d) *What kind of information would you/your stakeholder group need to act?*
- e) *What could be structuring elements for synthesizing information in the assessment?*

A total of 660 written responses were received by registrants, which were compiled and synthesized by the TSUs of Working Groups I, II and III and included as an Annex to the Background Document.

The webinars were identical in structure and held at three different times over two days to accommodate various time zones. A total of 424 experts and 23 Bureau members participated across the three webinars, with 88 countries represented. After a scene-setting presentation by the WG Co-Chairs, a pre-recorded introduction from an IPCC Vice Chair, and a short interactive Slido question, participants were then randomly divided into four virtual breakout groups (BOGs) that were co-facilitated by members of the SRCities SSC. Utilizing the synthesis of answers to the registration questionnaire as a backdrop, the co-facilitators opened the BOGs by commenting on a graphic generated from the written responses to question A, and then posed the same questions again to the BOG participants. Discussions were spurred using both Slido and a discussion format so that participants had the opportunity to offer written and/or verbal input during the BOG sessions. The co-facilitators actively drew on some responses received to elaborate further. At the end of the session, participants returned to the plenary for short report backs from each BOG, followed by wrap-up and closing remarks.



The output of the webinars was a synthesis document developed by the SSC comprising a synthesis of the written responses received to the five webinar registration questions, the oral input received during the webinars, and the responses to the webinar Slido polls. The output document of the webinars was added as an Annex to the Background Document to inform the SRCities scoping meeting. The following are highlights from the synthesis document:

*Question a) What is/are the most important/urgent issue(s) cities are facing in the context of climate change?: adaptation measures, especially to combat extreme weather phenomena, the critical need for protective measures and adaptations at the city-level for vulnerable, aging infrastructures and buildings, sea level rise, coastal erosion, and flooding, etc.*

*Question b) What new and relevant findings in science and practice have become available since AR6?: urban forests, green infrastructure, and nature-based solutions (NBS) alongside innovative materials and the principles of a circular economy, AI and urban climate modelling capacity, advancements in renewable energy systems, attribution of extreme weather events to climate change, local climate policies, etc.*

*Question c) What are key gaps in knowledge/current research on urban areas and climate change?: data and monitoring, high resolution, localized climate models and scenarios, information on informal settlements, integrated assessments, spatiotemporal and socioeconomic development of cities, underlying mechanisms driving UHI dynamics, health and wellbeing impacts, etc.*

*Question d) What kind of information would you/your stakeholder group need to act?: local information and data, practical, actionable solutions that can be taken at the local level, information on how to prioritize, metrics to evaluate local effectiveness of solutions proposed, a collection of case studies, how to mainstream climate change into urban issues examples, etc.*

*Question e) What could be structuring elements for synthesizing information in the assessment?: Suggestions were grouped into the following clusters: 1) City categories/Archetypes, 2) Timeframe, 3) Audience/Level of Governance, 4) WGI-II-III plus Sustainable Development, 5) Sectors combined with regional / integrated perspectives, 6) Along established frameworks or indicators, 7) Risk lens, 8) Integrated approach, focus on trade-off and synergies.*

## **6. Pre-scoping meeting recorded scene-setting and introductory presentations**

Participants were invited to view six pre-recorded video presentations before the start of the scoping meeting, since little time was available in the programme to introduce the scientific context of the meeting. Four were intended as scene-setting, one as an introduction to the IPCC and the scoping process, and one to draw linkages between SRCities and the IPCC Task Force on National Greenhouse Gas inventories (TFI). The experts who presented were nominated, vetted and selected by the SSC from the list of nominated experts with regional and gender considerations. The SSC also extended an invitation to the Minister of Environment of Chile to present on Climate Change and Cities as introductory context-setting for the scoping meeting. The topics of the scene-setting presentations aimed to cover topics of relevance to the Special Report, with balance across the three Working Group perspectives. The presentations provided background information about IPCC scoping meetings, thus enabling participants to come to the meeting well-informed of the meeting's processes and their expected contributions.

The scene-setting pre-recorded videos and the presenters consisted of the following:

- Climate Change and Cities by Maisa Rojas, Minister for Environment in Chile
- Introduction to the IPCC and the Scoping Process by Diana Urge-Vorsatz, IPCC Vice Chair
- Inputs from the TFI Co-Chair by Takeshi Enoki, Co-Chair of the TFI
- Urban Heat Islands, Observations and Models by Valéry Masson, Urban Climate Researcher at Météo France
- Urban Climate Resilience and Development by David Dodman, General Director at the Institute for Housing and Urban Development Studies

- A Call for Enhanced Urban Climate Action by Angel Hsu, Associate Professor for Public Policy & Environment at the University of North Carolina

## 7. Scoping meeting

The scoping meeting for the Special Report was held in Riga, Latvia, from 16 to 19 April 2024. The scoping meeting programme is provided in Annex 2 to this document.

The scoping meeting programme was carefully constructed to allow for wide-ranging initial discussions of topics across different Breakout Groups (BOGs), with the initial aim to extract actionable knowledge on advances in science and improvement in practices that could be assessed in SRCities. These BOGs were followed by increasingly focused BOGs to develop potential narratives for the Special Report, and to propose by the end of the meeting draft chapter structures and outlines, including the number of chapters, titles and order, as well as a list of indicative bullets – not in any particular order – which need to be considered by authors under each chapter. Hence, the proposed outline for the Special Report was developed in a dynamic and iterative process over the course of the scoping meeting.

### Opening Session

Four speakers addressed the participants in the Opening Session:

- Kaspars Melnis, Minister for Climate and Energy, Republic of Latvia
- Jānis Lange, Riga City Executive Director
- Emīlija Roberta Eglīte, Babite Secondary School, Youth Representative from Latvia
- Jim Skea, Chair of IPCC

Debra Roberts (AR6 WGII Co-chair) and Karen Seto (Co-ordinating Lead Author, AR6 WGIII Chapter 8 on “Chapter 8: Urban systems and Other Settlements”), who were also meeting participants, then addressed the participants in a Key Note titled: *In Conversation: Towards a Transformative Special Report—Lessons from Science and Practice to Inform the Future*. They offered thoughts on how to make this Special Report impactful. They highlighted the need to write a scientific report that resonates with realities on the ground, hence the necessity to co-create the report with practitioners. ‘People’ as a driving force for change was emphasized, as was the opportunities for transformation that cities offer.

The Key Note was followed by an interactive session (see Section 7a).

### **7a. Interactive session**

An interactive session designed to facilitate participants’ engagement in the scoping meeting was virtually moderated by Pablo Suarez from the Red Cross Red Crescent Climate Centre. The session was held to harness the collective insights of the scoping meeting participants on the potential societal impacts of the report, explore scientific contributions in response to policymakers, and conceive potential future headlines inspired by IPCC outputs. Activities were facilitated through the GoodGames platform, utilizing serious games and cartoons to enhance participant interaction and learning. The interaction session included four games.

#### *Game 1: All Caps RANT*

This game encouraged participants to assume roles as urban stakeholders – from municipal government officials to residents of flood-prone areas – and anonymously pose short, policy-relevant questions. This produced 439 contributions during a 90-second countdown which heightened the urgency of their contributions, fostering a dynamic environment for spontaneous query generation. These submissions were then presented to participants who were asked to write headlines inspired by those submissions. The output was in the form of “News Headlines” that participants imagine to find in the news after the publishing of the SRCities report and at the end of the cycle. They were free to write optimistic or pessimistic news headlines. Participants produced 333 headlines in total.

### *Game 2: I like ~ I will ~ I wonder*

Participants were prompted to share personal responses to the session: affirmations (I like...), intended actions (I will...), and curiosities (I wonder...). This game yielded nearly 200 statements, reflecting a broad range of emotional and intellectual engagement with the session's content.

### *Game 3: I Think We Think*

Aiming to pinpoint societal priorities regarding the upcoming Special Report, this game involved a thematic prompt that led participants to submit a list of three concepts that they thought of when thinking of that prompt. They were also asked to guess the words that other players submitted in reaction to the prompt. This exercise was visualized through two word clouds: "Thoughts," depicting individuals' reflections on the prompt (*The most repeated as displayed in the final word cloud: Transformation, Action, Health, Hope, Justice, Improvement, Equity, Wellbeing, Actionable, Prosperity, etc.*), and "Guesses," illustrating anticipations of peers' responses (*The most repeated as displayed in the final word cloud: Equity, Transformation, Action, Resilience, Justice, Development, Health, Money, Sustainability, Awareness, Policy, Infrastructure, etc.*).

### *Game 4: Cartoon Gallery*

Participants provided feedback on 25 draft cartoons created in real-time by professional cartoonists observing the interactive session. These drafts drew inspiration from the outputs of the preceding games. Participants engaged deeply with this content, contributing 501 annotations. They voted and commented on each draft, influencing the final selection of cartoons.

Following the session, the moderator from the Red Cross Red Crescent Climate Centre compiled a report summarizing the outcomes of the session and recommended five cartoons for the WGII TSU based on participants' feedback. Three additional cartoons were also selected for their thematic relevance and to fill gaps that were not covered in the first 5 cartoons. The selection was based on the quality, clarity and message. Cartoons can be provided upon request to the WGII TSU.

## **7b. Plenary sessions, Breakout Sessions and Stocktaking Sessions**

An open exchange of ideas and detailed discussions of possible options for the contents and structure of the report took place during five successive Breakout group (BOG) sessions, each introduced by a plenary session. BOGs I-III and V were followed by a stocktaking session of reporting and discussion. BOG sessions were designed to progressively distil down from an initial phase of brainstorming on topics and questions to be addressed in the report (breakout session I), to discussions around a series of focused themes (breakout session II), and finally to the identification of possible narratives and chapter structures to support the narratives (breakout session III), chapter titles and bullets of indicative content (breakout sessions IV and V).

### **Day 1**

After the morning interactive session, participants self-allocated to five BOGs in breakout session I in the afternoon. The BOGs aimed to extract actionable knowledge on advances in science and improvement in practices that could be assessed in SRCities. For a comprehensive coverage of the key scientific and/or practical advances, the BOG topics were based on the main domains that were contained in the Call for Nominations for experts of the Scoping Meeting (see Annex 2).

