Global Covenant of Mayors

Common Reporting Framework

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1 Introduction

1.1 About the Global Covenant of Mayors

The Global Covenant of Mayors for Climate & Energy (GCoM) is the largest global alliance for city climate leadership, built upon the commitment of over 11,500 cities and local governments (LG). These cities hail from 6 continents and 142 countries. In total, they represent more than 1 billion people. The cities and partners of the Global Covenant of Mayors for Climate & Energy share a long-term vision of supporting voluntary action to combat climate change.

Through the GCoM, cities and local governments are voluntarily committing to fight climate change, mirroring the commitments their national governments have set to ensure the goals of the Paris Agreement are met. It is a commitment to not only take bold local action but to also work side-by- side with peers around the world to share innovative solutions that enable mayors to do more, faster. GCoM cities connect and exchange knowledge and ideas, supported by relevant regional stakeholders.

More information: www.globalcovenantofmayors.org.

1.2 About the Regional Covenants

Regional and National Covenants already exist or are being developed with the aim of supporting cities and local governments in different regions all around the world, operating under the shared vision of the GCoM and principles and methods that best suit each region.

A Regional/National Covenant consists of all relevant local, regional and national partners and city networks that support and contribute to the implementation of the mission and vision of the Global Covenant of Mayors for Climate and Energy in a given geographic area. Regional/National Covenants tailor the GCoM to regional realities, ensuring effective implementation that is in line with regional or national priorities.

1.3 About the GCoM Common Reporting Framework

Local governments committed to GCoM pledge to implement policies and undertake measures to: (i) reduce/limit greenhouse gas emissions, (ii) prepare for the impacts of climate change, (iii) increase access to sustainable energy, and (iv) track progress toward these objectives.

The commitment is the first step in the GCoM City Journey. The City Journey is a step-by-step guide designed to support cities in bridging the gap from climate ambition to climate action delivery. The journey includes assessment, goal and target setting, plan development, implementation, monitoring and reporting.

In order to ensure solid climate action planning, implementation and monitoring phases, as well as streamline measurement and reporting procedures, a set of new global recommendations were developed with the intention to be flexible to meet specific local or regional circumstances while also allowing for global aggregation and comparison of data. Together, the GCoM movement will be able to showcase achievements and track progress transparently – and thus advocate with cities and city networks in the various regions and nations for better multilevel

governance of climate and energy issues with decision makers at all levels of government, and for improved technical and financial support. A common reporting language of the Global Covenant of Mayors will unite local voices and raise the bar, also for other climate stakeholders. This common reporting language is the Common Reporting Framework.

The main purpose of the Common Reporting Framework is to describe what aspects of a local government's climate change response should be reported through public reporting platforms. This public reporting facilitates understanding and monitoring by the general public, the business community, national governments, academia, and international institutions, etc.

Transparent public reporting, builds trust and credibility in local climate action and facilitates analysis and aggregation. This can demonstrate the role of local governments in tackling climate change and support advocacy and access to funding and finance.

The CRF is also a framework upon which GCoM as well as Regional and National Covenants can develop guidance (training, tools, data, resources and support) to help cities and local governments with effective climate action planning.

The first version of the CRF was published in 2018 to harmonise reporting requirements between the Global Compact of Mayors and European Covenant of Mayors. Subsequent "regional variations" of the CRF were published between 2019 and 2022 that tailor the requirements to reflect local context faced in the GCoM regional covenants. This version of the CRF (version 7) expands on Version 6, to introduce the Energy Access & Poverty Pillar and an additional simplified reporting level.

The simplified reporting level is introduced to make it easier for local governments, such as those with low available resources and low data capacity, to comply with their commitment to the GCoM. The simplified reporting level prioritises flexibility and ease of access for the local governments over consistent, more complete, and comparable data at the global level, that local governments using the comprehensive reporting level contribute to.

1.4 General Principles

The CRF is designed to be:

- **Ambitious**: Drives ambitious action and implementation, while considering the local context, encouraging cities and local governments in a more comprehensive and integrated way of planning.
- **Flexible**: Suitable for cities and local governments with varying capacities and resources, allowing for adaptation to regional circumstances.
- **Complementary** to national reporting systems, tools and methodologies to support efficient reporting.
- **Actionable**: Provides a framework supporting city climate action planning, implementation, monitoring and reporting.
- **Transparent**: Promotes open data sharing to enable the exchange of cities and local governments' experiences, opportunities and challenges.

The general principles are applicable to all topic areas presented in this document:

- The reporting framework allows **flexibility** to suit differentiated local circumstances and needs, such as: (i) the use of different methodologies under the IPCC framework, (ii) varied access to necessary and quality data, (iii) recognizing that local governments of smaller communities may have less capacity, and (iv) relevance to all geographical locations.
- Greenhouse gas (GHG) emissions inventories, risk and vulnerability assessments, target(s) and goal(s), identifying hazards, climate and energy access plans should be **relevant to the local and regional situation**, reflecting the specific activities, capacity and regulatory context of the local government.
- Local governments may develop **joint reporting and action plans** with the neighbouring community(ies).
- Local governments **shall** report in a way that enables meaningful comparison and aggregation with other cities.
- Local governments reporting under the simplified reporting level and reporting following regional deviations might not be fully consistent with the different methodologies under the IPCC framework. Local governments are encouraged to report as extensively as possible.

2 Definitions

The terms “cities” and “local governments” are used throughout this document, understanding that the geo-political institutions of local governments may vary from country to country and terminology used may differ. In this document, a **city** refers to a geographical subnational jurisdiction (“territory”) such as a community, a town, or a city that is governed by a **local government** as the legal entity of public administration. The term “city boundary” refers to a local government’s administration boundary.

2.1 Shall - Should - May

This reporting framework uses precise language to indicate which provisions are requirements and which are optional, as follows:

- The term “**shall**” is used to indicate what is required (indicated as “**mandatory**” in the annexes).
- The term “**should**” is used to indicate a strongly advised recommendation, so is not a requirement (indicated as “**recommended**” in the annexes”).
- The term “**may**” is used to indicate an option that is permissible or allowable that local governments may choose to follow (indicated as “**optional**” in the annexes).

Flexibility has been built into this reporting framework to accommodate limitations in data availability and differences in emission sources between local governments (see Notation Keys).

2.2 Complete and Simplified Reporting Levels

This reporting framework supports a complete CRF reporting level and a simplified reporting level. The CRF text specifies the complete CRF reporting level and only specifies the simplified reporting level in case the simplified reporting level is different from the complete CRF reporting level.

2.3 Climate Action and Energy Access Plan(s)

Local governments develop plans for climate change mitigation, adaptation (climate resilience) and energy access and/or poverty (EAP), which may be presented in separate plans or an integrated plan.

The climate action plan is one of the key steps undertaken by GCoM signatories, it describes the intentions and concrete policies and measures foreseen by the local authorities to address the GCoM commitments. It is also important that the climate action plan (stand-alone or integrated) includes clear provisions for tracking progress and regular progress reporting.

This section provides information about what a climate action and energy access plan should contain (and not what needs to reported in the context of the CRF). The reporting requirements are covered in section 3 and onwards.

The plan shall be formally adopted by the local government and should be in an official language used by the local government. When mainstreamed in sectoral or local development plans, the climate and energy objectives and actions should be clear and able to be monitored.

All action plan(s) shall include the following information for climate change mitigation, adaptation (climate resilience) and energy access and/or poverty:

- The local government(s) which formally adopted the plan and the date of adoption.
- Lead author team/Action Plan responsible/coordination team in the local governments.
- Description of the stakeholder engagement processes.
- Mitigation target(s) and/or adaptation / climate resilience goal(s) and/or energy access targets; including (if available) sectoral targets.
- All actions of priority sectors (identified from GHG emissions inventories, risk/vulnerability assessments and energy access & poverty assessments).
- Descriptions for each action.
- Synergies, trade-offs, and co-benefits of mitigation, adaptation and energy access actions.

Local government should also report the metric (or key performance index) for tracking the progress and monitoring plans.

For each action/action area/sector, the action plans shall provide the following information:

- Brief description of the action/action area/sector.
- Assessment of energy saving, renewable energy production, vulnerabilities tackled and GHG emissions reduction by action, action area or sector (only applicable to mitigation actions).
- Related indicators and how the implementation of the action impacts the value of the EAP indicators.

For each action/action area/sector, the action plans should provide the following information:

- Financial strategy for implementing the action/action area/sector[1].
- Implementation status, cost and timeframe.
- Implementing agency(ies).
- Stakeholders involved in planning and implementation.

In addition, local governments should also provide the following information in the action plans:

- Prioritization of actions.
- Policy instrument(s) to implement the actions.

Local governments are encouraged to report actions in as much detail as possible.

3 Greenhouse Gas Emissions Inventory

The following GHG reporting framework is built upon the Emission Inventory Guidance, used by the European Covenant of Mayors and the Global Protocol for Community-Scale Greenhouse Gas Emission Inventories (GPC), used by the Compact of Mayors. Both refer to the 2006 Intergovernmental Panel on Climate Change (IPCC) Guidelines for National Greenhouse Gas Inventories[2].

Local governments **shall** submit their greenhouse gas emissions inventory to GCoM[3] within two years upon joining GCoM. At least every subsequent four years, a more recent greenhouse gas emissions inventory **shall** be submitted to GCoM.

The first GHG emission inventory (or "baseline emission inventory") sets the starting point and the subsequent GHG emission inventories (or "monitoring emission inventories") allow for monitoring progress towards the target.

The year for which the greenhouse gas emissions inventory data was collected (hereafter referred to as the "inventory data year") **should** be no older than four years from the year in which the inventory itself is submitted to GCoM. Local governments whose inventories have an older inventory data year **should** sufficiently demonstrate a rationale, whether due to insufficient access to data or otherwise.

