



ONE PLANET CITY CHALLENGE

UPDATED ASSESSMENT FRAMEWORK



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Technical questions related to CDP's reporting platform should be directed to CDP at cities@cdp.net.

Other kind of technical support questions should be directed to ICLEI at carbonn@iclei.org.

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This report is designed to provide local governments in-depth methodological information on OPCC Assessment Framework. It also provides guidance that complements the instructions found on OPCC's Candidates Booklet (<https://bit.ly/2CVDepJ>) and CDP and ICLEI's unified reporting system website (<https://bit.ly/2RPdnC5>).

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For participating cities, webinars will be held from March to July 2019. To find out more, go to: <https://bit.ly/2VMRshA>.

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1. INTRODUCTION

The One Planet City Challenge (OPCC) is a biennial competition organised by WWF to encourage climate action in cities. In previous rounds, participating cities have reported their climate ambitions through the carbonn Climate Registry (cCR), a global reporting platform managed by ICLEI. The OPCC has expanded since its inception, by 2018, more than 400 candidate cities from 25 countries on 5 continents had participated at least once.

The global climate agenda has been re-focused by the Paris Agreement and the commitments made towards significant action. Amongst city actors, the Global Covenant of Mayors on Climate and Energy (GCoM) is driving concerted action. The ambition of WWF is to develop the OPCC into the primary ambition raising and public engagement tool for the GCoM. To ensure alignment with the Paris Agreement ambitions, the current OPCC assessment framework has been updated so that the candidate cities can demonstrate that they are progressing in accordance with their fair share of the global carbon budget, have targets that align with an appropriate decarbonisation trajectory and are undertaking evidence-based climate action planning. The updated OPCC approach must continue to apply to a wide-range of global cities and municipalities and will now also be open to cities reporting to CDP and ICLEI's unified reporting system. Via this initiative, WWF aims to support and celebrate 100 cities that have targets and action plans in line with 1.5 °C by 2020.

This report outlines the updated OPCC assessment framework. It provides an overview of the framework, describes in more detail the key changes and explains how the framework will be applied in the 2019/20 reporting cycle.

This report is split into the following sections:

Section 2 | **Overview**

Section 3 | **Key OPCC Assessment Framework Updates**

Section 4 | **Assessment Criteria**

Section 5 | **Detailed Methodologies**

2. OVERVIEW

2.1. OPCC ASSESSMENT FRAMEWORK

The OPCC assessment framework consists of five stages (see Figure 1). Once the reporting window opens, participating cities will complete the pre-screening questionnaire through CDP and ICLEI's unified reporting system¹. To minimise the reporting burden, the data request is aligned with the Common Reporting Framework of the Global Covenant of Mayors (GCoM)². Data collected through the platform will be checked and validated at this stage.

The data submitted by the cities will be assessed against the pre-screening scoring matrix. This focusses on carbon reduction targets, greenhouse gas (GHG) inventories and climate action plans. This automated process is designed not only to highlight the best performers, but also provide feedback to each participating city suggesting how they can develop their climate ambition and action. The top performers in each country will be shortlisted and taken forward.

Each shortlisted city will then enter a further '*deep-dive*' assessment. This will be based on the climate action plan documents provided by the city, although there will be an opportunity for the city to respond to additional data requests too. The deep-dive assessment will review the quality of the action plan since poorly integrated, supported and adopted climate action and adaptation plans have much less chance of catalysing long-term action or change.

This information will be documented and presented in city briefs that will help the external jury make the final evaluations. In line with taking ambitious, 1.5 °C aligned action, the jury will focus on how the shortlisted cities demonstrate:

- Clear commitment to tackle the effects of climate change, including the backing of the mayor or council, and dedicated resources for climate action;
- Ambitious mitigation and adaptation targets for both the mid-term and the long-term;
- Evidence-based action planning that shows engagement with a broad set of stakeholders, assesses the powers the city has to implement the plan and provides evidence of how the plan will be integrated in future decision making.