To facilitate this process in an effective and inclusive manner, this initial brainstorming session employed a sticky note approach, capturing the participants' views on the key topics to be included in the Special Report, and identifying commonalities. The BOG co-facilitators (chaired by a Bureau Member and an SSC member) presented in a plenary stocktaking session the main emerging clusters of actionable information as well as clusters of key advances in practice and science related to their BOG topics.

Recurring themes across all BOGs included the complexity and multidimensional aspects of cities, requiring transdisciplinary and integrated approaches, as well as systems perspectives; and an

acknowledgement that “model cities” and “model solutions” were irrelevant in the face of such diversity. “Informality” came up across all BOGs, highlighting multiple possible typologies, and the need for carefully defining boundaries around ‘urban systems’ without excluding large segments within those systems. Limits to existing peer-reviewed literature and the need to include grey literature, especially in response to the high demand for local information and to reduce information gaps in the Global South was another emerging theme. There was an urgent call for reality checks with regard to scientific assessments as compared to realities on the ground. The opportunity for this Special Report to talk to the people and to national and subnational actors, using inclusive methodologies and doing things differently to ensure that the thinking is not embedded in the framing that generated challenges in cities in the first place was highlighted.

## **Day 2**

Day 2 started with Plenary Session II, which introduced the following five broad themes that constituted the BOGs for breakout session II (see Annex 2).

These broad themes were intended to stimulate interaction across different domains as an interactive

exercise and increase cross-fertilization of ideas in the process of providing an outline to guide an actionable Special Report. These broad themes also covered overarching themes in the IPCC AR6 Cross-Working Group Box on “Cities and Climate Change”<sup>1</sup> and brought together one or more expertise domains from the Call for Nominations (see Annex 2). Participants self-allocated to one of the five BOGs. The task of the BOG co-facilitators (chaired by a Bureau Member and an SSC member) was to organise and cluster the points raised during the discussions into topics that could potentially contribute to an actionable Special Report. The BOG co-facilitators presented these in a stocktaking session.

The report back highlighted points of divergence that would need work to build consensus. A recurring theme in all the BOGs was the need to operationalize enabling conditions, including access to finance, resources, knowledge and capacity building, taking into account inequalities, justice and minorities. It was suggested that bottom-up approaches, North-South and South-South perspectives, case studies, and diverse and context-sensitive toolboxes could be structuring elements to a multidisciplinary Special Report rooted in science. Multiple BOGs also reported back on the possibility of governance and opportunities as structuring elements. An overarching point was made on the need for methodological clarity throughout the Special Report. It was highlighted that excessive cross-cutting integration would lead to a lack of specificity and usefulness of the report in the face of the diversity and complexity of cities. The centrality of ‘people’ in this report was again highlighted. The BOGs also reflected once more, the importance of making the report actionable and impactful.

The afternoon of Day 2 continued with breakout session III, with the objective of developing narrative(s) and proposals for structures that could guide the outline of SRCities (See Annex 2).

Participants were randomly allocated across five BOGs. The BOGs discussed key questions that the report should address, with strong emphases on opportunities, solutions, actions, priority measures and implementation. The BOGs discussed applying an integrated and holistic systems approach to the report vs. separating the content into adaptation, mitigation, and/or sectors. Many BOGs highlighted the need for a people-centric approach to the report. It was clear from all the BOGs that specific information would be needed for different contexts, and that a typology or regional approach would likely have to be considered as cross cutting throughout all chapters. Other structural approaches that were discussed in the BOGs included a temporal approach, a regional approach, a risk assessment approach, and one based on city size/scale. Many BOGs also

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<sup>1</sup> Available from pages 60-63 in the compilation of “Cross-Chapter Boxes and Cross-Working Group Boxes” ([https://www.ipcc.ch/report/ar6/wg2/downloads/report/IPCC\\_AR6\\_WGII\\_CCB-CWGB\\_Compilation.pdf](https://www.ipcc.ch/report/ar6/wg2/downloads/report/IPCC_AR6_WGII_CCB-CWGB_Compilation.pdf)) and both WGII and WGIII contributions to the Sixth Assessment Report from the respective websites.

discussed the pros and cons of innovative structures vs. the structure of previous IPCC reports. The BOG co-facilitators presented the emerging narratives, the supporting chapter structures and their pros and cons in a plenary stocktaking session.

A total of 19 structures were presented. The report backs highlighted that some patterns and consensus were emerging. Firstly, it was clear that all BOGs suggested beginning the report with a framing chapter for scene-setting and defining various concepts, including “what is a city” and “why cities matter”. There was a strong push to bring forward solutions, actions and opportunities. The group discussed how representative for real-world realities a usual IPCC report structure would be. Some participants cautioned against developing a report structure that will result in an encyclopaedia of climate change and cities. The use of case studies was highlighted as crucial, as was the need to integrate the use of Indigenous Knowledge and local knowledge.

The SSC reflected on the 19 emerging structures in an evening meeting, and identified five broad groupings that were common across all the proposed structures: i) Framing; ii) Past and present; iii) Future trends and challenges; iv) Solutions; and v) Information by region and/or city typology. The SSC also identified a non-exhaustive list of concepts and words that came up multiple times in the suggested narratives and structures without showing up in the emerging chapter titles.

### **Day 3**

Day 3 started with Plenary Session III. The five broad groupings and the non-exhaustive list of key words and concepts identified by the SSC were presented to the participants. Participants were randomly allocated across five BOGs constituting breakout session IV. They were tasked to develop rough content in 5 to 7 bullets under each of these broad groupings, making sure that all the key words and concepts would be covered. The BOGs were also tasked to provide tentative chapter titles for each grouping.

Before the participants went into their BOGs, a practitioners’ panel reflected on the structure options that had been presented at the end of Day 2, and on the five broad groupings identified by the SSC. The panellists (who were also meeting participants) emphasised how much of a gamechanger this report could be to bring cities – systems within systems – into the national conversation, and requested global-regional coherence to be embedded in the framing of the report. They highlighted that the lack of action is not only due to a lack of science or good modelling, and that the report should aim to generate information that people can directly relate to (e.g. case studies). They highlighted that the report should reflect ground realities with the right level of granularity and that regional information would be key. Panellists highlighted potential lenses for a solutions-oriented report. Finally, panellists urged that the report should not forget the people, and must ensure that all know that they can contribute to solutions, including informal parts of society.

Many BOGs discussed the possibility of merging “framing” and “past and present”, and/or having the bullets under “past and present” mirroring those in “future trends and challenges”, including the suggestion to merge these too. Most of the discussions in the BOGs focused on how to structure the “solutions” chapter: all agreed that it should be expanded to more than one chapter, but BOG participants were divided on whether to separate or integrate adaptation and mitigation, as well as possibly having a chapter on enabling conditions. Many BOGs ran out of time to flesh out the contents under the grouping “Information by region and/or city typology”. Some BOGs mentioned the possibility of preparing a City Atlas as part of the Special Report.

During lunch time, participants took part in various excursions around the city of Riga, while the SSC met to consider the wealth of content developed by the five BOGs, and attempt to respond appropriately to the breadth of views expressed by participants throughout the meeting, in particular with regard to the “solutions” discussion. When the participants returned from the lunch excursions, the SSC convened the group in Plenary Session IV to present areas of convergence and areas of divergence.

From the morning BOGs, there was convergence on:

- Chapter 1: Framing
- Chapter 2: Past and present
- Chapter 3: Future trends and challenges
- Last chapter: Regional and/or cities typology

As divergence remained on the solutions chapter(s), the SSC presented two possible options:

- Option 1: three chapters: a) Adaptation b) Mitigation and c) Integrated options
- Option 2: two chapters: a) Short term transitions and b) Long term transformation

Four breakout groups were formed constituting breakout session V, on the four chapters on which there was convergence. The BOGs were tasked with constructing indicative bullets that would ultimately form the scope of the chapters. Each BOG was asked to allocate the first 30 minutes to discussing the two options provided for the solutions part of the report, and reconvene in a short stocktaking session before going back to their chapter BOGs to develop the indicative bullets. Participants could choose which BOG they attended.

The BOGs started by discussing the two options put forward by the SSC for addressing the solutions part of the report. Many BOG participants felt that the temporal dichotomy in Option 2 should be removed, and reflect the idea that actions can be taken today for both short- and long-term solutions, suggesting that transformation should be used as a general framing. Many highlighted the lack of clear boundaries between short and long term. Many BOG participants also suggested that structuring the solutions chapters should respond directly to the needs of the readers, particularly decision makers and practitioners. It was highlighted that the solutions part of the report should facilitate regionalisation and contextualisation. Some participants raised that adaptation and mitigation should no longer be viewed as separate categories and that taking integrated action is what matters. Others stressed that the framing should make space for means of implementation as the crux of the issue. Proposals were made in addition to the options proposed by the SSC, such as structuring the solutions part of the report as “what”, “who” and “how”. Many supported an additional chapter with a sustainable development and wellbeing focus.

BOG 5.1 discussed the outline and bullets of indicative content for the “framing” chapter of the report. The BOG discussed how a narrative could drive the outline of the framing chapter, and then organized the content and concepts previously identified in past BOGs and previous IPCC special reports into a narrative structure. Participants stressed the importance of the following topics: climate extremes, inclusion of diverse knowledge systems (including Indigenous Knowledges), inclusion of knowledge and experiences from practitioners, impacts on health and wellbeing, and city typologies.

BOG 5.2 discussions considered the potential outline and bullets of indicative content for the “past and present” chapter of the report, including discussions on risk framing. There was consensus that the content should reflect literature on actionable climate information – i.e., lessons from the past relevant for the present and the future, different sources of information including Indigenous Knowledge and Local Knowledge, a multi-hazard approach and how the impacts and risks are cascading, past and present shortcomings and gaps, as well as emission trends. The group agreed to address the following topics in the chapter: 1) How did we get here: current understanding of the complexity of cities and lessons learnt from the past; 2) What are we dealing with: available information on the interactions between cities and regions, current emissions, risks and vulnerabilities and 3) How are we currently dealing with it: data availability and the importance of knowledge-sharing, case studies as example of how cities are addressing climate resilient development including initiatives and best practices.