Greenhouse gas emissions inventories **shall** cover a consecutive period of 12 months.

Please refer to Annex F: Validity of an inventory data year for further information.

3.1 GHG Accounting Principles

In addition to the general reporting principles mentioned above (see General Principles), local governments **shall** follow the GHG accounting principles outlined below:

- The inventory **shall** be relevant to the local and regional (where relevant) situation: reflecting the specific activities and policy-making needs of the city; taking into account its capacity and regulatory context.
- Local governments **shall** consider all categories of emission sources and report all emissions that are significant and mandatory. Exclusion of mandatory emission sources **shall** be disclosed and justified (using the notation keys[4] or a qualitative explanation).
- Local governments **shall** compile GHG inventories on a regular basis, to enable monitoring and tracking the impact of climate actions, also to ensure continuous improvement in data quality, resulting in a clearly defined inventory boundary, improved data sources and defined methodologies that **shall** be consistent through the years (e.g., clarify where there is an evolution, e.g. population growth), so that differences in the results between years reflect real differences in emissions and mitigation efforts by the local government and the city.
- Local governments **shall** ensure sufficient accuracy to give local decision makers and the public reasonable assurance of the integrity of emissions reported. Efforts **shall** be made to reduce uncertainties and make improvements over time.

- To the extent possible, all relevant activity data[5], data sources, methodologies, assumptions, exclusions and deviations **shall** be documented and reported, to allow for review, replication of good practice, and tackling challenges identified (e.g., lack of access to data in country X).

3.2 Notation Keys

If a mandatory source of emission is not included in a GHG inventory, the local authority **shall** explain the reason of non-inclusion. Notation keys **may** be used to accommodate limitations in data availability and differences in emission sources between local governments. Where notation keys are used, an accompanying explanation **may** be provided. When the notation key "IE" (included elsewhere) is used, an accompanying explanation **shall** be provided under the complete reporting level and **may** be provided under the simplified reporting level.

The following are the descriptions on how to use the notation keys:

- "**NO**" (not occurring): An activity or process does not occur or exist within the city. This notation key may also be used for insignificant sources.
- "**IE**" (included elsewhere): GHG emissions for this activity are estimated and presented in another category in the same inventory, stating where it is added. This notation key may be used where it is difficult to disaggregate data into multiple sub-sectors.
- "**NE**" (not estimated): GHG emissions occur but have not been estimated or reported, with a justification why.
- "**C**" (confidential): GHG emissions which could lead to the disclosure of confidential information, and as such are not reported publicly.

Further guidance on the use and application of notation keys will be provided in the implementation phase.

3.3 Emission Sources

Local governments **shall** report GHG emissions from at least three main sectors, namely stationary energy, transportation, and waste. Under the simplified reporting level, local governments **may** report GHG emissions from the waste sector. The detailed reporting requirements are described in the following subsections.

Local governments **may** also report GHG emissions from Industrial Processes and Product Use (IPPU) and Agriculture, Forestry and Other Land Use (AFOLU) sectors[6] where these are significant.

Additionally, local governments **may** report GHG emissions from upstream activities, such as material extraction, or other out-of-boundary sources.

Further guidance on the reporting of emissions from IPPU, AFOLU and other sources will be provided in the implementation phase.

3.3.1 Stationary energy

All GHG emissions from fuel combustion and the consumption of grid-supplied energy, in stationary sources within the city boundary **shall** be reported.

The emissions data **shall** be disaggregated by residential buildings, commercial buildings and facilities, institutional buildings and facilities, industry[7] and **should** be disaggregated by agriculture, forestry, and fisheries. Under the simplified reporting level, the emissions data **should** be disaggregated by residential buildings, commercial buildings and facilities, institutional buildings and facilities and **may** be disaggregated by industry, agriculture, forestry, and fisheries.

GHG emissions from sources covered by a regional or national emissions trading level (ETS), or similar, **should** be identified. Under the simplified reporting level, GHG emissions from sources covered by a regional or national emissions trading level (ETS), or similar, **may** be identified.

All fugitive emissions within the city boundary **shall** be reported. Under the simplified reporting level, all fugitive emissions within the city boundary **may** be reported.

3.3.2 Transportation

All GHG emissions from fuel combustion and use of grid-supplied energy for transportation within the city boundary **shall** be reported and disaggregated by mode: on-road, rail, waterborne navigation, aviation, and off-road. Under the simplified reporting level, the GHG emissions **should** be disaggregated by mode.

Waterborne navigation, aviation, and off-road are unlikely to occur or be significant in most cities. Where they are significant sources, GHG emissions **should** be included, unless they occur as part of transboundary journeys, in which case the notation key "Included Elsewhere" (IE) may be used (see Notation Keys). Where these sources do not occur, the notation key "Not Occurring" (NO) shall be used; where they are not significant, the notation key "NO" may be used (see Notation Keys). Under the simplified reporting level, the GHG emissions from waterborne navigation, aviation, and off-road **may** be included.

Local governments **should** further disaggregate road and rail travel by fleet type: municipal fleets, public, private and commercial transport. Under the simplified reporting level, local governments **may** further disaggregate road and rail travel by fleet type.

Further guidance on the use and application of transport system data collection methodologies will be provided in the implementation phase.

3.3.3 Waste

All GHG emissions from disposal and treatment of waste and wastewater generated within the city boundary **shall** be reported and disaggregated by treatment type. Under the simplified reporting level, GHG emissions from disposal and treatment of waste and wastewater generated within the city boundary **may** be reported and disaggregated by treatment type.

Where waste is used for energy generation[8], GHG emissions do not need to be reported. Instead, the notation key IE **should** be used (see Notation Keys). Instead, these GHG emissions

will be captured in the inventory through the use of heat or electricity generated from the treatment of waste.

3.3.4 Energy generation

Additionally, local governments **shall** report GHG emissions from energy generation activities. Under the simplified reporting level, local governments **may** report GHG emissions from energy generation activities. To avoid double counting, these **shall** not form part of the GHG emissions inventory total, and will be reported under an "Energy Generation" sector, where:

- All GHG emissions from generation of grid-supplied energy within the city boundary, and all GHG emissions from generation of grid-supplied energy by facilities owned (full or partial) by the local government outside the city boundary **shall** be reported and disaggregated by electricity-only, combined heat and power (CHP), and heat/cold production plants. Under the simplified reporting, these GHG emissions **may** be reported and disaggregated.
- GHG emissions from sources covered by a regional or national emissions trading level (ETS), or similar, **may** be identified.
- In addition, local governments **should** report all activity data for distributed local renewable energy generation.

3.3.5 Activity Data and Emission Factors

In addition to GHG data, the reporting framework requires local governments to report activity data and emission factors as follow:

- Local governments **shall** report activity data (in MWh, PJ, etc.) and emission factors for all sources of emissions, disaggregated by activity/fuel type. Under the simplified reporting level, local governments **may** report activity data (in MWh, PJ, etc.) and emission factors for all sources of emissions, disaggregated by activity/fuel type.
- Local governments **should** use activity-based emission factors (also referred to as IPCC emission factors), though **may** use Life-Cycle Analysis (LCA) based emission factors where this is required for GHG emissions reporting at the national level. Where local governments use LCA emission factors, they **shall** also consent to GCoM recalculating and reporting their inventory using standard activity-based emission factors to enable the comparability and aggregation of city inventories.
- Local governments **shall** specify whether the emission factor used to estimate GHG emissions from the consumption of grid-supplied electricity is locally estimated or covers a regional, national or supranational grid. In all cases, the emission factor used **shall** be fully referenced. Under the simplified reporting level, local governments **may** specify whether the emission factor used to estimate GHG emissions from the consumption of grid-supplied electricity is locally estimated or covers a regional, national or supranational grid. Under the simplified reporting, the emission factor used **may** be fully referenced.

- Local governments **shall** account for emissions of the following gases: carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O)[9]. Under the simplified reporting level, local governments shall account for carbon dioxide (CO_2) and **may** account for emissions of the following gases: methane (CH_4), and nitrous oxide (N_2O).
- GHG emissions **shall** be reported in metric tonnes of CO_2 equivalent (CO_2e)[10]. Where possible, local governments **should** report CO_2e emissions by individual GHG.
- Emissions from biogenic carbon are not required to be reported. Where they are reported, this **shall** be categorized separately and will not be counted in emissions totals.

4 Emissions Reduction Target Setting

All local governments and cities **shall** set and report city-wide emissions reduction targets. The GCoM defines eight categories of requirements for target setting, as explained below.

Local governments **shall** submit their greenhouse gas emissions reduction target(s) to GCoM within two years upon joining GCoM.

4.1 Boundary (geographic coverage, sectors, and GHGs)

The target boundary[11] **shall** be consistent with all emissions sources included in the GHG emissions inventory, with the possibility to exclude sources that are not controlled by the local government. In case that the target boundary does not align with the inventory boundary, any additions or exclusions **shall** be specified and justified. Local governments **should** report any sector-level targets alongside their city-wide target(s). Under the simplified reporting level, local governments **may** report any sector-level targets alongside their city-wide target(s).

4.2 Target type

Local governments **shall** use one of the following four target types: base year emissions target, base year intensity target, baseline scenario target, or fixed level target[12]. For a baseline scenario target, the modelling methodologies, and parameters **shall** be transparently described. Under the simplified reporting level and for a baseline scenario target, the modelling methodologies, and parameters **should** be transparently described.

Base year emissions target: Reduce, or control the increase of, emissions by a specified quantity relative to a base year. For example, a 25% reduction from 1990 levels by 2030.