The deep dive assessment will also allow for highlighting a special focus area providing the jury with further insight into one particular aspect of climate action.

All cities should feel encouraged to participate in the OPCC. The aim is to celebrate successful climate action, highlight cities that are serious about change and encourage all cities to extend their ambition. New to the OPCC assessment framework is increased focus on tailored-made city feedback, which aims to highlight areas of opportunity, referencing the experience of other cities who face similar challenges. In this, all cities will benefit from taking part in the OPCC and together will help demonstrate that cities are the engine driving a climate-resilient future.

¹ In previous rounds, cities reported their climate ambitions through ICLEI's carbonn Climate Registry (cCR). CDP and ICLEI are partnering to present one unified process for subnational climate action reporting. Beginning in April 2019, local and regional governments will only have to report once on CDP's platform. Publicly reported data will be automatically shared with ICLEI.

² For more information, please refer to Global Covenant of Mayors Common Reporting Framework in the following link: <https://bit.ly/2wRn1wf>

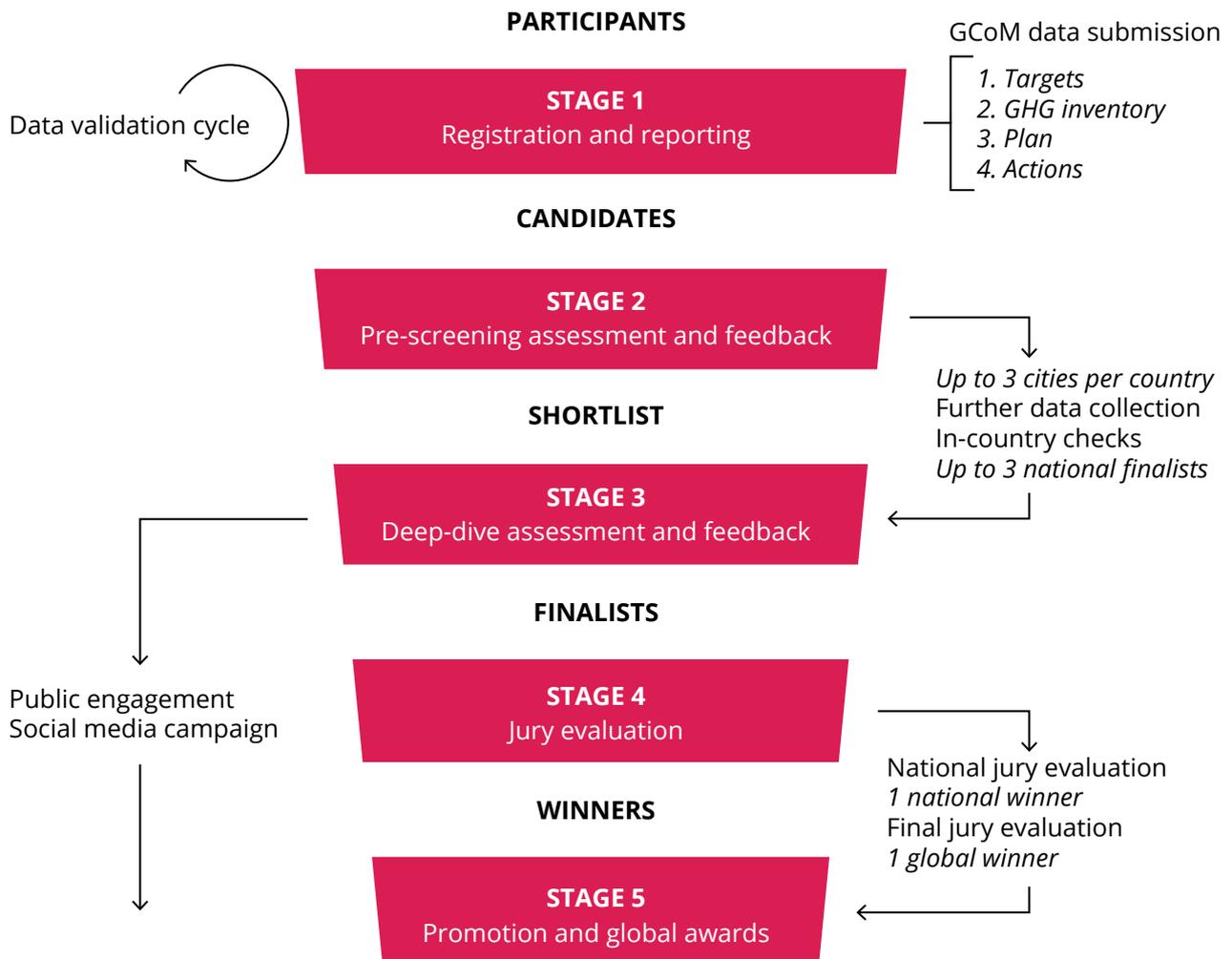


Figure 1. Outline of the 2019-2020 OPCC Cycle.

3. KEY OPCC ASSESSMENT FRAMEWORK UPDATES

3.1. REDUCING THE IMPACT OF GLOBAL WARMING

In 2015, the Paris Agreement³ was signed, an historic accord which brought together nearly 200 nations in a joint commitment to reduce GHG emissions. The aim was to limit global temperature increase to well-below 2.0 °C and endeavour to target only 1.5 °C rise.

The scale of the emissions reduction needed to align with the ambition of the Paris Agreement was highlighted recently by the Intergovernmental Panel on Climate Change (IPCC) in their Special report on the impacts of global warming of 1.5 °C (IPCC,2018). [This brought together the latest scientific evidence, reminding the global audience that climate risks affecting every aspect of human existence increase drastically as global temperatures rise.