BOG 5.3 discussed the outline and bullets of indicative content for the “future trends and challenges” chapter of the report. The group discussed how to paint the possible range of futures from a city-oriented lens including future risks and the scenarios that can address them, and how to address

the impacts of different temperature increases and related climate changes at different city levels. The group stressed that positive trends should also be addressed to give the chapter a hopeful tone and reflect the full range of possibilities. Given the complexity of cities, the group agreed that climate change would need to be contextualised in broader socio-economic trends via interactions with other drivers and also within global contexts and agendas. Concern was raised regarding the range of futures to consider and where boundaries should be drawn. The group converged on a set of indicative bullets, title options and a few cross-cutting points.

BOG 5.4 discussed the outline and bullets of indicative content for the last chapter on “Regional and/or cities typology”. The group agreed on a proposed chapter title; and drafted a non-exhaustive list of multiple characteristics and dimensions for city typologies including geographical location, socioeconomic development, population scale (size), population growth and cultural dimensions etc. Participants emphasised the importance of multiple perspectives on city typologies noting the necessity to show a diversity of typologies potentially useful under various city circumstances. In addition, participants also noted the challenge of writing a chapter downscaling to the city level simultaneously with the global level chapters, implying the need for a strong and early cross-chapter coordination.

After the report backs from the BOGs in stocktaking session IV on their consideration of either Option 1 or Option 2 regarding solutions, the SSC proposed to convene BOG 5.5 on Solutions running in parallel with the four other BOGs. The Solutions BOG was split into three huddles intended as potential chapters:

A/ Current solutions and available actions to reduce urban risks and emissions

(to meet Adaptation, Mitigation and sustainable development goals etc.)

B/ Innovations/transformation needed for sustainable, people-centred and just transition in urban systems

(technological and non-technological)

C/ Enabling conditions and barriers

(in governance, policy, finance, citizen engagement, cooperation, education etc.)

The huddles were tasked to provide bullets of indicative content and proposed chapter titles for each stream.

The outcomes of BOGs 5.1, 5.2, 5.3, 5.4 and 5.5 were compiled and informed the final evening deliberations of the SSC. The SSC considered and debated the chapter titles and indicative bullets as emerging from breakout session V and converged with the formation of a chapter slate (titles and indicative bullets) including seven chapters, that was presented at the final day Plenary.

#### **Day 4**

The following chapter slate was presented at the start of the final plenary:

Chapter 1: Cities in the Context of Climate Change: Framing of the Report

Chapter 2: “Past & Present”

Chapter 3: Future trends and challenges

Chapter 4: Current solutions and available actions to reduce urban risks and emissions

Chapter 5: Innovations/transformation needed for sustainable, people-centred and just transition in urban systems

Chapter 6: Enabling conditions and barriers: Accelerating the transition to climate resilient development for cities

Chapter 7: Summary of solutions by city types

Based on intense discussion and feedback from the meeting participants during the final Plenary, it was agreed to merge proposed chapters 2 and 3, and to merge proposed chapters 5 and 6, reducing

the proposed chapters from seven to five (Box 1). Titles and indicative bullets were edited live on-screen and in huddles. Discussions ensued until consensus was reached for each chapter title, the related set of indicative bullets and chapter ordering.

### **Box 1: Special Report Proposed Outline**

Summary for Policymakers  
Technical Summary

Chapter 1: Cities in the context of climate change: framing of the report  
Chapter 2: Cities in a changing climate: trends, challenges and opportunities  
Chapter 3: Actions and solutions to reduce urban risks and emissions  
Chapter 4: How to facilitate and accelerate change  
Chapter 5: Solutions by city types and regions

Annex I: Glossary

### **7c. Annotated proposed outline of chapters from the scoping meeting**

The following text provides additional information on the annotated Special Report outline, based on expert discussions reported throughout the scoping meeting, and particularly those discussions emerging during Breakout Group Sessions III to V and the final plenary. Indicative page length of the report is a total of ~500 pages (including figures, tables and graphics, excluding references). AR6 page indications for Special Reports had lower numbers but these were exceeded considerably in their final report versions.

#### **Chapter 1: Cities in the context of climate change: framing of the report**

- Integrated storyline of the report, chapter narrative, sequence, and linkages to other relevant processes and assessments.
- Framing urban systems and climate risks (including complex, cascading, compounding, and repeating risks), and loss and damage.
- Climate resilient urban development, including consideration of interacting city targets and sustainable development goals.
- Cities as hotspots of effects of hazards and emissions, vulnerabilities, exposure, and impacts, while also being key climate actors.
- City typologies and other concepts relevant to the report considering the multi-dimensional characteristics of urban systems and their dynamics.
- Treatment of urban vulnerabilities, marginalized areas and people, equity, informality and justice.
- Psychology, perception, behaviour and attitudes toward climate change and cities.
- Interconnection between local context and global context (governance, science, air quality, and climate change).



- Assessment methodologies, including following a regional approach, diverse knowledge systems (including Indigenous Knowledge), practitioner expertise, city networks, and considered time frames and spatial scales.

Chapter 1 sets the stage for the report ensuring that readers can find the desired information, providing a textual map of the report. The chapter is not assessing the topics addressed in the bullets, but displays the intended narrative running through the report captured in a set of key points: why cities?; what is at stake?; what common or mutually distinct features of cities apply?; and finally, an overview of key scientific concepts, assessment approaches and procedures. This chapter also draws linkages to other AR7 products and reports, and processes external to the IPCC (e.g. IPBES assessments etc.).

The first bullet introduces the reader to the way the report is structured and the content presented. It explains the rationale for the chapter order and the narrative that each chapter follows.

The second bullet will define cities – and more broadly, urban systems – and provides a framing of why cities matter in the context of climate change. It explains concepts and substance that will be discussed later in the report.

The third bullet describes the framework of climate resilient development applied to cities. This bullet ensures that urban development is woven in the assessment of climate change and cities. Climate action is connected to city targets and vice versa, acknowledging that many cities are already in action, and have a transformational potential. This bullet intends to situate the topic in the context of the Sustainable Development Goals (SDGs), including health and well-being (human, environmental, and natural ecosystems).

The fourth bullet introduces the risk framing and refers to city hazards, vulnerabilities, exposure and impacts that position cities as hotspots in the adopted risk concept, as well as concentrated sources of emissions. At the same time, cities are framed as key locations for climate action including adaptation, mitigation, transformative change, and opportunities for low-carbon lifestyles. The concepts of urban risks and opportunities are to be used throughout the report. Detailed assessments of these aspects are carried out in chapter 2.

The fifth bullet highlights the need to consider the wide range of urban characteristics found in the regions of the world. It will provide city typologies, and define concepts relevant to the report such as established cities, rapidly growing cities, new and emerging cities, informal settlements, displaced communities etc. Many of the city characteristics vary by region, and therefore a regional dimension is key. Characteristics of cities must include those that are not necessarily common or obvious, so that risks, vulnerabilities, exposure, impacts and opportunities can be assessed for specific urban contexts. Acknowledging this diversity throughout all chapters, and with the help of the guidance to derive information for specific types of cities or regions provided in chapter 5, it is intended to ensure high relevance of the report for urban decision making.

The sixth bullet will place “people” at the forefront of the report, and bring to light how inequalities and lack of inclusion can exacerbate climate change and vice versa for populations and intersecting issues for example by gender, age, Indigeneity, Ethnic minorities and disability. This bullet will emphasize the importance of social science contributions to the assessment of urban vulnerabilities, determined by characteristics such as engagement, equity, justice etc.

The seventh bullet will address how behaviour and attitudes lead to different experiences of how climate science is received and used; and hence lead to diverse actions in different cities. It links behaviour with climate and culture, but also with socio-economic statuses and conditions. This implies the need for an assessment of the engagement and involvement of people (including decision makers) while designing and implementing climate change policies.

The eighth bullet describes the conceptual position of cities in the global picture. It will frame the interconnection between the local and the global context (including – but not limited to – governance, regional climate change, air quality, downscaling etc.). It will highlight the role of cities in the local and global agendas, the city contribution to global goals, but also the role of cities in the process of climate change. Finally, this bullet addresses the relation between national policies and local action.

The ninth bullet will lay out the analytical framework used in the report, and provide an overview of key scientific concepts and procedures. It will explain how grey literature and diverse knowledge systems will be used including – but not limited to – Indigenous Knowledge systems, practitioner expertise, city networks, and community knowledge. It will also expand on the consideration of emerging technologies, applications of detection and attribution, scenarios, time frames, spatial scales, treatment of uncertainty, the development of climate information for cities etc.

## **Chapter 2: Cities in a changing climate: trends, challenges and opportunities**

- Understanding and learning from the past (global climate, hazards, crises, socioeconomic developments), past and current climate in cities (trends, means, extremes), going to the future.
- Urbanization, urban service, urban development trends (population, demographics, informality and inequity, land use, geography, minorities and intersectionality, urban extent, form, path dependencies, lock-in, retreat, reconstruction, growth and decline, resource and carbon footprint, health and wellbeing, waste management, ecosystems, economy, finance and insurance, work, artificial intelligence and digitization).
- Emissions trend, scenarios – taking into account the need to provide infrastructure to informal settlements, and including scenarios of rapid up-taking and upscaling of solutions, multi-level governance.
- Climate, impact and risk scenarios: cities at risk/crisis - compounding, with and without strong risk reduction; adaptation; resilience building; the need for climate resilient development (urban climate scenarios); eco-systems and biodiversity; food, health and housing; innovative technologies/methods (measurements and models).
- Adaptation, losses and damages, and socio-economic trends; policy and governance; colonization.
- Understanding the two-way interaction/feedback between cities, regions and countries – science behind the interactions (understanding the biophysical mechanisms); social interactions; climate and air quality; multi-hazard components (compounding and cascading hazards).
- Data, information, tools accessibility/availability/usability/transparency.
- Uncertainties, implementation gaps, unprecedented, ingenuity/social tipping and data.
- Complexity and the need to contextualized climate change within broader societal trends (geopolitical, polarizing societal trends) and goals (Sustainable Development Goals); justice; cascading effects on critical infrastructure.

Chapter 2 provides an assessment of past and present developments and trends, and explores the near and long-term future for cities. It sets the foundation for discussions of action in chapter 3. It documents the current situation of cities around the world regarding physical climate, emissions and other climate change drivers, impacts and future risks, exposure and vulnerability, as well as currently implemented mitigation and adaptation policies including their enablers and barriers. This assessment includes how the current situation results from the global and regional climate evolution,

urbanization, climate policies and socio-economic trends. In addition, the chapter will explore available scenarios (urbanization, emissions) to assess future city conditions for all dimensions mentioned above, according to typologies defined in chapter 1. While mitigation and adaptation are mentioned for both present and future developments, the later chapters outline the full scope of possible actions and solutions.