Base year intensity target: Reduce emissions intensity (emissions per unit of another variable, typically GDP or capital Gross Domestic Product – GDP or per capita) by a specified quantity relative to a base year. For example, a 40% reduction from 1990 base year intensity by 2030.

Baseline scenario target: Reduce emissions by a specified quantity relative to a projected emissions baseline scenario. A Business as Usual (BaU) baseline scenario is a reference case that represents future events or conditions most likely to occur in the absence of activities taken to meet the mitigation target. For example, a 30% reduction from baseline scenario emissions in 2030.

Fixed-level target: Reduce, or control the increase of, emissions to an absolute emissions level in a target year. One type of fixed-level target is a carbon neutrality target, which is designed to reach zero net emissions by a certain date (e.g. 2050).

(Source: Greenhouse Gas Protocol Mitigation Goal Standard)

4.3 Target year

Local governments **shall** choose a long-term target year and interim target years.

4.4 Base year (only for base year emissions target and base year intensity target)

Local governments **shall** choose a base year with the recommendation to balance the following considerations:

- The base year has high quality and reliable data available.
- The base year is a correct representation of the normal emission profile.
- The base year is aligned with science-based target method and or the country's NDC[13].

4.5 Ambition

At a minimum, the target **shall** be as ambitious as the NDC[14]. Local governments **should** set targets that are more ambitious than the NDC.

4.6 Units

Targets **shall** be reported as a percentage (%) reduction from the base year or scenario year (for base year emissions, base year intensity and baseline scenario targets). The absolute emissions in the target year(s) in metric tonnes CO_2e **shall** also be reported for all target types.

If possible, the same approach **should** be chosen as is the case for the NDC target.

4.7 Use of transferable emissions

The use of transferable emissions units[15] is only permissible when a local government's target ambition exceeds the unconditional components of the NDC. Where this is the case, the local government **shall** report the target, with and without the transferable emissions units, as well as identify the source of the transferable emissions units. Further guidance on the use of transferable emissions will be provided in the implementation phase.

4.8 Conditionality

Conditional components include where cities set a stretch target, or where actions are identified for other key stakeholders beyond that which they have committed to themselves (for example, where a local government assumes a more ambitious reduction in the carbon-intensity of the national electricity grid than that committed to in the NDC or official government policy).

Local governments **may** include a conditional component in their mitigation target. Any conditional components included in the target **shall** be identified and, where possible, the conditional components **should** also be quantified.

5 Risk and Vulnerability Assessment

This section provides requirements for risk and vulnerability assessments that form part of the climate change adaptation (resilience) plans, also understanding hazards and the adaptive capacity of the local government and community. Please refer to Annex D: Risk and Vulnerability Assessment Reporting Framework for further details.

5.1 Climate Risk and Vulnerability Assessment

The local government **shall** prepare and submit climate risk and vulnerability assessment within two years after committing to the GCoM.

The assessment **shall** include the boundary of assessment (boundary of assessment **shall** be equal to or greater than the city boundary), including the local government(s) name(s)

The assessment **should** include data sources

The assessment **may** include the following information:

- Publication date
- A glossary of key terms and definitions
- Leading/coordinating team in the city

Terminologies and definitions used in the reports **should** be consistent with those used in the IPCC Fifth Assessment Report (AR5) or any update following the AR5 as well as with national frameworks/requirements.

5.2 Climate Hazards

The local government **shall** identify the most significant climate hazards faced by the community. For each identified climate hazard, the local government **shall** report the following information:

- Current risk level (probability x impact) of the hazard
- All relevant sectors, assets, or services that are expected to be most impacted by the hazard in future and the magnitude of the impact for each of them

For each identified climate hazard, the local government **may** report the following information:

- Description of expected future impacts
- Expected intensity, frequency, and timescale of the hazard

Furthermore, the local government **should** provide information on vulnerable population groups (e.g. poor, elderly, youth, people with chronic disease, unemployed, etc.) that are expected to be most affected by future hazards; this information can help the local government in having a better understanding of the vulnerability dimension of risks and in prioritizing their adaptation actions.

See Annex D: Risk and Vulnerability Assessment Reporting Framework, Table 1. Section A - Current and future climate risks, exposure, impacts and vulnerability for further details.

5.3 Adaptive Capacity

The local government **may** identify factors that will most greatly affect its own and the city's adaptive capacity and enhance climate resilience. For each factor, the local government **may** report the following information:

- Description of the factor as it relates to (supporting or challenging) the adaptive capacity
- Degree to which the factor challenges (as opposed to supports) the adaptive capacity and obstructs enhanced climate resilience

See Annex D: Risk and Vulnerability Assessment Reporting Framework, Table 2. Section A (continued) – Adaptive Capacity for further details.

6 Adaptation Goals

All local governments and cities **shall** set and report an adaptation goal to address the risks identified in the Risk and Vulnerability Assessment. For adaptation goals, local governments **shall** report the hazards addressed, target year, and baseline year.

7 Energy Access and Poverty Assessment

Energy access and energy poverty (EAP) are important elements for the sustainable development, resilience, and well-being of cities and local governments. The energy access and energy poverty pillar (EAPP), as for mitigation and adaptation, is an integral part of the journey of local government towards a more sustainable future. Therefore, strategies and measures undertaken by cities can address simultaneously more than one single pillar (i.e. mitigation and energy access/poverty).

Local governments play a key role in facilitating energy access and/or reducing energy poverty. Examples include:

- Undertaking energy data gathering, analysis and evaluations towards action taking regarding households and all assets in a city to understand the gaps in energy supply and energy services provisioning;
- Facilitating energy access by encouraging local renewable energy generation, supporting low-income households, and generating new jobs; and
- Influencing, facilitating, and implementing goals, strategies, and tactics that address energy access and poverty.

Local governments pledge to implement policies that facilitate energy access and/or reduce energy poverty and **shall** undertake measures to:

- Contribute to achieve SDG7 by ensuring access to affordable, reliable, sustainable and modern energy for all;
- Contribute to increase the level of energy access within the boundary of jurisdiction;
- Contribute to reduce energy poverty within the boundary of jurisdiction; and
- Track progress toward these objectives.

Local governments **shall** prepare and submit an energy access and energy poverty assessment within two years after committing to the GCoM.

The assessment **shall** analyse the energy access and energy poverty conditions of the municipality considering three key energy attributes:

- Secure energy
- Sustainable energy
- Affordable energy

For further information on the rationale behind the three energy attributes please refer to the accompanying Guidance Note (forthcoming in early 2023).

The energy access and energy poverty assessment **shall** provide information on the energy attribute(s) deemed most relevant by each Regional and National Covenant. Region- and country-specific energy sector characteristics are introduced in the Guidance Note.

The energy access and energy poverty assessment is framed by indicators for which local governments are invited to collect and provide information.

In particular:

- The assessment **shall** include at least one mandatory indicator for each energy attribute deemed relevant by the local government's respective Regional/National Covenant.
- The assessment **should** include information on non-mandatory global indicators.
- The assessment **should** include information on regionally relevant indicators.

Local governments **may** voluntarily report against any type of indicator, including indicators part of energy attributes that have not been selected by their respective Regional/National Covenant.

The list of mandatory global indicators is reported below and in Annex G. Global Mandatory Indicators:

- Secure Energy
    - Percentage of municipality population or households with access to electricity
    - Average duration of available electricity
    - Average yearly energy consumption per capita
- Sustainable Energy
    - Installed capacity of renewable energy sources within local boundary
    - Total energy generated from renewable energy source within local boundary
    - Energy consumption from renewable energy sources
    - Source mix of thermal energy (heating and cooling) consumed within local boundary
    - Percentage of households within the municipality with access to clean cooking fuels and technologies
- Affordable Energy
    - Percentage of households or population within the city boundary that spending up to X% of income on energy service

The list of non-mandatory global indicators is reported below and in Annex H. Global Non-mandatory Indicators:

- Secure Energy
    - Estimated share of electricity consumed within the municipality but not billed (non-technical losses, illegal connections)
    - Average number of electric supply interruptions in a typical month (or year)
    - % energy consumption per capita from i) electricity, ii) gas, iii) other sources

- Sustainable Energy
    - Total installed energy capacity within local boundary
    - Number of local energy efficiency programs
    - Number of local renewable energy programs
- Affordable Energy
    - Percentage of households within the municipality experiencing heating or cooling discomfort
    - Percentage of clean energy investment at local level going to low- and moderate-income households
    - Price of green electricity

The list of regionally relevant indicators is available in Annex I. Regional Indicators (Non-mandatory). The list of indicators reported in the Annex is not exhaustive and can be expanded.

Further detail on the reporting timeline and associated requirements can be found in Overall Reporting Timelines.

8 Energy Access and Poverty Targets

Local governments **shall** set and report city-wide targets that facilitate energy access and/or alleviate energy poverty for their communities through a composite approach that considers three distinct, yet interconnected characteristics: secure energy, affordable energy, and sustainable energy.

Local governments shall set their target in line with the universal energy access component of UN Sustainable Development Goal #7 (SDG 7) and set *at least one* target that facilitates energy access and alleviates energy poverty across the three mentioned characteristics within two years upon joining GCoM or, for signatories that are a GCoM members, upon the activation of the EAPP.

8.1 Boundary (geographic coverage)

The target boundary **shall** be consistent with the city boundary. Local governments **may** develop goals jointly with neighbouring community(ies). If the boundary is larger than the city boundary, this needs to be specified.

8.2 Target setting

It is recognized that there exist conceptual and practical differences when setting and reporting targets that address energy access and energy poverty. This is in addition to regional and local specificities and contexts.