The analysis behind the report showed that it is likely that temperature increases could be limited to 1.5 °C if the global net CO₂ emissions declined by about 45% between 2010-2030 and then reach net zero around 2050.

3.2. ALIGNING CITIES WITH PARIS AGREEMENT AMBITION

The challenge facing cities in delivering emissions reductions is demanding. However, cities can be pivotal in advocating change, co-creating ambitious strategies and identifying solutions. City mayors are directly accountable to their constituents and are more agile and more able to take decisive action than state or national officials – often with immediate and impactful results. What cities do individually, and in unison, to address climate change can set the agenda for communities and governments everywhere.

WWF recognise the opportunity that the OPCC presents in tackling this challenge. To help concentrate ambition and catalyse action, the OPCC assessment framework has been updated so that candidate cities can demonstrate that they have science-based emissions reduction targets that align with a 1.5 °C future and that these targets are supported by evidence-based climate action planning.

Science-based target evaluation

The latest IPCC evidence proves that setting carbon budgets is difficult at the global scale, referring to the differences in measuring surface temperatures, uncertainties in estimating non-CO₂ gases and how earth-system feedback is considered. The report suggests that it is more robust to focus on setting the direction of travel by defining a clear end goal and interim target. Building on the regional models presented in the IPCC Special Report, the OPCC requires cities to have a mid-term and a long-term target for Scope 1 and 2 emissions:

- 2030: Reduce per capita emissions in-line with a global reduction of 50%
- 2050: Reduce total emissions to net zero

“LIMITING WARMING TO 1.5 °C IMPLIES REACHING NET ZERO CO₂ EMISSIONS GLOBALLY AROUND 2050 AND CONCURRENT DEEP REDUCTIONS IN EMISSIONS OF NON-CO₂ FORCERS, PARTICULARLY METHANE (HIGH CONFIDENCE)”

– IPCC (2018) Special Report on Global Warming of 1.5 °C

³ UNFCCC, 2015. Paris Agreement. <https://bit.ly/2L3Ao1a> (last visited April 22nd, 2019).