The first bullet introduces the concept of the chapter and develops the various contexts in which cities are evolving. It starts with the global context (global historic and future warming evolution and general consequences in terms of hazards and impacts, in the context of global socio-economic trends and recent or unfolding crises). It then introduces an assessment of the historical physical climate evolution in cities, including means, trends and extremes, their links to drivers of climate change and urbanization, and how physical climate will evolve under various scenarios.

The second bullet introduces the assessment of past, current and projected future trends in urban and human development and urbanization, and their socio-economic drivers across city types. It introduces the many concepts that are covered, in particular how different urban forms and characteristics shape informality, equity, health and well-being, impacts on ecosystems and carbon footprint, including the role of demographic trends, economic structure, work, finance, insurance, and rural and urban migration. It also provides an assessment of the potential roles of artificial intelligence and digitalization for cities.

The third bullet introduces a comprehensive assessment of city emissions (greenhouse gases, short-lived climate forcers), and methods to establish and monitor trends (addressing difficulties of implementing some of these methods in challenging environments), in the context of overall global emissions, scenarios and trends. It also introduces current and a range of possible future trends in city-scale emissions scenarios depending on implementation of mitigation policies at global, national and urban scales, (where potential interventions modifying these trends are assessed in chapter 3), accounting in particular for key considerations such as informality, governance and the rapid implementation and upscaling of solutions.

The fourth bullet introduces the assessment of city-specific risks and their climatic impact-drivers, (drawing on methodologies such as city-scale observations, model simulations, risk concepts, Reasons for Concern, Key Risks etc. that are used to evaluate them). This will cover observed climatic impact-drivers and impacts, current and future risks on systems such as ecosystems, health, food etc., and their dependence on assumed future global climate and urban development scenarios, changes in vulnerability and exposure across systems and sectors as well as possible responses. The content of this bullet is an important narrative link with the assessment of solutions to these risks in chapter 3.

The fifth bullet deepens the assessment of current adaptation measures and city climate resilience plans, as well as residual impacts, losses and damages experienced, and the economic and social drivers that shape them, including policy, governance, structural inequity and physical and cultural heritage of colonialism.

The sixth bullet introduces the assessment of the biophysical interaction mechanisms between cities, their surroundings, and the larger-scale environment, in terms of climate processes, including air quality and chemistry. It also addresses interconnections between cities, regions and countries through governance and social and economic fabrics and networks. It will complete the assessment described in the fourth bullet with how large-scale hazards can compound with city-specific elements such as built environment, air and/or water pollution, social contexts, and cascade or aggregate to larger impacts and risks for city inhabitants.

The seventh bullet introduces the assessment of available data for cities, and city-specific tools, as well as their access conditions, and other elements that can support city practitioners and other users.

The eighth bullet describes the assessment of cross-cutting topics such as uncertainties related to the assessment of risks, the potential for unprecedented situations, the role of human ingenuity and innovation, the potential of city-specific social tipping points, and current adaptation and mitigation gaps.

The ninth bullet draws out and synthesizes, based on the assessment above, the complex realities of cities and contextualizes the effects of climate change within other broader societal trends. This includes increasing polarization within societies and changing geopolitical conditions, and goals such as the SDGs, highlighting dimensions of equity and justice.

### **Chapter 3: Actions and solutions to reduce urban risks and emissions**

- Urban mitigation options for spatial planning, energy, buildings, mobility and transport, water, land, behavioral change and cross-sectoral, integrated approaches in urban systems.
- Urban adaptation options for managing risks in natural, ecological and human systems (including but not limited to physical infrastructure, nature-based solutions, and planning and social policies).
- Stocktaking and analysis of city actions across mitigation and adaptation, and responding to losses and damages, including lessons-learned, effectiveness and feasibility, mitigation measures with baseline emissions inventories and target-setting.
- Urban observation and modelling tools for monitoring and evaluation for sectors and unaccounted sources.
- Local risk assessments using scientific information, Indigenous Knowledge, and local knowledge of impacts, transformative adaptation, maladaptation and adaptation policy cycles.
- Linking mitigation and adaptation to sustainable development and just transitions, including integration, planning approaches under and for uncertainty and tipping points, synergies, trade-offs, nexus approaches, social innovation, climate resilient development and achieving net-zero targets.
- Metrics for assessing mitigation and adaptation options in the context of sustainable development and cities, including service provisioning that delivers health and wellbeing for all.
- Case studies/best practices/stories towards climate resilient development and decarbonization in cities.

Chapter 3 presents and assesses actions and solution options to reduce climate risks through adaptation, and greenhouse gas emissions through mitigation within cities. Experts noted and preferred the term “actions” in the title in a non-policy prescriptive sense indicative of the need and urgency for climate action in cities leading to the science-based “solutions” evaluated in the chapter. It sets the context for how these solutions can be facilitated and accelerated in cities.

The first two bullets present the scope of options relating to mitigation and adaptation approaches in cities. These points represent important elements that are to be included in the assessment, are non-exhaustive, and build on a broad range of adaptation approaches assessed in urban related chapters in AR6 WGII (e.g. Chapter 6: Cities, settlements and key infrastructure and other regional chapters) and numerous urban and sectoral mitigation approaches assessed in AR6 WGIII (e.g. Chapter 8: Urban systems and other settlements and other sectoral chapters). The participants

emphasized the importance of covering mitigation and adaptation options in cities in the scope of the two bullets.

The third bullet allows the evaluation of metrics and indices of the effectiveness, lessons learned, and stocktaking of adaptation and mitigation in cities in the context of target-setting for successful urban solutions.

The fourth bullet focuses on important observational and modelling tools which can enable local solutions and allows for monitoring of adaptation of urban sectors, as well as unaccounted sources of urban emissions. This bullet complements the preceding bullet in this chapter, and may be linked to the bullet on data and information assessment included in chapter 2, which examines the drivers and trends underpinning the urban climate risks.

The fifth bullet introduces and assesses the human dimensions of adaptation and mitigation in settlements, and builds on the broader assessment of the social and development context provided in chapter 2. The focus of this bullet is on local-scale urban risk assessments which consider other sources of information beyond scientific information and factors – such as policy cycle durations – that hinder the effectiveness of solutions. It also considers the importance of Indigenous Knowledge and local knowledges to reduce climate risks, including the impact of adaptation options and options to minimize maladaptive practices.

The sixth bullet synthesizes the solutions in cities and settlements with other important urban issues related to sustainable development and biodiversity conservation that are key elements of climate resilient development. Several themes considered to be needed for synthesizing the assessed solutions in this chapter are listed in the bullet. These themes allow for the options to be evaluated in the context of other relevant frameworks (e.g. the Sustainable Development Goals). It also builds upon a previous integrative cross-Working Group Box on Cities and Climate Change that was included in the WGII and WGIII contributions to AR6. The list of themes is not exhaustive, and reflects a broad range of relevant enablers for actions assessed in this chapter.

The seventh bullet incorporates the need for metrics for the synthesis of solutions that are evaluated in the previous bullet. These need to be tailored to the practice of several urban sectors, such as human health and well-being, infrastructure resilience, and biodiversity health and conservation.

Finally, the last bullet pertains to generating a list of specific case studies of urban adaptation and mitigation providing solution-relevant knowledge for government in the context of climate resilient development or decarbonization.

#### **Chapter 4: How to facilitate and accelerate change**

- New ways of planning under and for uncertainty and tipping points.
- Providing climate and information services to enable action, including evaluation of mitigation, adaptation, responses to losses and damages, and sustainable development.
- Innovation in governance, urban planning, decision-making, technology, urban service provision, infrastructure, social systems, and finance, including adoption of innovation.
- Institutional capacities, competencies, inclusive multi-level governance.
- Indigenous Knowledge, local knowledge, diverse knowledge systems and values.
- Behavioural and lifestyle changes, education for empowerment, social movements and communications.
- Financial systems, legal frameworks, economic and policy instruments.

- Holistic planning and systems thinking approach.
- Structural inequity, colonialism, and justice.
- Enabling conditions for poverty eradication, equity in just transitions.
- Political will and leadership.
- Conflicting goals and trade-offs.

Chapter 4 focuses on *how* to facilitate and accelerate change, including enabling conditions and barriers. The chapter is designed to complement chapter 3, which focuses on *what* changes and measures can be considered. Experts considered including more specificity in the title on the type of change, including climate-resilient development, decarbonization, equity, just transition, sustainable development, wellbeing, and other goals.

The chapter includes strategies and considerations aimed at fostering such change. The first bullet invites authors to consider the assessment of novel or reimagined planning methodologies, as well as of approaches revisiting past or historical planning practices when considering uncertainties or key tipping points.

The second bullet point builds on the assessment of climate information in chapters 2 and 3 by assessing the importance of the availability, accessibility and usability of climate and information services in facilitating and accelerating actionable change in cities. For climate and information services, participants emphasized the need to ensure services were not just available, but also accessible and usable. Participants also noted the importance of including measurement, monitoring, and modelling.

The third bullet focuses on the importance of innovation across different urban sectors, such as through governance, urban planning, decision-making, technology, and finance, with social, and cultural dimensions, as well as transformative political and social arrangements. For social, cultural, and policy innovation, discussions included: catalysing positive social tipping points; consumption, lifestyles and behavioural change; transformative political and social arrangements including social protection; and Just transitions and transformation.

The fourth bullet point examines the role of urban institutions, in particular institutional capacities, inclusive multi-level governance, and diverse knowledge systems which are foundational pillars to enable change. For innovation in governance, examples included: new tools or methods for co-creation in urban planning and decision making (participation and effective inclusion); cross-silo city and business partnerships; and an integrated systems approach, including transformative approaches of society/cities in relation to ecosystem and biodiversity.

The remaining bullet points invite authors to assess several important barriers and enablers allowing for climate risk reduction in cities. These include the consideration of Indigenous Knowledge, local knowledge, diverse knowledge systems and values, as well as conditions allowing for behavioural shifts, education, social movements, and communications, and legal proceedings and arrangements and other conditions which are catalysts for change affecting financial systems, legal frameworks, and holistic planning approaches. To reiterate, these bullet points are no less important than the preceding ones and authors are invited to comprehensively assess these with the relevant literature to facilitate and accelerate change in cities.