Local governments **shall** adopt a target for a quantified relative increase of energy access and/or alleviation of energy poverty towards universal access to energy in alignment with SDG 7. The target **shall** define the estimated percentage increase of energy access and/or decrease in energy poverty in 2030 compared to their selected base year.

In addition, local governments **shall** set **at least** one target that addresses energy access and alleviates energy poverty from the regionally selected energy attribute.

Local governments **should** select their target(s) from the list of targets reported below.

- Improving access to secure energy
    - Increase average duration of available electricity by 2030 in relation to their base year
    - Increase the percentage of population or households with access to electricity by 2030 in relation to base year
    - “Improve” the average yearly energy consumption per capita (without affecting the level and quality of energy services used)
- Improving access to affordable energy
    - Reduce percentage of households or population within the city boundary that face energy poverty
    - Increase energy efficiency of buildings

- Improving access to sustainable energy
    - Increase the installed capacity of renewable energy sources (RES) within local boundary
    - Increase total energy generated from RES within local boundary
    - Increase energy consumption from RES
    - Increase the households within the municipality with access to clean cooking fuels and technologies
    - "Improve the greenness" of the source mix of thermal energy (heating and cooling) consumed in your city

Local governments **may** choose to select targets from the list above or define other targets of their choosing that correspond to their energy attribute(s) of interest.

Local governments may report against additional targets addressing energy access and alleviating energy poverty from the list above.

Local governments may also identify and set additional complementing targets suited to their local conditions and needs.

8.3 Target year

The target year (the year in which local governments aim to achieve the stated target) **shall** be aligned with national commitments such as Nationally Determined Contributions (NDC) (where applicable) or as set by Regional/National Covenants. However, in alignment with SDG 7 and the Mitigation and Adaptation pillars, an additional target for 2030 **should** be set, in case existing national and/or regional targets aim to be achieved before or beyond 2030.

8.4 Base year value

The base year **shall** be the one set within national frameworks or Regional/National Covenants (where applicable or available) or the year used for the energy access and poverty assessment, in which the status of the local government is well documented.

8.5 Reporting year value

The target year **shall** not be same or older than the reporting year.

8.6 Ambition

When setting a target, local governments **shall** demonstrate commitments to increase in energy access and/or reduction in energy poverty. Local governments **shall** declare these commitments in their plan(s).

8.7 Units

The target **shall** be reported as a percentage (%) in relation to the base year. If absolute data is available, signatory **shall** report the percentage in addition to their quantitative data.

9 Climate Action and Energy Access Plan(s)

This section includes two elements, namely climate action plans and energy access plans. The climate action plan requirements outlined in this section are applicable to both mitigation and adaptation plans (or integrated plans). The energy access plan can be submitted in the same document as the climate action plan(s) or in a separate document.

9.1 Plan(s) and Reporting

Local governments develop plans for climate change mitigation, adaptation (climate resilience) and energy access and/or poverty, which may be presented in separate plans or an integrated plan. Local governments **shall** submit their climate action plans to GCoM within three years upon joining GCoM (see Overall Reporting Timelines).

The climate action plan is one of the key steps undertaken by GCoM signatories, it describes the intentions and concrete policies and measures foreseen by the local authorities to address the GCoM commitments. It is also important that the climate action plan (stand-alone or integrated) includes clear provisions for tracking progress and regular progress reporting.

Local governments **shall** report the name of the local government(s) which formally adopted the plan and the date of adoption.

Local governments **should** provide a description of the stakeholder engagement process.

Local governments **shall** report more than one key action per pillar (Mitigation and Adaptation), and at least one key action for the Energy Access & Poverty pillar. Under the simplified reporting level, local governments **shall** report at least one key action per pillar (Mitigation, Adaptation and Energy Access & Poverty).

For each reported key action, the following additional information needs to be reported:

- A description of the action **shall** be reported to allow best practice sharing. Under the simplified reporting level, a description of the action **may** be reported to allow best practice sharing.
- The implementation status and timing of the action **should** be reported.
- The policy instruments to implement the action **should** be reported.
- The assessment of the estimated energy saving, renewable energy production, and GHG emission reduction **shall** be reported. Under the simplified level, this assessment **should** be reported.

9.2 Monitoring

The local government **shall** submit monitoring reports every four years after submitting the action plan(s)[16]. The monitoring reports **shall** provide information about the implementation status of each action/action area/sector contained in the action plan, helping to monitor progress made. The local government **should** update and resubmit the action plan(s) when there are significant changes to the existing plan(s). The local government **may** also report the implementation cost for each action/action area/sector.

Further details on the reporting requirements and frequency can be found in Overall Reporting Timelines and in Annexes B-E.

10 Overall Reporting Timelines

The reporting framework includes timelines for different elements of reporting. The following table shows the overall reporting time after joining GCoM.

<table>
<tr><th>Reporting elements</th><th>Commit to join GCoM (Year 0)</th><th>Years 1+2</th><th>Year 3</th><th>Year 4</th><th>Year 5</th><th>Year 6</th><th>Year 7</th></tr>
<tr><td>Baseline GHG emissions inventory</td><td colspan="2">submit by year 2 at the latest</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Monitoring GHG emissions inventory</td><td></td><td></td><td></td><td></td><td></td><td>submit four years after GHG emission inventory and every subsequent four years thereafter at the latest</td><td>exception: submit five years after baseline inventory only if accompanying second progress report</td></tr>
<tr><td>Risk and vulnerability assessment</td><td colspan="2">submit by year 2 at the latest</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Energy access and poverty assessment</td><td colspan="2">submit by year 2 at the latest</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Targets and goals (mitigation, adaptation, and energy access & poverty)</td><td colspan="2">submit by year 2 at the latest</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Climate action plan(s) (mitigation, adaptation, energy access & poverty, or integrated plan)</td><td colspan="3">submit by year 3 at the latest</td><td></td><td></td><td></td><td></td></tr>
<tr><td>Progress report</td><td></td><td></td><td></td><td></td><td>submit every two years after submitting the corresponding climate action plan</td><td></td><td>submit every two years after submitting the corresponding climate action plan</td></tr>
</table>

Local governments may apply for an extension of reporting deadlines along with a clear justification.

The EAPP reporting timeline will be initiated according to the EAPP activation date. For local governments that are GCoM members before the EAPP activation date, the reporting requirements timeline will start from the EAPP activation date. For local governments joining GCoM after the EAPP activation date, the reporting requirements timeline will start upon the date of joining GCoM.

The submission of integrated climate action plans or standalone plans that address energy access **shall** occur within three years upon the official release of the update of the EAPP or within three years upon joining GCoM if afterwards.

11 Annex A: Members of Data-TWG

The CRF has been developed by a team of multi-disciplinary experts from GCoM partners with the aim of providing a harmonized definition of a common reporting framework. They have been designed considering local governments' needs and a step- wise approach on meeting GCoM commitments.

Below are lists of the current and former members of the Data Technical Working group (D-TWG) main body and Subcommittees (Emissions Inventory & Target Setting (EITS), Risk and Vulnerability Assessment (RVA), Energy Access & Poverty Pillar(EAPP), Reporting Platforms (RP)) .

Data Technical Working Group and Subcommittees	
(Co-)Chairs D-TWG	
Paolo Bertoldi (D-TWG)	European Commission – Joint Research Centre
(Co-)Chairs Subcommittees	
Marco Pittalis (EAPP)	European Commission – Joint Research Centre
Paulo Barbosa (RVA)	European Commission – Joint Research Centre
Valentina Palermo (EAPP)	European Commission – Joint Research Centre
Members D-TWG & Subcommittees	
Achilleas Vryniotis	CDP
Alejandro Javier Nocete Sanchez	GCoM Secretariat
Alexandra Papadopoulou	GCoM Secretariat
Andrea Ortega Segundo	CDP
Andy Deacon	GCoM Secretariat
Arminel Lovell	CDP
Artem Kharazyan	CoM East
Benjamin Jance	GCoM Secretariat
Bernie Cotter	ICLEI Oceania
Emmanuel Biririza	UN-Habitat
Dewi Sari	ICLEI World Secretariat
Eero Ailio	European Commission - DG ENER
Giovanni Tedesco	C40
Giulia Melica	European Commission – Joint Research Centre
Hiroki Tanikawa	Nagoya University
Irene Skoula	C40

Karishma Asarpota	ICLEI World Secretariat
Lucy Lavirotte	ICLEI
Maia Kutner	CDP
Megan Meany	ICLEI Canada
Miguel Morcillo	CoMo Europe – Climate Alliance
Nadja Vetters	European Commission – Joint Research Centre
Noriko Sugiyama	Nagoya University
Paulina Soto	ICLEI Mexico
Paulo Barbosa	European Commission – Joint Research Centre
Peter Haems	GCoM Secretariat
Petya Pishmisheva	CoMo Europe
Ryan Green	C40
Sandy Morris	CDP East Asia
Sen Rohit	ICLEI World Secretariat
Tabare Curras	WWF
Teresa Aristegui	European Commission – DG ENER
Togo Uchida	ICLEI Japan
Tomasz Gawlik	European Commission – DG CLIMA
Valentina Palermo	European Commission – Joint Research Centre
Veronika Krupcikova	European Commission – DG CLIMA
Vincent Kitio	UN-Habitat
Former Chairs, Co-Chairs and Members	
Andreia Banhe	CDP LAC
Albana Kona	European Commission – Joint Research Centre
Aleksandra Kazmierczak	European Environment Agency
Alessandra Antonini	CoM-IUC office/Climate Alliance
Alessandra Sgobbi	European Commission - DG CLIMA
Alice de Palma	CDP
Carina Borgström -Hansson	WWF
Carla Marino	ICLEI World Secretariat
Cesar Carreño	ICLEI World Secretariat