“A MIX OF ADAPTATION AND MITIGATION OPTIONS TO LIMIT GLOBAL WARMING TO 1.5 °C, IMPLEMENTED IN A PARTICIPATORY AND INTEGRATED MANNER, CAN ENABLE RAPID, SYSTEMIC TRANSITIONS IN URBAN AND RURAL AREAS. THESE ARE MOST EFFECTIVE WHEN ALIGNED WITH ECONOMIC AND SUSTAINABLE DEVELOPMENT, AND WHEN LOCAL AND REGIONAL GOVERNMENTS AND DECISION MAKERS ARE SUPPORTED BY NATIONAL GOVERNMENTS.”

– IPCC (2018) Special Report on Global Warming of 1.5 °C

Since the IPCC models deal only at regional scale, the OPCC stretches city ambition and builds in an additional layer of equity using the Human Development Index. This national adjustment is used to require deeper decarbonisation from cities in more developed nations. The HDI factor modifies the mid-term target, so that candidate cities are required to target per capita emissions reduction between 25-65%. Full details are provided in the Appendix.

Evidence-based climate action planning

Targeting deep and holistic emissions reduction is a vital commitment, but it must be underpinned by a clear and actionable plan. The OPCC supports this by incorporating the learning from leading climate action plan frameworks, evaluating the process of developing the plan, as well as the actions it contains.

High-quality climate action planning should start with inclusive engagement from a broad range of local stakeholders, including vulnerable and minority groups. It should review current policies, build a clear evidence base drawing on emissions inventories and climate risks, then propose fair, cost-effective actions that can be monitored, evaluated and revised.

The OPCC pre-screening assessment tests whether mitigation actions align with the main emissions sectors and whether adaptation actions map effectively to the climate risks. To help knowledge sharing, the city feedback provides each candidate city with examples of how similar cities are taking climate action.

The climate action plans in shortlisted cities are then tested further. Stakeholder engagement is evaluated, actions are investigated for environmental, social and economic co-benefits and the implementation, monitoring and review process is validated.

Consumption-based emissions

Typically, cities only consider Scope 1 and 2 emissions when developing climate actions plans. The OPCC is seeking to encourage leading cities to go further and consider the additional emissions of imported goods and services produced outside a city’s boundary. This approach links carbon budgets to consumer responsibility and since most cities are net importers, often drastically increasing the emissions associated with the city.

Consumption-based emissions reporting has been widely-discussed for a number of years but has only more recently risen up city climate agendas. It is an active area of research and draws parallels to Scope 3 emissions reporting by companies.

To help move the discussion forward, the OPCC will now consider consumption-based emissions and appropriate actions to reduce them in shortlisted cities. The intention is to raise awareness of the impact consumption behaviour has on a more holistic approach to city emissions reduction, especially in cities in OECD countries. More details are provided in the Appendix.

3.3. REPORTING, DATA AND VALIDATION

One challenge for participating cities is collecting and reporting the required data. This can potentially be a limiting factor, especially for low capacity cities or those with restricted data access.

To minimise the data reporting overhead, each participating city will submit a sub-set of the data reported through the Common Reporting Framework set out by the Global Covenant of Mayors (GCoM)⁴. The pre-screening assessment uses only this data with the intention of making the OPCC as accessible to as many cities as possible. This data will be reported through CDP and ICLEI's unified reporting system⁵.

⁴ For more information, see the Guidance Note on the Common Reporting Framework

⁵ For more info, see <https://bit.ly/2RPdnC5>

4. ASSESSMENT CRITERIA

4.1. CANDIDATE CITY ASSESSMENT

The quantitative pre-screening process focusses on carbon reduction targets, GHG inventories and climate action plans. The following tables list the indicators along with the scoring criteria. The scores indicate the weighting assigned by WWF and Arup to each category⁶.

The category scores will be aggregated under two key dimensions. ‘*Vision*’ represents the city commitment and the ability to drive change (i.e. Political Commitment, Mitigation Targets, Adaptation targets and Emissions Reporting), while ‘*Impact*’ represents the reduction potential of current city climate action (i.e. Climate Risk Assessment, Mitigation Actions and Adaptation Actions). This allows different cities to be compared side-by-side and national winners will be shortlisted for the next stage.