Other important enablers include addressing structural inequities, colonial legacies, and promoting justice, which are integral considerations, alongside enabling conditions for poverty eradication and equity in just transitions. The imperative of political will and leadership is highlighted, alongside navigating conflicting goals and trade-offs inherent in the pursuit of transformative change.

## Chapter 5: Solutions by city types and regions

This chapter contains a summary of solution-relevant information by city types, distinguished by multi-dimensional characteristics such as:

- Geographical location (regions)
- Informality
- City climate and projections
- Climate impact drivers
- Mitigation options
- Sectoral contributions to the economy
- Migration, urbanization and demographic trends
- Vulnerability, impacts and risks
- Capacities
- Inclusiveness, equity and justice
- Governance
- Climate finance

Chapter 5 will project the topic of climate change and cities onto specific challenges and solutions for a variety of urban settlements in all regions of the globe. Many of the city characteristics vary by region, and therefore a regional dimension is key. Its intent is to provide guidance to collect, combine, interpret and use assessed information for specific urban contexts, and support the development of solution-oriented policies by governments and other actors involved in urban decision-making.

The bullets provide a provisional collection of multiple dimensions by which cities and urban settlements can be distinguished. These include physical dimensions (region, geography, climate, city structures including informal settlements), socio-economic dimensions (sectors, vulnerability, migration, impacts, climate finance), and institutional and policy dimensions (governance, inclusiveness, mitigation options, capacities, justice).

This list may be extended with additional attributes, such as city size, neighbourhoods, urban morphology, spatial segregation and fragmentation, topographical characteristics (e.g. coastal cities), ecological dimension, exposure to non-climatic hazards, human health, adaptation options, knowledge systems, historical legacy, path dependency, existence of city networks and regional/international cooperation, fragility and conflict situations, and mandate of the local governments.

The guidance for combining and interpreting relevant information can be provided in various forms. A collection of case studies or storylines featuring city challenges and potential responses can illustrate the theme for a very diverse range of city contexts. An analysis framework systematically assessing context-specific climate features, risks, governance constraints, policy options, and enablers or barriers for policy implementation could be developed. In addition, geographical

information can be grouped and displayed in a digital format, such as the WGI Interactive Atlas introduced in AR6, or with other existing digital urban databases.

One particular dimension that can be addressed in this chapter is a global synthesis and/or aggregation of urban contributions to risks, emissions, and adaptation and mitigation policies, addressing the diversity of regional characteristics.

## 8. Time Schedule

A call for the nominations of experts to serve as Coordinating Lead Authors, Lead Authors and Review Editors will be issued in August 2024, immediately following the 61st Session of the IPCC. Approval and acceptance of the Special Report is planned for the Third Joint Session of Working Group I, II and III in March 2027. In order to achieve this, the timetable for the Special Report is as follows:

<b>2024</b>	
9 August – 20 September	Call for author nominations
23 September – 19 December	Selection of authors
<b>2025</b>	
10–15 March	First Lead Author Meeting
21–25 July	Second Lead Author Meeting
17 October – 12 December	Expert Review of First Order Draft
<b>2026</b>	
12–16 January	Third Lead Author Meeting
8 May – 3 July	Government and Expert Review of the Second Order Draft
3–7 August	Fourth Lead Author Meeting
11 December – 5 February	Final Government Distribution of Final Draft & Government Review of the Summary for Policymakers
<b>2027</b>	
11 December – 5 February	Final Government Distribution of Final Draft & Government Review of the Summary for Policymakers
15–19 March	Approval of the Summary for Policymakers and acceptance of the Special Report



## ANNEX 1: Scoping Meeting Participants List

### Scoping Meeting for the IPCC Special Report on Climate Change and Cities

Riga, Latvia

16–19 April 2024

#### PARTICIPANT LIST

Last Name	First Name	Affiliation	Country	Citizenship	Source(s) of Nomination
ADACHI	Muneki	Ministry of the Environment	Japan	Japan	Japan
AHMAD	Eman	General Organization for Physical Planning	Egypt	Egypt	Egypt
AL-GHAMDI	Sami	King Abdullah University of Science and Technology	Saudi Arabia	Saudi Arabia	Bureau Member
BABIKER	Mustafa	Saudi Aramco	Saudi Arabia	Sudan	Saudi Arabia and Bureau Member
BAI	Xuemei	Australian National University	Australia	Australia	Australia and Future Earth
BALABAN	Osman	Middle East Technical University	Türkiye	Türkiye	Türkiye
BARAU	Aliyu	Bayero University Kano	Nigeria	Nigeria	Nigeria
BORBOR-CORDOVA	Mercy	Escuela Superior Politecnica Del Litoral	Ecuador	Ecuador	Ecuador
BUDIATI	Asih	Global Covenant of Mayor for Climate and Energy	Indonesia	Indonesia	Indonesia
BURCH	Sarah	University of Waterloo	Canada	Canada	Canada
CAZORLA	María	Universidad San Francisco De Quito Usfq	Ecuador	Ecuador	Bureau Member
CHEAH	Lynette	University of Sunshine Coast	Australia	Singapore	Singapore
CHEN	Jia	Technical University of Munich	Germany	China	Integrated Carbon Observation System European Research Infrastructure Consortium
COPPOLA	Erika	The Abdus Salam International Centre for Theoretical Physics	Italy	Italy	Italy
CREUTZIG	Felix	Mercator Research Institute on Global Commons and Climate Change	Germany	Germany	Germany
DE CONINCK	Heleen	Eindhoven University of Technology	Netherlands	Netherlands	Netherlands

DELGADO RAMOS	Gian Carlo	National Autonomous University of Mexico	Mexico	Mexico	Mexico and Bureau Member
DHAKAL	Shobhakar	Asian Institute of Technology	Thailand	Nepal	Nepal, Indian Institute for Human Settlements, and Bureau Member
DING	Aijun	Nanjing University	China	China	China
DLAMINI	Wisdom	University of Eswatini	Eswatini	Eswatini	Bureau Member
DOAN	Quang-Van	University of Tsukuba	Japan	Vietnam	World Climate Research Centre
DODMAN	David Richard	Institute for Housing and Urban Development Studies	Netherlands	Jamaica	Netherlands
DUIĆ	Neven	University of Zagreb	Croatia	Croatia	Croatia
ESHUN	Fatima	University of Environment and Sustainable Development	Ghana	Ghana	Bureau Member
ESTOQUE	Ronald C.	Forestry and Forest Products Research Institute	Japan	Philippines	Japan
FRANÇOISE	Yann	City of Paris	France	France	Local Governments for Sustainability
GARRIDO MARTINEZ	Luis Miguel	International Transport Forum at OECD	France	Spain	Bureau Member
GARSCHAGEN	Matthias	Ludwig-Maximilians University Munich	Germany	Germany	Germany
GERASOPOULOS	Evangelos	National Observatory of Athens	Greece	Greece	Greece and Group on Earth Observations
GÓMEZ	Darío	Comisión Nacional De Energía Atómica	Argentina	Argentina	Argentina
HALENKA	Tomáš	Charles University	Czech Republic	Czech Republic	Czech Republic
HAMDI	Rafiq	Royal Meteorological Institute of Belgium	Belgium	Belgium	Belgium
HAYWARD	Bronwyn	University of Canterbury	New Zealand	New Zealand	New Zealand
HIMSCHOOT	Patricia	Agencia De Protección Ambiental Buenos Aires City Government	Argentina	Argentina	Argentina, C40 Cities Climate Leadership Group, and Bureau Member
HITIPEUW-GRIBNAU	Anne-Marie	Ministry of Infrastructure and Water Management	Netherlands	Netherlands	Netherlands
HONG	Je-Woo	Korea Environment Institute	Republic of Korea	Republic of Korea	Republic of Korea
HORTON	Benjamin	Nanyang Technological University	Singapore	United Kingdom	Singapore

HSU	Angel	University of North Carolina At Chapel Hill	United States of America	United States of America	United States of America
IFO	Suspense Averti	University of Marien N'Gouabi	Congo	Congo	Bureau Member
ISLAM	A.K.M. Saiful	Bangladesh University of Engineering and Technology	Bangladesh	Bangladesh	Indian Institute for Human Settlements
JAUNZEMS	Dzintars	Latvijas Banka	Latvia	Latvia	Latvia
JONES	Andrew	Lawrence Berkeley National Laboratory	United States of America	United States of America	United States of America
KABERA	Telesphore	University of Rwanda	Rwanda	Rwanda	International Council of Science
KONSTANTINOV <sup>2c</sup>	Pavel	Lomonosov Moscow State University	Russian Federation	Russian Federation	Russian Federation
KYUKYU	Robert Lawrence S.	Kampala Capital City Authority	Uganda	Uganda	Uganda
MBUYA	Elinorata	Ardhi University	United Republic of Tanzania	United Republic of Tanzania	United Republic of Tanzania
MIEDEMA	Shannon	Halifax Regional Municipality	Canada	Canada	Canada
MIRANDA SARA	Liliana Raquel	Cities for Life Foro	Peru	Peru	Bureau Member
MOUSSALIH	Abdellah	National School of Architecture	Morocco	Morocco	Morocco
MUNIZAGA	Marcela	Universidad De Chile	Chile	Chile	Bureau Member
MYCOO	Michelle	The University of the West Indies	Trinidad and Tobago	Trinidad and Tobago	Bureau Member
NALAU	Johanna	Griffith University	Australia	Australia	Australia
NAZARIAN	Negin	University of New South Wales	Australia	Australia	Australia and International Council of Science
NIAMIR	Leila	International Institute for Applied Systems Analysis	Austria	Iran	International Council of Science and International Institute for Applied Systems Analysis
OGEGA	Obed	African Academy of Sciences	Kenya	Kenya	Kenya
OKE	Cathy	University of Melbourne & Global Covenant of Mayors for Climate and Energy	Australia	Australia	Australia, UN-HABITAT, and Local Governments for Sustainability
OKI	Taikan	The University of Tokyo	Japan	Japan	Japan