Chang Deng-Beck	CDP
Chantal Oudkerk Pool	C40
Christofer Ahlgren	European Commission – DG CLIMA
Christopher Dixon O'Mara	CDP
Claire Markgraf	C40
Fong Wee Kean	WRI
Frédéric Boyer	CoM-IUC office/Energy Cities
Giovana Figueiredo	ICLEI SAMS
Hannah Yu-Pearson	CDP
James Deweese	WRI
Joanna Ziecina	European Commission - DG ENER
Julia Lipton	C40
Kirsty Griffin	ICLEI Africa
Laura Kavanaugh	ICLEI World Secretariat
Laura Noriega	ICLEI World Secretariat
Lucie Blondel	CoM-IUC office/Climate Alliance
Lucy Latham	CDP
Michael Doust (Co-Chair)	C40
Mikaël Ange	CoM-IUC office/Climate Alliance
Miriam Badino	ICLEI World Secretariat
Nicola Mander	C40
Olav Berg	European Commission - DG ENER
Robert Kehew	UN-Habitat
Ryan Glancy	GCoM Americas
Sara Telahoun	CDP
Shannon Mc Daniel	GCoM Secretariat
Silvia Rivas - Calvete	European Commission - Joint Research Centre
Uolli Longo Briotto	ICLEI
Wee Kean Fong	WRI

12 Annex B: GHG Inventories Reporting Framework

Outline of reporting framework under the GCOM, mandatory level. This is not a reporting template.

Local Government Information	Mandatory	Description	GCOM support
Official name of local government	✓		
Country	✓		
Region	✓		
Inventory year	✓		
Geographic boundary	✓	Description of boundary and accompanying map	
Resident population (in the inventory year)	✓		
GDP	Optional		
Heating degree days / cooling degree days	Optional		
GHGs	CO2 or CO2e (CO2, CH4, N2O)	CO2e at a minimum, state which gases are included and encouraged to disaggregate by individual GHG. Biogenic carbon is not required but may be reported separately	
Emissions factors	IPCC or LCA	IPCC recommended but may use LCA where required for national reporting. If LCA, will also need to consent to GCOM converting data to an "IPCC" inventory	Develop tool and capacity to convert LCA inventory to "IPCC" inventory
GWP	✓	Local governments should disclose which GWP factors they are using (i.e. FAR; SAR; TAR; AR4; AR5)	

Emission Sources (Activity data and Emission Factors by Fuel type / activity and GHG Emissions)					
Building / Stationary Energy		**Fossil fuels**	**Grid-supplied energy**	**Description**	**GCoM support**
Residential buildings		✓	✓	All GHG emissions from fuel combustion in stationary sources within the city boundary, consumption of grid-supplied energy consumed within the city boundary and fugitive emissions within the city boundary. GHG emissions from sources covered by a regional or national emissions trading program should be identified.	Make ETS data available at local government level
Commercial building and facilities		✓	✓		
Institutional buildings and facilities		✓	✓		
Industry	Non-ETS (or similar)	✓	✓		
	ETS (or similar)	✓	✓		
Agriculture		✓	✓		
Fugitive emissions		✓			

Emission Sources (Activity data and Emission Factors by Fuel type / activity and GHG Emissions) (Continued)				
Transportation / Mobile Energy	**Fossil fuels**	**Grid-supplied energy**	**Description**	**GCoM support**
On-road	✓	✓	All GHG emissions from fuel combustion and use of grid-supplied energy for transportation within the city boundary. In case waterborne navigation, aviation and off-road are not occurring, the notation key NO shall be used, where they are not significant the notation key NO may be used. Where they are significant sources, emissions shall be included (see section 3.2 (2)). Road and rail travel should additionally be disaggregated by municipal fleet, public transport and private and comment transport. Cities may use the Fuel sales, Geographic (Territorial), Resident activity and City-induced methodologies to estimate activity.	Guidance on disaggregating road and rail data by fleet type. Guidance on using the four different boundary methodologies.
Rail	✓	✓		
Waterborne navigation	✓	✓		
Aviation	✓	✓		
Off-road	✓			

Emission Sources (Activity data and Emission Factors by Fuel type / activity and GHG Emissions) (Continued)			
Waste (non-energy)	**Waste Generated**	**Description**	**GCoM support**
Solid waste	✓	All GHG emissions from disposal and treatment of waste generated within the city boundary. Where waste is used for energy generation, emissions do not need to be reported here. Instead, the notation key IE should be used. These emissions will be captured through the use of heat or electricity generated from the treatment of waste. If a treatment type is not applicable, the notation key NO shall be used.	National-level waste composition and treatment data. Calculators using default and user data estimate emissions from waste by treatment type.
Biological waste	✓		
Incinerated and burned waste	✓		
Wastewater	✓		

Energy Generation (Activity Data and Emission Factors by energy carrier and GHG Emissions)				
	Within city boundary	**Owned by city**	**Description**	**GCoM support**
Electricity-only generation	✓	✓	All GHG emissions from generation of grid-supplied energy within the city boundary and all GHG emissions from generation of grid- supplied energy by facilities owned (full or partial) by the local government outside the city boundary disaggregated by electricity- only, CHP and heat/cold production plants. GHG emissions from sources covered by regional or national emissions trading program should be identified. In addition, local governments are recommended to report all GHG emissions associated with distributed renewable generation, if any.	Make ETS data available at local government level.
CHP generation	✓	✓		
Heat/cold generation	✓	✓		
Local renewable energy generation	Recommended			

Allowable Notation Keys				
Notation keys may be used to accommodate limitations in data availability and differences in emission sources between local authorities. Where notation keys are used, local authorities should provide an accompanying explanation.	Not Occurring	NO	An activity or process does not occur or exist within the local government (e.g. waterborne navigation in a city with no coast or river)	Guidance and examples on using notation keys
	Included elsewhere	IE	GHG emissions for this activity are estimated and already presented in another category in the inventory (e.g. waste is used for energy generation)	
	Not estimated	NE	GHG emissions occur but have not been estimated or reported. NE should be used sparingly and where used should be priority for future data collection.	
	Confidential	C	GHG emissions which could lead to the disclosure of confidential information.	

13 Annex C: Targets Reporting Framework

	Minimum	Ambitious	Comments
Boundary (geographic, coverage, sectors and GHGs)	Consistent with minimum requirements of GHG inventory framework		Where target boundary does not align with inventory boundary, additions and exclusions shall be specified and justified. Exclusions shall be indicated using the notation key Included Elsewhere (IE)
Target type	Any target type (base year, base year intensity, baseline scenario, fixed level)		For baseline scenario target, modeling methodology and parameters shall be transparently described
Target year	Same as NDC, or as set by regional/national Covenants	2050	If beyond 2030, shall also include interim target. If the NDC target is before 2030, cities should additionally set a target for 2030.
Base year (base year and intensity targets only)	Should be the same as NDC, or as set by regional/national Covenants		If different to NDC, shall be justified
Ambition	Same as NDC, or as set by regional/national Covenants	More ambitious than NDC	Refers to unconditional components of NDC
Units	% reduction from base / scenario year, and absolute emissions for target year in tCO2e		
Use of transferable emissions	Only permissible where target ambition exceeds the unconditional components of the NDC		The local government shall report the target, with and without the transferable emissions units, as well as identify the source of the transferable emissions units.
Conditionality	Permissible but conditional components shall be stated and identified	Conditional components of the target are identified and should be quantified where possible	Permissible only when LG's target ambition exceeds the unconditional components of the NDC

14 Annex D: Risk and Vulnerability Assessment Reporting Framework

(m)	=	mandatory to report
(r)	=	Recommended to report
(opt)	=	Optional to report
italics	=	Explanatory notes

14.1 Table 1. Section A - Current and future climate risks, exposure, impacts and vulnerability

Table 1. Please identify **the most significant** climate hazards faced by your jurisdiction (m) and complete the **questions to the right for each one.**		
HAZARDS (grouped under headers, can report on multiple across the table)	CURRENT hazard **RISK** level (*dropdown for each hazard selected)*	
	Probability of Hazard (m)	Consequence of hazard (m)
Extreme Precipitation		
Rain storm	o High o Moderate o Low o Do not know	o High o Moderate o Low o Do not know
Monsoon	[dropdown as above]	[dropdown as above]
Heavy snow	[dropdown as above]	[dropdown as above]
Fog	[dropdown as above]	[dropdown as above]
Hail	[dropdown as above]	[dropdown as above]
Storm and wind		
Severe wind	[dropdown as above]	[dropdown as above]
Tornado	[dropdown as above]	[dropdown as above]
Cyclone (Hurricane / Typhoon)	[dropdown as above]	[dropdown as above]
Extra tropical storm	[dropdown as above]	[dropdown as above]
Tropical storm	[dropdown as above]	[dropdown as above]
Storm surge	[dropdown as above]	[dropdown as above]
Lightning / thunderstorm	[dropdown as above]	[dropdown as above]
Extreme cold temperature		
Extreme winter conditions	[dropdown as above]	[dropdown as above]
Cold wave	[dropdown as above]	[dropdown as above]
Extreme cold days	[dropdown as above]	[dropdown as above]
Extreme hot temperature		
Heat wave	[dropdown as above]	[dropdown as above]
Extreme hot days	[dropdown as above]	[dropdown as above]