Commitments (Vision)

SUB-CATEGORY	INDICATOR	SCORE	SCORING CRITERIA (SUB-SCORE)
Political commitment	Organisations	10	Type: mitigation/adaptation (1.5), both (2.5) # of government organisations: 1 (1.5), 2+ (2.5)
	Mayor/city leader letter of commitment		Signed letter provided (5)

Targets and Goals (Vision)

SUB-CATEGORY	INDICATOR	SCORE	SCORING CRITERIA (SUB-SCORE)
Mitigation targets	GHG targets towards carbon neutrality	40	2030 target: aligned (10) 2050 target: aligned (10) Ambition: more than country NDC (5) Boundary: all emissions sources within boundary (2.5) 1.5-degree: compliant based on modelling (2.5)
	Renewable electricity targets towards carbon neutrality		Yes - Percentage: 25% (1), 50% (1.5), 100% (2.5) Yes - Scale: local government (1), city-wide (2.5)
	Energy efficiency targets towards carbon neutrality		Yes - Percentage: 25% (1), 50% (1.5), 100% (2.5) Yes - Scale: local government (1), city-wide (2.5)
Adaptation targets	Adaptation goals and milestones towards a climate resilient city	5	Period: short- (1), mid- (1.5), long-term (2.5) target Source: Alignment with higher government: no (1), yes – but it exceeds (2), yes (2.5)

⁶ It is the intention of WWF to review the weighting attributes to each sub-category on the basis of expert judgments in terms of level of qualitative evidence and degree of agreement.

Evidence for Action Planning (Vision / Impact)

SUB-CATEGORY	INDICATOR	SCORE	SCORING CRITERIA (SUB-SCORE)
Emissions reporting	Inventory provided	20	Inventory attached (1)
	Inventory status		Inventory: no but intending (2), in progress (3), yes (5)
	Scope of emissions considered		Scope: scope 1 (1), scope 1 and 2 (2), scope 1, 2 and 3 (5)
	Sectors of inventory		Sectors: 2 sectors (2), 3+ sectors (3), all sectors (5)
	Level of confidence		Level: medium (0.5), high (1)
	Alignment with GPC		Yes (2)
	Gases covered		Gases: all (1)
Climate change risk or vulnerability assessment	Assessment attached	20	Assessment attached (3)
	Boundary of assessment		Boundary: smaller (1), partial (2), same or larger (3) than city boundary
	Areas/sectors covered		Sectors: 1 (1), 2-3 (1.5), 3+ but not all (2), all (3)
	Identification of vulnerable populations		Yes (3)
	Impact of hazards		Impact: one (1), two (2), three (3.5) or all (5) of probability, consequence, frequency, intensity identified for each hazard
	Critical sectors identified/mapped		Yes for all hazards (1)
	Social impact identified/mapped		Yes for all hazards (1)
	Future impact description		Yes for all hazards (1)

Climate and Adaptation Action Plans (Impact)

SUB-CATEGORY	INDICATOR	SCORE	SCORING CRITERIA (SUB-SCORE)
Mitigation actions in climate action plan	Climate action or energy access plan	30	Plan attached (2.5)
	Stage of implementation of climate action plan		In development / developed (1), under implementation (2.5), monitoring (5)
	Areas covered by action plan		Alignment of action plan sectors with inventory sectors (10)
	Emissions reduction		Actions add up to reduction emissions target (10)
	Status of mitigation actions		In development / developed (1), under implementation or monitoring (2.5)
Adaptation actions in climate adaptation plan	Climate adaptation plan	25	Plan attached (2.5)
	Stage of implementation of climate adaptation plan		In development / developed (1), under implementation (2.5), monitoring (5)
	Boundary of climate adaptation plan		Boundary: smaller (1), partial (2), same or larger (3) than city boundary
	Alignment with hazards		Actions align with hazards (10)
	Status of adaptation actions		In development / developed (1), under implementation or monitoring (2.5)
	Benefits from adaptation actions		Identified more than 1 benefit with description (2)