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\* participation online

OKITASARI	Mahesti	United Nations University	Japan	Indonesia	Indonesia
OSELAND	Stina Ellevseth	City of Bergen	Norway	Norway	Norway
PATHAK	Minal	Ahmedabad University	India	India	India, Indian Institute for Human Settlements, and Bureau Member
PFLIEGER	Géraldine	University of Geneva	France	Switzerland	Switzerland
PINTO	Izidine	Royal Dutch Meteorological Institute	Netherlands	Mozambique	Mozambique
RAKOTOMALALA	Jean Lalaina	Higher Institute of Technology of Antananarivo	Madagascar	Madagascar	Madagascar
RANALDER	Lea	UN-HABITAT	Kenya	Germany	UN-HABITAT
RECINE	Elisabetta	University of Brasilia	Brazil	Brazil	Brazil
REED	Graeme	Assembly of First Nations / York University	Canada	Canada	Bureau Member
REVI	Aromar	Indian Institute for Human Settlements	India	India	India, UN-HABITAT, and Indian Institute for Human Settlements
ROBERTS	Debra	Ethekwini Municipality	South Africa	South Africa	South Africa
RODRIGUES CAMPOS LEMOS	Maria Fernanda	Pontificia Universidade Católica Do Rio De Janeiro	Brazil	Brazil	Brazil
ROMERO-LANKAO	Patricia	University of Toronto	United States of America	Mexico	United States of America and Bureau Members
ROY	Joyashree	Asian Institute of Technology	Thailand	India	Indian Institute for Human Settlements and Bureau Member
SAHEB	Yamina	Fondation Des Sciences Politiques	France	Algeria	France
SALEHI	Pourya	ICLEI Local Governments for Sustainability	Germany	Iran	Local Governments for Sustainability
SALMOND	Jennifer	University of Auckland	New Zealand	New Zealand	International Council of Science
SALVIA	Monica	National Research Council of Italy	Italy	Italy	Italy and International Council of Science
SCHULTZ	Seth	Resilience Rising	United States of America	United States of America	United States of America
SETO	Karen	Yale University	United States of America	United States of America	United States of America

SIMON	David	University of London	United Kingdom	South Africa	United Kingdom
SOOVÄLI-SEPPING	Helen	Tallinn University of Technology	Estonia	Estonia	Estonia
SULISTIAWATI	Linda Yanti	Universitas Gadjah Mada	Singapore	Indonesia	Indonesia
SZOPA	Sophie	Commissariat À L'Énergie Atomique Et Aux Énergies Alternatives	France	France	France and Indian Institute for Human Settlements
URQUIZA GÓMEZ	Anahí Verónica	Universidad De Chile	Chile	Chile	Bureau Member
URRUTIA VÁSQUEZ	Carolina	City Government of Bogotá & C40 Cities Climate Leadership Group	Colombia	Colombia	C40 Cities Climate Leadership Group
VEIVO	Risto	City of Turku	Finland	Finland	Local Governments for Sustainability
VINER	David	University of East Anglia	United Kingdom	United Kingdom	United Kingdom
WEI*	Yi-Ming	Beijing Institute of Technology	China	China	China
YOSHIDA	Yuki	National Institute for Environmental Studies	Japan	Japan	Japan
ZHANG	Qiang	Tsinghua University	China	China	Bureau Member
ZHAO	Yongling	ETH Zurich	Switzerland	China	Switzerland
ZHAO	Lei	University of Illinois Urbana-Champaign	United States of America	United States of America	United States of America
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### Scientific Steering Committee Members

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ÜRGE-VORSATZ	Diana	IPCC Vice-Chair and SSC Chair	Hungary
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ZOMMERS	Zinta	IPCC Working Group II Vice-Chair	Latvia

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CALVO	Eduardo	IPCC Working Group III Vice-Chair	Peru
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DENTON*	Fatima	IPCC Working Group II Vice-Chair	Gambia
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ENOKI	Takeshi	IPCC TFI Co-Chair	Japan
FUGLESTVEDT	Jan	IPCC Working Group III Vice-Chair	Norway
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LUKORITO	Cromwel	IPCC Working Group II Vice-Chair	Kenya
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MENDEZ	Carlos	IPCC Working Group II Vice-Chair	Venezuela
PICHS-MADRUGA	Ramon	IPCC Vice-Chair	Cuba
RUPAKHETI	Maheshwar	IPCC Working Group I Vice-Chair	Nepal
SENEVIRATNE*	Sonia	IPCC Working Group I Vice-Chair	Switzerland
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SUKUMAR	Raman	IPCC Working Group II Vice-Chair	India
THOMAS	Adelle	IPCC Working Group II Vice-Chair	Bahamas
YASAA*	Noureddine	IPCC Working Group III Vice-Chair	Algeria

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CHAMBONNET	Maxime	IPCC Working Group I Technical Support Unit	France	France
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LONNOY	Elisabeth	IPCC Working Group I Technical Support Unit	France	France
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MOKSSIT	Abdalah	IPCC Secretariat	Switzerland	Morocco
OKEM	Andrew	IPCC Working Group II Technical Support Unit	Ghana	Nigeria
PEAN	Clotilde	IPCC Working Group I Technical Support Unit	France	France
THIAN	Samantha	IPCC Working Group II Technical Support Unit	Singapore	Singapore
TIGNOR	Melinda	IPCC Working Group II Technical Support Unit	Netherlands	United States of America
WESTPHAL	Michael	IPCC Working Group III Technical Support Unit	United States of America	United States of America
ZERBONNE	Sarah	IPCC Working Group III Technical Support Unit	United States of America	United States of America

## ANNEX 2: Scoping Meeting Programme

### Scoping Meeting for the IPCC Special Report on Climate Change and Cities

Riga, Latvia  
16–19 April 2024

#### Programme

##### Day 0: Monday, 15 April 2024

14:00–18:00	Registration
14:00–15:00	IPCC Media Briefing
17:30–18:30	SSC Meeting

##### Day 1: Tuesday, 16 April 2024

The **Opening Ceremony** will feature the Welcome Remarks from Government of Latvia, the City of Riga, a youth representative, and the Chair of IPCC.

**Plenary Session I** will include a limited set of scene-setting keynote presentations. This is followed by an interactive 90-minute framing session. The interactive framing session will contextualize urban policymaking and elaborate on participants' ambitions for the IPCC Special Report on Climate Change and Cities and its expected impact as a reference point for the remainder of the Scoping Meeting. More specifically, there will be moderated engagement sessions where participants will be invited to contribute to a collective read of the group aspirations on the societal impact of the report, express potential contributions of scientific outputs that relate to questions of policymakers, provide feedback on different framings of scientific outputs, and engage in a collaborative effort to imagine future message headlines covering decisions enabled by IPCC outputs. The session is prepared with a professional expert team and moderated on-site by facilitators from IPCC Bureau Members.

In the charge to participants, the aim and purpose of the Scoping Meeting in “providing a title and chapter structure for the special report, together with an indication of the relative size of the various chapters, and an indicative list of topics to be addressed by authors of each chapter” will be emphasized. This charge to participants is designed to meet the main ambitions articulated for AR7: concise reports, reflecting views of previously underrepresented communities, tailored towards decision taking, and enhanced integration across Working Groups domains. Guiding questions and tasks for different Breakout Group Sessions are structured as shared in this annotated programme and summarized in **Figure 1** (please see page 7).

08:00	Registration
<b>OPENING CEREMONY</b>	Moderator: Diana Ürge-Vorsatz, IPCC Vice Chair and Chair of Scientific Steering Committee
09:00	<b>Welcome Remarks</b>
	– Mr Kaspars Melnis, Minister for Climate and Energy, Republic of Latvia
	– Mr Jānis Lange, Riga City Executive Director



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- Ms Emīlija Roberta Eglīte, Babite Secondary School, Youth Representative from Latvia
  - Mr Jim Skea, Chair of IPCC
- 

**10:00 Break**

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**PLENARY SESSION I** Co-Chairs: Winston Chow and Kate Calvin

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**10:30 Conversation: Towards a Transformative Special Report—Lessons from Science and Practice to Inform the Future** (Debra Roberts and Karen Seto)

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**11:00 Interactive Session** (Facilitated by Pablo Suarez, Red Cross Red Crescent Climate Centre)

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**12:30 Lunch**

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After the Opening Ceremony and Plenary Session I, **Breakout Group Session I** is intended to extract information on actionable aspects and key advances in science and practice. It will focus on climate action in cities, new insights in science and practice, and possible bottlenecks based on the following set of questions “**Q1: (a) How did AR6 findings (or earlier) find their way to climate action in cities? (b) How is current global information (scenarios, adaptation) translating into local policies? (c) What needs for and bottlenecks in climate action in cities can be identified that are related to the availability of scientific information?**” For a comprehensive coverage of the key scientific and/or practical advances, the Breakout Group compositions will be based on the main domains that were contained in the Call for Nominations of the Scoping Meeting and solicit expert views on:

- Aspects of biogeophysical advances for cities;
- Aspects of climate impacts and risks in urban areas;
- Aspects of urban systems and sustainable development;
- Aspects of energy, mobility and emission trends and pathways;
- Aspects of governance, civil society, policy, institutions and finance;

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Day 1 will conclude with a report back from Breakout Group Session I in **Stocktaking Session I**. Afterward, there will be a summary of Day 1 and planning for Day 2 followed by a Welcome Reception.