Water Scarcity		
Drought	[dropdown as above]	[dropdown as above]
Wild fire		
Forest fire	[dropdown as above]	[dropdown as above]
Land fire	[dropdown as above]	[dropdown as above]
Flood and sea level rise		
Flash / surface flood	[dropdown as above]	[dropdown as above]
River flood	[dropdown as above]	[dropdown as above]
Coastal flood	[dropdown as above]	[dropdown as above]
Groundwater flood	[dropdown as above]	[dropdown as above]
Permanent inundation	[dropdown as above]	[dropdown as above]
Chemical change		
Salt water intrusion	[dropdown as above]	[dropdown as above]
Ocean acidification	[dropdown as above]	[dropdown as above]
Atmospheric CO2 concentrations	[dropdown as above]	[dropdown as above]
Mass movement		
Landslide	[dropdown as above]	[dropdown as above]
Avalanche	[dropdown as above]	[dropdown as above]
Rock fall	[dropdown as above]	[dropdown as above]
Subsidence	[dropdown as above]	[dropdown as above]
Biological hazards		
Water-borne disease	[dropdown as above]	[dropdown as above]
Vector-borne disease	[dropdown as above]	[dropdown as above]
Air-borne disease	[dropdown as above]	[dropdown as above]
Insect infestation	[dropdown as above]	[dropdown as above]

…Current and future climate risks, exposure, impacts, vulnerability (table 1 continued horizontally from hazards table, only top row shown, which is repeated down *the table)*

Please indicate how you expect climate change to affect the intensity and frequency of each hazard and when you FIRST expect to experience those changes.[17]			Please describe the overall impact of FUTURE hazards in your jurisdiction and the sectors, assets, and/or services that will be most affected (at least 5). [18]			Please indicate which vulnerable population groups will be most impacted by FUTURE hazards. [19]
Expected change in frequency (m)	Expected change in intensity (m)	Timescale [20] (m)	Description of expected impact (r)	Impacted sectors, assets, and services (m)[21] and the magnitude of those impacts (m)		Impacted vulnerable groups (r) *(can specify multiple for each hazard)*
○ Increase ○ Decrease ○ No change ○ Not known	○ Increase ○ Decrease ○ No change ○ Not known	○ Immediately ○ Short-term ○ Medium-term ○ Long-term ○ Not known	[open field]	○ Transport ○ Energy ○ ICT (Information and Communications technology) ○ Water supply and sanitation ○ Waste management ○ Public Health ○ Law & Order ○ Emergency Services ○ Land use planning ○ Education ○ Food & Agriculture ○ Environment, Biodiversity, Forestry ○ Commercial ○ Industrial ○ Tourism ○ Residential ○ Society/community & culture ○ Other _____	Magnitude of expected impact ○ High ○ Moderate ○ Low ○ Do not know	○ Women and girls ○ Children and Youth ○ Elderly ○ Indigenous population ○ Marginalized groups ○ Persons with disabilities ○ Persons with chronic diseases ○ Low-income households ○ Unemployed persons ○ Persons living in sub-standard housing ○ Other
[repeat as above, for all hazards]			[repeat as above, for all hazards]		[repeats, for all hazards and s/a/s]	[repeat as above, for all hazards]

14.2 Table 2. Section A (continued) – Adaptive Capacity

Table 2. Please identify and describe **the factors** that will **most greatly** affect your jurisdiction's adaptive capacity. (m)		
FACTOR *(grouped under headers, can report on multiple across the table)*	Description (m)	Degree to which this factor presents a challenge for your jurisdictions adaptive capacity (m)
Services		
Access to basic services	[open field]	○ High ○ Moderate ○ Low ○ No concern[22] ○ Do not know
Access to healthcare	[open field]	[dropdown as above]
Access to education	[open field]	[dropdown as above]
Public health	[open field]	[dropdown as above]
Socio-economic		
Cost of living	[open field]	[dropdown as above]
Housing	[open field]	[dropdown as above]
Poverty	[open field]	[dropdown as above]
Inequality	[open field]	[dropdown as above]
Unemployment	[open field]	[dropdown as above]
Migration	[open field]	[dropdown as above]
Economic health	[open field]	[dropdown as above]
Economic diversity	[open field]	[dropdown as above]
Governmental		
Political stability	[open field]	[dropdown as above]
Political engagement / transparency	[open field]	[dropdown as above]
Government capacity	[open field]	[dropdown as above]
Budgetary capacity	[open field]	[dropdown as above]
Safety and security	[open field]	[dropdown as above]
Land use planning	[open field]	[dropdown as above]
Access to quality / relevant data	[open field]	[dropdown as above]
Community engagement	[open field]	[dropdown as above]
Physical & Environmental		
Rapid urbanization	[open field]	[dropdown as above]

Resource availability	[open field]	[dropdown as above]
Environmental conditions	[open field]	[dropdown as above]
Infrastructure conditions / maintenance	[open field]	[dropdown as above]
Infrastructure capacity	[open field]	[dropdown as above]
Other		
Other _____	[open field]	[dropdown as above]

14.3 Table 3. Section A (continued) - Climate risk and vulnerability assessment

Table 3. Please provide more information on your jurisdiction's climate risk and vulnerability assessment(s) *(rows can be added so multiple assessments can be reported on)* [23]

Title (m)	Year (m)	Scope/Boundary[24] (m)	Primary author (m)	Update/revision process (opt)	Upload file (m)[25]
[open field]	[dropdown of years]	○ Same, covers whole jurisdiction and nothing else ○ Smaller, covers part of the jurisdiction ○ Larger, covers the whole jurisdiction and adjoining areas ○ Partial, covers part of the jurisdiction and adjoining areas	○ Local government ○ Consultant ○ International organization ○ Community group ○ Regional / state / provincial government ○ National / central government ○ Other	Formal schedule for update ○ Yes ○ No ○ Do not know If yes, what is the time period for update? (years): Status of current update ○ Currently Exists ○ In Progress ○ Does not exist but intending to undertake in the future ○ Do not know	

14.4 Table 4. Section B – Climate adaptation plan

Table 4. If available, please provide more information on your jurisdiction's climate adaptation plan(s)[26]							
Title (m)	Short Description (m)	Year adopted (m)[27]	Nature of climate adaptation plan (m)	Scope/Boundary [28] (m)	Primary author (m)	Update/revision process (opt)	Upload file (m)[29]
[open field]	[open field]	[dropdown of years] ○ Not adopted	○ Standalone climate adaptation plan ○ Addressed in combined adaptation and mitigation climate action plan± ○ Addressed in general city plan ○ Addressed in city sector plan(s) ○ Other	○ Same, covers whole jurisdiction and nothing else ○ Smaller, covers part of the jurisdiction ○ Larger, covers the whole jurisdiction and adjoining areas ○ Partial, covers part of the jurisdiction and adjoining areas	○ Local government ○ Consultant ○ International organization ○ Community group ○ Regional / state / provincial government ○ National / central government ○ Other	Formal schedule for update ○ Yes ○ No ○ Do not know If yes, what is the time period for update? (years): ____ Status of current update ○ Currently Exists; ○ In Progress ○ Does not exist but intending to undertake in the future; ○ Do not know	

14.5 Table 5. Adaptation goals

Table 5. Please describe the main goals of your jurisdiction's adaptation efforts and the metrics/KPIs if applicable.					
Goal description (m)	Delivery date (m)	Baseline year (m)	Metric/KPI [30](r)	Progress (r)	Monitoring Plan (r)
[open field]	[year dropdown]	[year dropdown]	[open field]	○ 0-25% complete ○ 25-50% complete ○ 50-75% complete ○ 75-99% complete ○ 100% complete	[Upload/link]

14.6 Table 6. Section B (continued) Key Adaptation Actions

Table 6. Please describe a selection of key or representative actions contained in the adaptation plan											
Related hazard [31] (r)	Action	Short Description	Policy instrument (opt)	Financial cost and strategy (opt)	Implement-ation status[32] (opt)	Timeframe (opt)	Responsible body (opt)	Stakeholders involved *(can select multiple)* (opt)	Identification of synergies, trade-offs and co-benefits of mitigation and adaptation (opt)	Target (r)	KPI (r)
Key Hazard 1 (auto-populate) [Auto populate or dropdown]	[open field]	[open field]				[years dropdown]	[dropdown]	○ National government ○ Regional government ○ Local government ○ Academia ○ Business & Private sector ○ Trade union ○ NGO and associations ○ Citizens ○ Other			

Please describe how your jurisdiction has prioritized adaptation actions (opt)
[open field]

14.7 Table 7. Section C – Adaptation Planning Process

Table 7.	Commit and mobilize resources (m) [33]	Risk and vulnerability assessment (m) [34]	Develop and prioritize adaptation options (m) [35]	Develop adaptation plan (m) [36]	Implement adaptation plan (opt) [37]	Monitor and evaluate progress (m) [38]
Please describe your progress in the adaptation planning process (m)	○ Currently exists ○ In Progress ○ Does not exist but intending to undertake in the future ○ Do not know	○ Currently exists ○ In Progress ○ Does not exist but intending to undertake in the future ○ Do not know	○ Currently exists ○ In Progress ○ Does not exist but intending to undertake in the future ○ Do not know Please select the factors considered when prioritizing adaptation options (*can select multiple*) (opt) ○ Financial costs ○ Risk level of each hazard ○ Impacted sectors, services, and assets ○ Vulnerable populations ○ Stakeholder consensus ○ Other _____	○ Complete ○ In Progress ○ Does not exist but intending to undertake in the future ○ Do not know	○ Complete[44] ○ In Progress ○ Does not exist but intending to undertake in the future ○ Do not know	○ Currently exists ○ In Progress ○ Does not exist but intending to undertake in the future ○ Do not know

14.8 Table 8. Overall overview of the participatory process (adaptation planning)

This table describes the overall overview of the participatory process carried out in the adaptation planning process.