4.2. SHORTLISTED CITY ASSESSMENT

The ‘deep-dive’ assessment provides an opportunity to look in detail at the climate action plan and the planning process. The following tables list the indicators along with the scoring criteria. The indicators were agreed following a comparison of the previous OPCC assessment with the C40 ‘Climate Action Planning Framework’ (C40 Cities, 2018) and the UN Habitat ‘Guiding Principles for City Climate Action Planning’ (UN Habitat, 2015). To ensure consistency across the ‘deep-dive’ assessments, detailed scoring criteria have been described, drawing on the examples set out in the C40 framework (C40 Cities, 2018).

The scoring will be based on the climate action plan and other supporting documents submitted by the city. The questions relate directly to the climate action plan, so evidence that is not referenced in the plan is unlikely to be scored. Additional city engagement may be required in some instances to provide additional clarifications.

Since the deep-dive complements and develops the pre-screening assessment, the scores for both sections will be combined to give the total city score. The categories will be aggregated to give the ‘Vision’ and ‘Impact’ scores. If sections can be justifiably excluded from the assessment of a particular shortlisted city, then the available marks will be reduced. The scores will be presented as a percentage so that all cities can be easily compared side-by-side during the jury evaluation stage.

Political Commitment (Vision)

SUB-CATEGORY	INDICATOR	SCORE	SCORING CRITERIA
Resources	Dedicated financial, human and time resources for climate action planning	10	Essential: Determined financial, human and time resources to deliver the plan. Resourcing and budget allocated to implementation for at least the first year of plan implementation.
	Dedicated financial, human and time resources for climate adaptation planning		Best practice: Long-term planning to secure skills and capacity and finance. Resourcing and budget allocated to monitoring for at least the first year of plan implementation.

Targets and Goals (Vision)

SUB-CATEGORY	INDICATOR	SCORE	SCORING CRITERIA
Ambition for wider benefits	Wider and inclusive benefits considered in climate action plan	10	Essential: A clear ambition for inclusive climate action, identifying the wider environmental, economic and social benefits gained.
	Wider and inclusive benefits considered in climate adaptation plan		Best practice: Goals and objectives are identified for specific benefits at the city, sector, community and/or action level.
Consumption-based emissions	Consumption-based emissions inventory	10	Essential: Sector-level inventory with details of, or references to the methodology used, for consumption-based emissions. The inventory is from a year no more than 4 years prior to publication of the plan. The inventory also includes IPPU and AFOLU emissions where a city's economy contains strong contributions from industrial and agricultural sectors. Best practice: Inventory available for multiple years, and there is commitment to update the inventory.
	Consumption-based emissions target	10	Essential: Targets or carbon budget and milestones present an accelerated but realistic picture of citywide consumption-based emissions as part of emissions neutrality target by 2050. Best practice: Carbon budgets and milestones including consumption-based emissions are identified for specific major climate actions, sectors or city projects and programmes.

Evidence for Action Planning (Vision)