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#### **BREAKOUT GROUP SESSION I ON CURRENT ACTION/SCIENCE/GAPS**

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**14:00 BOG1.1: Biogeophysical Advances** Co-Facilitators: Ines Camilloni and Sukumar Raman

**BOG1.2: Climate Impacts and Risks in Urban Areas** Co-Facilitators: Laura Gallardo and Sherilee Harper

**BOG1.3: Urban Systems and Sustainable Development** Co-Facilitators: Şiir Kilkis and Carlos Méndez

**BOG1.4: Energy, Mobility and Emission Trends and Pathways** Co-Facilitators: Malak Al Nory and Jan Fuglestedt

**BOG1.5: Governance, Civil Society, Policy, Institutions and Finance** Co-Facilitators: Zinta Zommers and Oliver Geden

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**16:00 Break**

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**STOCKTAKING SESSION I** Co-Chairs: Xiaoye Zhang and Bart van den Hurk

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**16:30 Reports from Breakout Groups**

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**17:30 Summary Day 1 & Planning for Day 2**

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18:00 Adjourn

18:00 Welcome Reception sponsored by the Ministry of Foreign Affairs, Republic of Latvia

20:00 SSC Meeting

## DAY 2: 17 April 2024

Day 2 will start with a **Plenary Session II** that provides an introduction to broad themes to initiate discussions in **Breakout Group Session II** on the questions: “**Q2: (a) What would policymakers and urban stakeholders need to know when taking action? (b) What are the most pressing needs to be covered in an actionable Special Report considering the following broad themes? (c) How can we optimally distinguish between regions, urban typologies, sectors or decision archetypes?**” The broad themes are intended to stimulate interaction across different domains as an interactive exercise and increase cross-fertilization in the process of providing an outline to guide an actionable Special Report. The broad themes are also able to represent overarching themes in the IPCC AR6 Cross-Working Group Box on “Cities and Climate Change”<sup>3</sup> and are able to bring together one or more expertise domains from the Call for Nominations. The discussions in Breakout Session II will enable answering Q2 from the perspective of the following five broad themes:

- Impacts of climate change on cities across infrastructure, people and services;
- Near-term climate action in urban systems for just transitions towards low-carbon and climate resilient cities;
- Combined mitigation and adaptation strategies in urban sustainable development;
- Informing climate action in cities and role of scenarios of urban climate, impacts, and policy pathways;
- Engaging civil society, strengthening urban climate governance and finance.

In the above broad themes, special attention is paid to the contrasts between regions, urban typologies, and decision archetypes. An overarching question for each of the Breakout Groups is how the assessment can provide an optimal recognition of topics that are specific to a specific urban community and policy maker. Afterward, **Stocktaking Session II** will provide reports from Breakout Group Session II on the broad themes.

**PLENARY SESSION II** Co-Chairs: Robert Vautard and Takeshi Enoki

09:00 Introduction to Broad Themes

### BREAKOUT GROUP SESSION II ON THEMES

09:30 **BOG2.1: Impacts of Climate Change on Cities across Infrastructure, People and Services**  
Co-Facilitators: Nana Browne and Adelle Thomas

**BOG2.2: Near-term Climate Action in Urban Systems for Just Transitions towards Low-carbon and Resilient Cities** Co-Facilitators: Laura Gallardo and Eduardo Calvo

**BOG2.3: Combined Mitigation and Adaptation Strategies in Urban Sustainable Development**  
Co-Facilitators: Şiir Kilgis and Maheswar Rupakheti

**BOG2.4: Informing Climate Action in Cities and Role of Scenarios of Urban Climate, Impacts, and Policy Pathways** Co-Facilitators: Cromwel Lukorito, Edvin Aldrian

**BOG2.5 Engaging Civil Society, Strengthening Urban Climate Governance and Finance** Co-Facilitators: Mark Howden and Gervais Madzous

<sup>3</sup> Available from pages 60-63 in the compilation of “Cross-Chapter Boxes and Cross-Working Group Boxes” ([https://www.ipcc.ch/report/ar6/wg2/downloads/report/IPCC\\_AR6\\_WGII\\_CCB-CWGB\\_Compilation.pdf](https://www.ipcc.ch/report/ar6/wg2/downloads/report/IPCC_AR6_WGII_CCB-CWGB_Compilation.pdf)) and both WGII and WGIII contributions to the Sixth Assessment Report from the respective websites.

<b>10:30</b>	<b>Break</b>
<b>11:00</b>	<b>Breakout Groups Continued</b>
<b>12:00</b>	<b>Lunch</b>
<b>12:00</b>	<b>Latvian Parliament Briefing</b> [a live-stream of the event will be available for all participants]
<b>STOCKTAKING SESSION II</b> Co-Chairs: Joy Pereira and Ramon Pichs-Madruga	
<b>13:30</b>	<b>Reports from Breakout Groups</b>

The afternoon of Day 2 will then continue with **Breakout Group Session III** that will focus on answering the questions: “**Q3: (a) What potential narratives emerge from the discussions so far? (b) What potential structures emerge and what are their pros and cons?**” This will take the discussions forward in developing a narrative that can guide the core structure and indicative outline of the Special Report. The plenary discussions will extend interactions across the different areas of expertise within the broad themes in the process of scoping possible coverage. Day 2 will conclude with a **Stocktaking Session III** based on report backs from the Breakout Group Session III, a summary of Day 2 and provide a basis for formulating chapter outline options in Day 3.

<b>BREAKOUT GROUP SESSION III ON DEVELOPING A NARRATIVE AND STRUCTURE</b>	
<b>14:30</b>	<b>BOG3.1</b> Co-Facilitators: Ines Camilloni and Cromwel Lukorito
	<b>BOG3.2</b> Co-Facilitators: Malak Al Nory and Sherilee Harper
	<b>BOG3.3</b> Co-Facilitators: Şiir Kilkis and Adelle Thomas
	<b>BOG3.4</b> Co-Facilitators: Zinta Zommers and Ramon Pichs-Madruga
	<b>BOG3.5</b> Co-Facilitators: Nana Browne and Carlos Méndez
<b>16:30</b>	<b>Break</b>
<b>STOCKTAKING SESSION III</b> Co-Chairs: Bart van den Hurk and Ladislaus Chang’a	
<b>17:00</b>	<b>Reports from Breakout Groups, Summary Day 2 &amp; Planning for Day 3</b>
<b>18:00</b>	<b>Adjourn</b>
<b>18:30</b>	<b>CLIMAAX Outreach Event</b>
<b>20:00</b>	<b>SSC Meeting</b>

**DAY 3: 18 April 2024**

After a synthesis of two days of discussion, Day 3 will start with a first **Panel discussion** in **Plenary Session III** addressing: “**Please elaborate on options for the proposed chapter structure and highlight indicative outlines for each identified possible chapter considering the aim of producing an actionable Special Report.**” This will provide an inventory of possible chapters for elaboration as the emerging structure. The Panel will reflect on the outline options that have the potential to meet the articulated ambitions, and guided by views from both a scientific and practitioners' perspective a plenary discussion will seek a chapter structure that meets the ambitions articulated in the first days of the meeting.

**Breakout Group Session IV** will then undertake the task of fleshing out rough content under five broad groupings identified by the SSC based on the narratives and structures emerging from Breakout Session III, in five to seven bullets each. Each BOG will also make sure that all the key words and concepts identified by the SSC are included under one of the five broad grouping. For this, participants are randomly allocated across five BOGs that each flesh out the rough content under each grouping. The SSC will compile the developed content and propose a way forward in **Plenary Session IV**, followed by Breakout Group Session V (see below). In between these sessions, there will be a lunch excursion that will increase interaction as an additional interactive activity in the programme.

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#### PLENARY SESSION III AND PANEL SESSION I Co-Chairs: Kate Calvin and Xiaoye Zhang

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**09:00 Emerging Structure**

**09:15 Practitioner Panel** (Panellists: Patricia Himschoot, Robert Kyukyu, Shannon Miedema, Cathy Oke, Pourya Salehi, David Viner)

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#### BREAKOUT GROUP SESSION IV ON CHAPTER CONTENT

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**10:00 BOG4.1** Co-Facilitators: Ines Camilloni and Ladislaus Chang'a

**BOG4.2** Co-Facilitators: Laura Gallardo and Jan Fuglestedt

**BOG4.3** Co-Facilitators: Nana Browne and Mark Howden

**BOG4.4** Co-Facilitators: Malak Al Nory and Oliver Geden

**BOG4.5** Co-Facilitators: Şiir Kilkis and Sherilee Harper

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**11:30 Lunch & Excursion**

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**11:30 Lunch & SSC Meeting**

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#### PLENARY SESSION IV Co-Chairs: Winston Chow and Robert Vautard

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**14:30 Report from SSC and Introduction to Breakout Session V** (Diana Üрге-Vorsatz)

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Later in the afternoon of Day 3, **Breakout Group Session V** undertake the task of addressing the outlines per chapter, guided by the question “**Please elaborate on the final proposed chapter structure and provide an indicative outline for each identified chapter. Cross-cutting aspects may be indicated whenever relevant.**” For this, we break up in chapter groups that each will discuss the potential structure of specific chapters, utilising multiple sources of inputs across multiple sessions and allowing changing the group composition to promote cross-fertilisation of ideas. There will be a report back of the SSC in **Stocktaking Sessions IV and V**.

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#### BREAKOUT GROUP SESSION V ON REFINING CHAPTER STRUCTURE [CHAPTER TITLES AND BULLETS]

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**15:00 BOG5.1: FRAMING** Co-Facilitators: Laura Gallardo and Sherilee Harper

**BOG5.2: PAST AND PRESENT** Co-Facilitators: Ines Camilloni and Jan Fuglestedt

**BOG5.3: FUTURE TRENDS AND CHALLENGES** Co-Facilitators: Nana Browne and Mark Howden

**BOG5.4: REGION AND/OR CITY TYPOLOGY** Co-Facilitators: Malak Al Nory and Carlos Mendez

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**16:00 Break**

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#### STOCKTAKING SESSION IV

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**16:30 Reports from Breakout Group Session V and Discussion**

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## BREAKOUT GROUP SESSION V CONTINUED

- 17:30 BOG5.1: FRAMING** Co-Facilitators: Laura Gallardo and Sherilee Harper
- BOG5.2: PAST AND PRESENT** Co-Facilitators: Ines Camilloni and Jan Fuglestvedt
- BOG5.3: FUTURE TRENDS AND CHALLENGES** Co-Facilitators: Nana Browne and Mark Howden
- BOG5.4: REGION AND/OR CITY TYPOLOGY** Co-Facilitators: Ramon Pichs-Madruga and Carlos Mendez

## STOCKTAKING SESSION V

- 19:00 Brief Updates from Breakout Groups**

## BREAKOUT GROUP SESSION V CONTINUED

- 20:30 BOG5.1: FRAMING** Co-Facilitators: Laura Gallardo and Sherilee Harper
- BOG5.2: PAST AND PRESENT** Co-Facilitators: Ines Camilloni and Jan Fuglestvedt
- BOG5.3: FUTURE TRENDS AND CHALLENGES** Co-Facilitators: Nana Browne and Mark Howden
- BOG5.4: REGION AND/OR CITY TYPOLOGY** Co-Facilitators: Ramon Pichs-Madruga and Carlos Mendez
- BOG5.5: SOLUTIONS** Co-Facilitators: Kate Calvin and Winston Chow

- 22:00 Adjourn**

- 22:00 SSC Meeting**

## DAY 4: 19 April 2024

Day 4 will finalise the report structure in **Plenary Session V** that will ensure consensus on the chapter structure and indicative outline as the outcome of the Scoping Meeting. Any pending issues that require agreement will be decided in this session. Consequently, Day 4 will conclude with a **Closing Plenary** that will involve an explicit referral back to the interactive session that focused on the mind-set of urban policymaking on Day 1 by reflecting on the outcomes of the Scoping Meeting and asking a concluding question on **“Does this structure lead to a credible contribution to the ambitions articulated by the scoping team?”** A local youth representative may provide additional reflections.