Stakeholders	Drop down list: level of participation	Multiple choice: participatory technique
National government	○ High ○ Medium ○ Low ○ None	○ Questionnaire/survey ○ Online consultation ○ In-depth interview ○ Roundtable ○ Focus group ○ Workshop ○ Citizen jury ○ Other: indicate which one
Regional government	[drop down list as above]	[drop down list as above]
Local government	[drop down list as above]	[drop down list as above]
Academia	[drop down list as above]	[drop down list as above]
Business & private sector	[drop down list as above]	[drop down list as above]
Trade union	[drop down list as above]	[drop down list as above]
NGO and associations	[drop down list as above]	[drop down list as above]
Citizens	[drop down list as above]	[drop down list as above]
Other: indicate which one	[drop down list as above]	[drop down list as above]

Legend:

Low **>** Information (meaning "low" level of participation): this is produced when the public are informed through a one- way flow of information, i.e. information passes from officials to the public, with no chance to provide feedback from the public to officials. There is no room for negotiation. The most frequent tools for informing are news, media, pamphlets, posters, and responses to inquiries.

Medium **>** Consultation ("medium" level): the public is invited to give their opinion and provide feedback on analyses, alternatives and/or decisions; however, these opinions may have or may have not been taken into account.

High **>** Partnership ("high" level): there have been negotiations between planners and the public in each aspect of the planning process. They have both agreed to share planning and decision-making responsibilities through joint policy boards, planning committees or other mechanisms for resolving impasses. The public have had some genuine bargaining influence over the outcome of the plan, including the development of adaptation options and the identification of the preferred solution.

15 Annex E: Climate Action and Energy Access Reporting Framework

ACTION PLANNING	
1. Develop an action plan for mitigation and adaptation	Mandatory
2. Plan to include target(s) / goal(s) of plan	Mandatory
3. Joint / collective action plans amongst local governments	Optional for neighbouring governments
4. Description of stakeholder engagement process in development of plan	Mandatory
5. Timeline for submission of the action plan	Within 3 years upon joining GCOM
6. Possible extension of the submission deadline	Possible extension with justification
7. Language of the plan	Any official language
8. Name of the plan	Any - as long as the plan is compliant with the GCOM requirements.
9. Integrated climate action plan (mitigation and adaptation)	Optional
10. Description of prioritization process of actions	Recommended
11. Key sectors addressed by the plan	Key sectors in line with local governments' priorities and assessments (baseline emission inventory and risk and vulnerabilities assessment) outputs
12. Description of each action in the Climate Action Plan document	Mandatory
13. Policy instrument(s) foreseen for the action, when appropriate	Recommended
14. Financial strategy per action/action area/sector	Recommended
15. Implementation status and timeframe	Recommended
16. Responsible body for each action/action area/sector	Recommended
17. Stakeholders involved for each action/action area/sector	Recommended
18. Assessment of energy savings, renewable energy production and GHG emissions reduction per key	Mandatory (recommend inclusion of figures)

mitigation action/action area/sector	
19. Formal adoption of the plan	Mandatory
20. Identification of synergies, trade-offs and co-benefits of mitigation and adaptation	Mandatory
MONITORING	
21. Monitoring, tracking and reporting progress towards commitments in the climate action plan	Mandatory - performed by city and publicly disclosed
22. Status of the implementation of each action in the climate action plan	Mandatory
23. Monitoring the costs of each action	Recommended
24. Frequency for submitting monitoring report of the implementation of actions	Every 2 years but recommended yearly, following action plan submission
25. Provisions for updating the Action plan (both mitigation and adaptation) when needed	Mandatory to update and resubmit the action plan when there are significant changes
EVALUATION AND FEEDBACK	
26. Evaluation on mitigation and adaptation by an independent body providing a feedback report to the city	By an independent body and to be decided regionally

16 Annex F: Validity of an inventory data year

The below table highlights the validity of an inventory where cells in green denote a valid inventory.

Inventory data year	Inventory reporting year			
	2023	2024	2025	2026
2019				
2020				
2021				
2022				
2023				
2024				
2025				

17 Annex G. Global Mandatory Indicators

Indicator	Response format options	Description	Existing sources/methodologies
Access to secure energy			
Percentage of municipality population or households with access to electricity	[%] of households or[%] of municipality population	Signatory could detail % of on-grid and % of off-grid electricity access.	data.worldbank.org (country level)
Average duration of available electricity	[h/day] or [days/y] or [h/week] or [min/year] or [h/y]	The average length of time during which electricity is available (or inversely, unavailable). In the case of unavailable periods, please refer to the Guidance Note.	data.worldbank.org (country level)
Average yearly energy consumption per capita	[kWh/year/person] or TEP/person		data.worldbank.org (country level)
Access to sustainable energy			
Installed capacity of renewable energy within local boundary	[MW]	Provide value disaggregated per type of technology (wind, hydro, solar, etc)	Local utilities/energy authority
Total energy generated from renewable energy sources within local boundary	[MWh]	Provide value disaggregated per type of technology (wind, hydro, solar, etc)	Local utilities/energy authority
Energy consumption from renewable energy sources	[MWh]	Municipality to provide information regarding PPAs or other levels used to purchase green electricity used within the municipality boundary	Local utilities/energy authority
Source mix of thermal energy (heating and cooling) consumed in your city	[%] per thermal energy source	Percentage of the energy mix for each of the following: Coal, Gas, Oil, Bioenergy (Biomass and Biofuels), Geothermal, Solar (Thermal), Waste to energy (excluding biomass component).	Local government/utilities
Percentage of households within the municipality with access to clean cooking fuels and technologies	[1 to 5]	Qualitative 1: <10% 2: 10.01-30% 3: 30.01-50% 4: 50.01-75% 5: >75%	Household surveys data.worldbank.org (country level)

Indicator	Response format options	Description	Existing sources/methodologies
Access to affordable energy			
Percentage of households or population within the city boundary that face energy poverty ---------- Threshold used for energy poverty	[%] ---------- - up to 5% of income spent on energy services - up to 10% of income spent on energy services - up to 15% of income spent on energy services - up to 20% or more of income spent on energy services - other please specify - do not measure energy poverty within the municipality boundary	The Municipality can provide additional information if available Sub-Saharan Africa signatories have the possibility to answer also the regional indicator “Electricity bill collection rate”	Potential sources (valid only for some countries): - https://www.aceee.org/research-report/u2006 - https://www.energypoverty.eu/indicators-data

18 Annex H. Global Non-mandatory Indicators

Indicator	Response format options	Description	Existing sources/methodologies
Access to secure energy			
Estimated share of electricity consumed within the municipality but not billed (non-technical losses, illegal connections)	[1 to 5]	1: <5% 2: 5.01-10% 3: 10.01-25% 4: 25.01-50% 5: >50%	Possibly from distribution companies or locally run surveys
Average number of electric supply interruptions in a typical month (or year)	[n°/month] or [n°/year]	Interruptions would include power outages, network overload, weak power capacity, extreme voltage fluctuations, other. Signatory may also indicate the average duration or indicate the number of significant ones (significant is locally determined)	Distribution companies
% energy consumption per capita from - electricity - gas - other sources (please list)	[%]	Measures the carrier consumption, rather than the source consumption	

Indicator	Response format options	Description	Existing sources/methodologies
Access to sustainable energy			
Total installed energy capacity within local boundary	[MW], possibility of disaggregation. Non-renewable energy sources is not mandatory (or Included Elsewhere), while renewable energy sources segments are mandatory (see three indicators below)	Signatories can voluntarily provide a full disaggregation including all type of energy sources.	Local utilities/energy authority
Number of local energy efficiency programs	[n° (municipality)] / disaggregate per sector plus extra info (n° beneficiaries, n° stakeholders, energy savings, GHG emissions reduced, amount of mobilized investments)	Sub-Saharan Africa (SSA) signatories have the possibility to respond to the regional indicator "financial and regulatory incentives for renewable energies in place"	Local government
Number of local renewable energy programs	[n° (municipality)] / disaggregate per sector plus extra info (n° beneficiaries, n° stakeholders, energy savings, GHG emissions reduced, renewable energy generated, amount of mobilized investments)	SSA signatories have the possibility to respond to the regional indicator "financial and regulatory incentives for renewable energies in place"	Local government

Indicator	Response format options	Description	Existing sources/methodologies
Access to affordable energy			
Percentage of households within the municipality experiencing heating or cooling discomfort	[1 to 5]	qualitative 1: <5% 2: 5.01-10% 3: 10.01-25% 4: 25.01-50% 5: >50%	Household surveys
% of clean energy investment at local level going to low- and moderate-income households	[%]	This indicator helps provide some starter detail from an equity perspective, helping measure the extent to which clean energy is affordable	Local government
Price of green electricity	Price/kWh	Average price of green electricity per kWh Please refer to the Guidance Note for further details.	