**PLENARY SESSION V** Chair: Diana Üрге-Vorsatz [with all WG Co-Chairs at podium]

**08:00 Finalization of the Report Structure**

**10:00 Break**

**10:30 Finalization of the Report Structure**

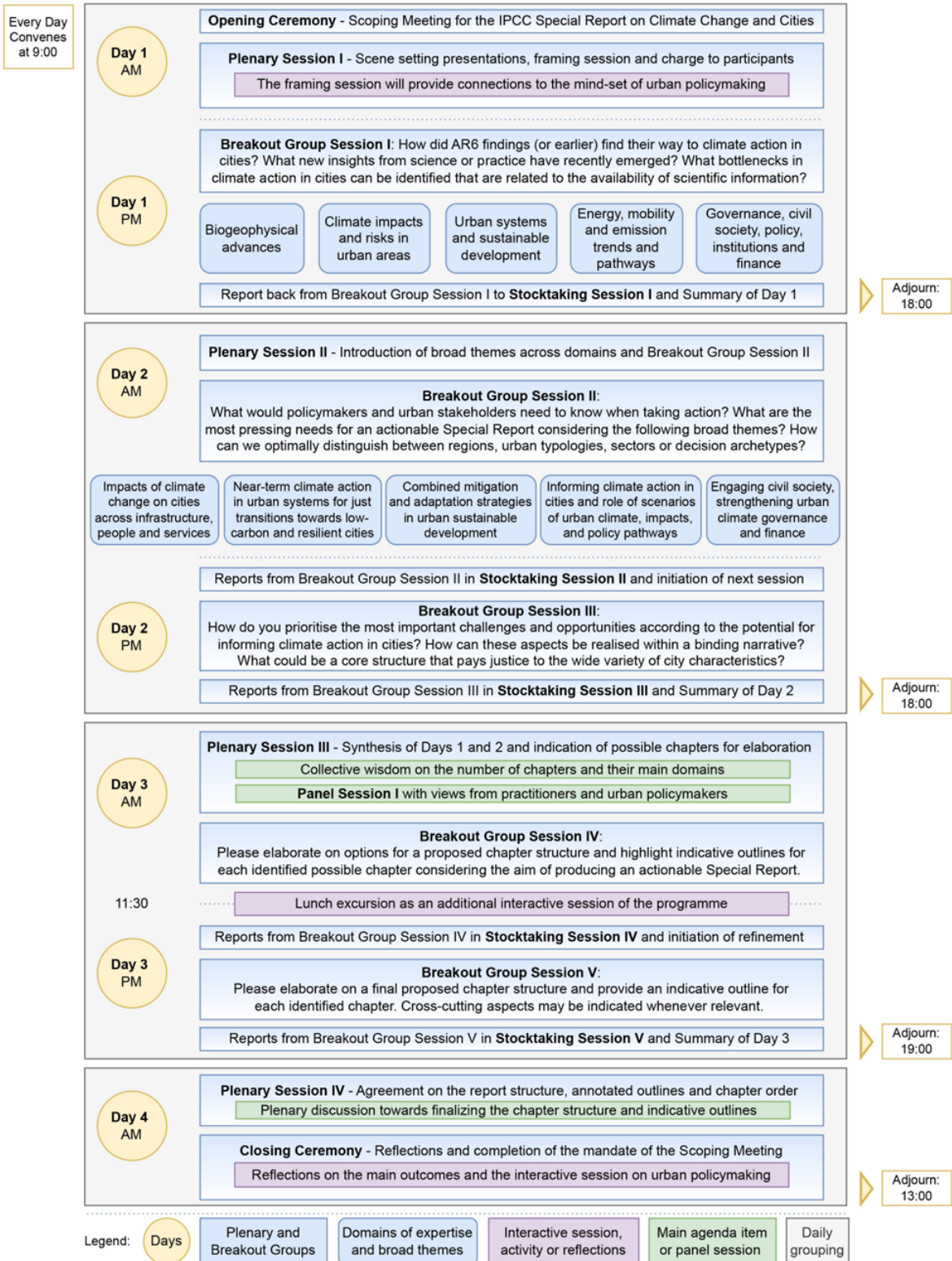
**CLOSING PLENARY** Co-Chairs: Winston Chow, Bart van den Hurk, and Diana Üрге-Vorsatz

**12:30 Reflections and Closing**

**13:00 End of Scoping Meeting**

**14:00 SSC Meeting**

**14:00 IPCC Outreach Event with Riga City Council** (Riga City Council Building)



**Figure 1:** Summary of the Structure of Plenary, Breakout Group and Stocktaking Sessions of the Scoping Meeting.

## **ANNEX 3: Scoping Meeting proposed outline of chapters**

### **IPCC Special Report on Climate Change and Cities**

#### **Summary for Policymakers**

#### **Technical Summary**

#### **Chapter 1: Cities in the context of climate change: framing of the report**

- Integrated storyline of the report, chapter narrative, sequence, and linkages to other relevant processes and assessments
- Framing urban systems and climate risks (including complex, cascading, compounding, and repeating risks), and loss and damage.
- Climate resilient urban development, including consideration of interacting city targets and sustainable development goals.
- Cities as hotspots of effects of hazards and emissions, vulnerabilities, exposure, and impacts, while also being key climate actors.
- City typologies and other concepts relevant to the report considering the multi-dimensional characteristics of urban systems and their dynamics.
- Treatment of urban vulnerabilities, marginalized areas and people, equity, informality and justice.
- Psychology, perception, behaviour and attitudes toward climate change and cities.
- Interconnection between local context and global context (governance, science, air quality, and climate change).
- Assessment methodologies, including following a regional approach, diverse knowledge systems (including Indigenous Knowledge), practitioner expertise, city networks, and considered time frames and spatial scales.

#### **Chapter 2: Cities in a changing climate: trends, challenges and opportunities**

- Understanding and learning from the past (global climate, hazards, crises, socioeconomic developments), past and current climate in cities (trends, means, extremes), going to the future
- Urbanization, urban service, urban development trends (population, demographics, informality and inequity, land use, geography, minorities and intersectionality, urban extent, form, path dependencies, lock-in, retreat, reconstruction, growth and decline, resource and carbon footprint, health and wellbeing, waste management, ecosystems, economy, finance and insurance, work, artificial intelligence and digitization)

- Emissions trend, scenarios - taking into account the need to provide infrastructure to informal settlements, and including scenarios of rapid up-taking and upscaling of solutions, multi-level governance
- Climate, impact and risk scenarios: Cities at risk/crisis- compounding, with and without strong risk reduction, adaptation, resilience building- the need for climate resilient development (urban climate scenarios), eco-systems and biodiversity, food, health and housing, innovative technologies/methods (measurements and models)
- Adaptation, losses and damages, and socio-economic trends, policy and governance, colonization
- Understanding the two-way interaction/feedback between cities, regions and countries, science behind the interactions (understanding the biophysical mechanisms); social interactions; climate and air quality, multi-hazard components (compounding and cascading hazards)
- Data, information, tools accessibility/availability/usability/transparency
- Uncertainties, implementation gaps, unprecedented, ingenuity/social tipping and data
- Complexity and the need to contextualized climate change within broader societal trends (geopolitical, polarizing societal trends) and goals (Sustainable Development Goals), justice, cascading effects on critical infrastructure

### **Chapter 3: Actions and solutions to reduce urban risks and emissions**

- Urban mitigation options for spatial planning, energy, buildings, mobility and transport, water, land, behavioral change and cross-sectoral, integrated approaches in urban systems.
- Urban adaptation options for managing risks in natural, ecological and human systems (including but not limited to physical infrastructure, nature-based solutions, and planning and social policies).
- Stocktaking and analysis of city actions across mitigation and adaptation, and responding to losses and damages, including lessons-learned, effectiveness and feasibility, mitigation measures with baseline emissions inventories and target-setting.
- Urban observation and modelling tools for monitoring and evaluation for sectors and unaccounted sources.
- Local risk assessments using scientific information, Indigenous Knowledge, and local knowledge of impacts, transformative adaptation, maladaptation and adaptation policy cycles.



- Linking mitigation and adaptation to sustainable development and just transitions, including integration, planning approaches under and for uncertainty and tipping points, synergies, trade-offs, nexus approaches, social innovation, climate resilient development and achieving net-zero targets.
- Metrics for assessing mitigation and adaptation options in the context of sustainable development and cities, including service provisioning that delivers health and well-being for all.
- Case studies/best practices/stories towards climate resilient development and decarbonization in cities.

## **Chapter 4: How to facilitate and accelerate change**

- New ways of planning under and for uncertainty and tipping points
- Providing climate and information services to enable action, including evaluation of mitigation, adaptation, responses to losses and damages, and sustainable development
- Innovation in governance, urban planning, decision-making, technology, urban service provision, infrastructure, social systems, and finance, including adoption of innovation
- Institutional capacities, competencies, inclusive multi-level governance
- Indigenous Knowledge, local knowledge, diverse knowledge systems and values
- Behavioural and lifestyle changes, education for empowerment, social movements and communications
- Financial systems, legal frameworks, economic and policy instruments
- Holistic planning and systems thinking approach
- Structural inequity, colonialism, and justice
- Enabling conditions for poverty eradication, equity in just transitions
- Political will and leadership
- Conflicting goals and trade-offs

## **Chapter 5: Solutions by city types and regions**

This chapter contains a summary of solution-relevant information by city types, distinguished by multi-dimensional characteristics such as:

- Geographical location (regions)

- Informality
- City climate and projections
- Climate impact drivers
- Mitigation options
- Sectoral contributions to the economy
- Migration, urbanization and demographic trends
- Vulnerability, impacts and risks
- Capacities
- Inclusiveness, equity and justice
- Governance
- Climate finance

## **Annex I: Glossary**