19 Annex I. Regional Indicators (Non-mandatory)

Description	Unit
MW of installed rooftop and community solar in your jurisdiction.	MW
Percentage of households adopting energy efficient appliances through municipality run or nationwide energy efficiency programs	[%]
% of population employed in non-renewable energy sectors	[%]
Population / households not having access to essential services within 1 hour by walking, cycling or public transport / total population	[%]
People / households living more than one 1 km from nearest public transport station / number of population	[%]
% of public building expenditure on energy	[% electricity; % thermal]
Average percentage of revenue spent in energy generation for: - % for industries - % for commercial - % for tertiary of the municipality	[%]
Financial and regulatory incentives or subsidy mechanisms in place for clean cooking	[binary; n°]
Percentage of population/households relying on the traditional use of biomass for cooking	[%]
Time spent and distance covered gathering fuelwood	Numbers (time and distance)
Number of improved cookstoves being used	Number
Percentage of household income spent on cooking	[%]
Electricity bill collection rate	[%] of subscribers regularly paying bill
Transmission and Distribution losses	[%]
Average fuel poverty gap	[%]
Population able to/willing to pay for electricity	[%]
Population able to/willing to pay for clean cooking	[%]
Minigrids and stand-alone systems	[%]

Description	Unit
Sustainable production for clean cooking (i.e charcoal)	[Y/N]
Awareness and/or Education programmes in place on energy access and clean cooking	[Y/N]
Frequency of heat waves	Average per monthly/year
Frequency of cold waves	Average per monthly/year
Number of heating degree days per year	Number of HDD and CDD /year
Number of cooling degree days per year	Number of HDD and CDD /year
F+G + H band (EPC) dwelling / total number of dwelling	[%]
Energy consumption (electricity + heating) per capita / national energy consumption (electricity + heating) per capita	[%]
Share of buildings renovated per year	[%]
Share of households / population with presence of leak, damp, rot in their dwelling / total households or population	[%]
Percentage of households / persons within the municipality experiencing heating discomfort	[%]
Percentage of households / persons within the municipality experiencing cooling discomfort	[%]
Households / persons connected to the electricity grid / total households or persons	[%]
Households / persons connected to the gas grid / total households or persons	[%]
EPC bands of dwelling higher than B	[%]
Households with centralised heating system / total households	[%]
Ownership of heating and cooling systems	[%]
Number of social housing apartments/total number of apartments	[%]
Average energy demand of social housing buildings / sq.m.	[kWh/sqm]
Low absolute energy expenditure (M/2)	[%]
Number of households with only oil boilers, wood calefactions, conventional gas boilers	[%]

Description	Unit
Households with centralised cooling system / total households	[%]
Households with centralised cooling system older than 10 y / total households with cooling system	[%]
Average age of the buildings	Years
Dwelling ownership	[%]
Over and under occupation of dwellings	[%]
The local public transport travel frequently enough, covering the essential necessities the population	Yes / No
Social housing apartments not having easy access to public transport (*)/ all social housing apartments	[%]
Inhabitants / households receiving support to pay public transport services/public transport users	[%]
Percentage of persons / households spending up to XX % their income on energy services	[%]
Vulnerable households or persons / total households or persons	[%]
Arrears on utility bills / total population or households	[%]
High share of energy expenditure in income (2M)	[%]
Average price of electricity	[€]
Average price of gas	[€]
Energy related expenditure / local GDP	[%]
Citizens / households under poverty threshold / number of citizens / households	[%]
At-risk-of-poverty rate	[%]
Citizens / households with social support	[%]
Money spent to support energy poor households or persons / in relation to local GDP	[%]
Energy poor households / persons supported / total energy poor households asking for support	[%]
Energy poor households / persons supported / total energy poor households detected	[%]
Unemployment rate	[%]

Description	Unit
Persons aged under 12	[%]
Persons aged over 65	[%]
Persons with respiratory and circulatory problems	[%]
Persons with an education level under lower secondary school	[%]
Existence of energy poverty strategy	Yes / No
Existing rent regulation	Yes / No
Specific measures related energy poverty	Yes / No
Existing incentives of landlord's programs	Yes / No
Awareness-raising campaigns targeting vulnerable households	Yes / No
Engagement and cooperation with local stakeholders on energy poverty	Yes / No

20 Footnotes

[1] Cities require massive and targeted investment in order to deliver low carbon and resilient infrastructure for their populations. Through partnerships with the EIB, EBRD, World Bank and other IFIs, GCoM is helping to fill the existing urban financing gap by providing cities with new levels of access to investments, technical assistance and advice and new partnerships are under developments. Disclosure of projects contained in Climate Action Plans with the related financial information is critical to better evaluate what new levels of access to investments, advice and financing are critical and additional to existing efforts to realizing cities' ambitious climate commitments. Such disclosure and transparency increases investors' confidence on the city's ability to deliver with accountability and good governance. Further guidance on project development and financing will be provided alongside these recommendations.

[2] Considering that the IPCC is busy revisiting the 2006 IPCC Guidelines, changes will also be studied and accommodated for the GCoM, as relevant.

[3] Inventory should be submitted to the GCoM secretariat where a Regional or National Covenant does not exist.

[4] Notation keys may be used when an emission source is not occurring, included elsewhere, not estimated, or confidential.

[5] Activity data is a quantitative measure of a level of activity that results in GHG emissions taking place during a given period of time (e.g., volume of gas used, kilometres driven, tons of solid waste sent to landfill, etc.).

[6] Please refer to 2006 IPCC Guidelines for National Greenhouse Gas Inventories for more details on these sectors.

[7] This includes all emissions from energy use in industrial facilities, construction activities, and energy industries, except emissions from the generation of energy for grid-distributed electricity, steam, heat and cooling.

[8] For example, household waste sent for incineration; or sludge from wastewater.

[9] When reporting IPPU, it will include hydro fluoro carbons (HFCs), perfluorocarbons (PFCs), sulphur hexafluoride (SF_6), and nitrogen trifluoride (NF_3).

[10] CO_2 equivalent can be determined by multiplying each gas by its respective global warming potential (GWP). The IPCC Assessment Report used for the GWP factors should be clearly referenced (i.e. FAR; SAR; TAR; AR4; AR5).

[11] Please note that the local government's administrative boundary may go beyond to the city's geographic boundary. According to the GCoM all the emission within the "city boundary", even beyond the geographic boundary, shall be reported to the GCoM.

[12] Please refer to the *Greenhouse Gas Protocol Mitigation Goal Standard* for more details on these target types.

[13] See e.g. UNFCCC NDC List, Climate Tracker, CLIMATEWATCH.

[14] Many countries have submitted two sets of NDC targets: unconditional targets, to be implemented without any explicit external support; and conditional targets. The latter are more ambitious than unconditional targets and require external support for their fulfilment. This includes financial support, and policies or action in other countries which support or facilitate a given country's mitigation policy (e.g. adoption of carbon taxes in a particular country may be conditional on the widespread use of carbon taxes in other countries, to ensure that domestic industry is not unduly impacted).

[15] These are emissions allowances and offset credits from market mechanisms outside the target boundary that are used toward meeting a target. Please refer to the Greenhouse Gas Protocol Mitigation Goal Standard for more details.

[16] The local government shall submit monitoring reports every four years after successfully obtaining the action plan(s) badge.

[17] Allow entities to report multiple expected impacts across multiple time scales for the same hazard (e.g. allow cities to add multiple rows for the same hazards).

[18] Terminology: this and the following section address exposure and impacts (further guidance will be provided in the implementation phase).

[19] The guidance document that will be made available will elaborate on the concept of vulnerable population and provide examples and guidance helping local governments to identify the relevant groups.

[20] Short Term = by 2025 Medium term = 2026-2050 Long term = after 2050 (further guidance will be provided)

[21] For each hazard, select which sectors/assets/services will be most impacted. Then for each sector/asset/service selected, indicate the magnitude of the expected impact (creative formatting needed). Law & Order = police, security personnel and systems etc.; Emergency services = first responders, EMT, Firefighters etc.; Society/Community & culture = things like cultural assets, heritage, community in the sense of social cohesion etc. (which could be impacted if communities are relocated or heritage sites submerged, for example). Further guidance will be provided in the implementation phase.

[22] Factors reported as "no concern" may have a neutral or a positive influence on adaptive capacity. To reduce reporting fields, preference is given here to factors that challenge adaptive capacity, though cities may also describe factors that have a positive influence as well (and GCOM partners may choose to independently collect more data on positive factors as an optional field).

[23] Combined with other questions, a full picture of where the city is in their planning and revision process is provided.

[24] The boundary of the assessment shall be equal to or greater than the boundary of the whole jurisdiction. Jurisdiction definition = ICLEI Typology - State / Region; Province / County / District; Independent province; City / Municipality; Independent city; Special city / Federal district; Sub-municipal district; Sovereign city-state (guidance on where "metropolitan area" fits will be provided).

[25] The mandatory fields in this table are required for compliance after 2 years.

[26] Combined with other questions, a full picture of where the city is in its planning and revision process is provided.

[27] Refers to year officially adopted, not published, if the years are different.

[28] The boundary should be at least equal to the boundary of the whole jurisdiction. Jurisdiction definition = ICLEI Typology - State / Region; Province / County / District; Independent province; City / Municipality; Independent city; Special city / Federal district; Sub-municipal district; Sovereign city-state (guidance on where "metropolitan area" fits will be provided).

[29] The mandatory fields in this table are required for compliance after 3 years.

[30] E.g. Reduce by half the population exposed to heat waves.

[31] Cities should report a key or representative action for the main hazards identified as high risk above.

[32] If possible, quantitative information should be provided.

[33] E.g. Initial adaptation policy commitment is defined. Human, technical, and financial resources are mobilized. Institutional structures are set up and appropriate coordination mechanisms are in place. Review of local policy and institutional context, previous plans, available resources, and data sources. Climate risk and vulnerability data collected.

[34] E.g. Conduct Analysis of climate risks and vulnerabilities including potential impacts on residents and sectors.

[35] E.g. Develop strategic vision and targets for developing and mainstreaming adaptation actions and policies. Compile, assess, and prioritize portfolio of potential adaptation options.

[36] E.g. Complete adaptation plan with detailed actions, programs, projects, and implementation strategies (including funding). This may be a standalone plan or may be integrated into a related sectoral plan or broader urban development strategy.

[37] E.g. Institutional arrangements as well as human, technical, and financial resources are in place to execute adaptation actions locally according to approved plans.

[38] E.g. Monitoring framework with key performance indicators is in place for adaptation actions. Progress is regularly monitored and reported to relevant decision makers and/or stakeholders locally, nationally, and globally as appropriate.