SUB-CATEGORY	INDICATOR	SCORE	SCORING CRITERIA
City baseline	Environmental and socio-economic baseline for climate mitigation	10	<p>Essential: A description of the current administrative and physical geography relevant to climate change (e.g. topography, coastal, fluvial). Contextual data and trends on social and economic priorities for the city.</p> <p>Best practice: Information on the city's environmental quality (e.g. water quality, air quality) and/or resource management (e.g. waste management, green infrastructure management). Greater analytical detail about trends including demographics (e.g. travel patterns), sustainable city (e.g. quality of critical assets), economic growth (housing affordability, energy access) and future trends (e.g. innovations).</p>
	Environmental and socio-economic baseline for climate adaptation		
Stakeholder engagement	Stakeholder engagement for climate action planning	10	<p>Essential: Plan informed by consultation with key government, business and civil society stakeholders, including vulnerable communities.</p> <p>Best practice: Commitment from other government, business and civil society stakeholders to actively collaborate in delivering the plan.</p>
	Stakeholder engagement for climate adaptation planning		
Powers assessment	City management and powers assessment for climate mitigation planning	10	<p>Essential: A description of the city's governance and administrative structure. Assessment of the powers held by city government over relevant sectors, assets, functions or actions, noting where additional collaboration is needed.</p> <p>Best practice: Assessment of other stakeholders with powers over sectors, assets, functions and actions and systems where city government power is weaker.</p>
	City management and powers assessment for climate adaptation planning		
Planning integration	Integration of climate action plan with existing policies, programmes and plans	10	<p>Essential: Opportunities for integration with existing regulations, laws, policies, plans reviewed and institutions/departments/agencies that are key for delivery engaged in the development of the plan.</p> <p>Best practice: Existing city regulations, laws, policies, plans updated to integrate the delivery of climate action. City advocacy or collaboration with relevant authorities to reform necessary national or sub-national regulations, laws, policies.</p>
	Integration of climate adaptation plan with existing policies, programmes and plans		

Climate and Adaptation Action Plans (Impact)

SUB-CATEGORY	INDICATOR	SCORE	SCORING CRITERIA
Strategic alignment and evidence for actions	Strategic alignment and evidence for mitigation actions	15	<p>Essential: A list of mitigation and adaptation actions across sectors, informed by the evidence base and the emissions reductions or risk reduction impact from existing actions, where quantification is feasible. Action prioritisation based on action impact on sectoral emissions reductions or hazards, as well as city powers to achieve change.</p> <p>Best practice: Actions relate to specific mitigation and adaptation goals and milestones. Actions quantified in terms of their contribution to the city's sectoral emission reduction targets or specific climate hazards. Mitigation actions address residual emissions. Wider impacts or benefits relevant to the city considered when prioritising actions. Stakeholders beyond city government engaged in the action prioritisation process.</p>
	Strategic alignment and evidence for adaptation actions		
Action ownership and stakeholders	Mitigation action ownership and stakeholders	5	<p>Essential: Each action has, at a minimum, a lead organisation, with the means of implementation identified. Acknowledgement of where actions are shared with and/or owned by other tiers of government or stakeholders.</p> <p>Best practice: Roles and responsibilities of partners (e.g. owning or delivering actions) informed by an assessment of powers held by organisations outside of city government. Partner organisations engaged and committed to contributing to the delivery of actions.</p>
	Adaptation action ownership and stakeholders		
Delivery timescales	Delivery timescales for mitigation actions	5	<p>Essential: Each action has, at a minimum, a timescale included. The means of implementation are identified in the plan.</p> <p>Best practice: Action delivery timelines broken down into phases (e.g. planning, design, construction) with milestones on the way to the end date.</p>
	Delivery timescales for adaptation actions		
Cost-benefit analysis	Cost-benefit analysis for mitigation actions	10	<p>Essential: Capex and Opex attributed to each action. Wider social, economic and environmental benefits of actions identified. Detail provided on how inclusivity has been considered and how specific vulnerabilities or inequality in the city have been considered.</p> <p>Best practice: A detailed summary of financial resources allocated to actions with estimates for full lifecycle costs, sources of funding, and cost savings from action implementation. Relevant social, economic and environmental benefits quantified and used to prioritise actions. Actions prioritised based, in part, on their ability to improve accessibility and distribution of benefits. Vulnerable groups actively engaged in the development of the plan.</p>
	Cost-benefit analysis for adaptation actions		

SUB-CATEGORY	INDICATOR	SCORE	SCORING CRITERIA
Potential barriers	Potential barriers for mitigation actions	5	Essential: Challenges to action implementation assessed through a risk assessment, and addressed through risk management and monitoring measures. Best practice: Unintended consequences assessed and a process set out for managing negative knock-on effects.
	Potential barriers for adaptation actions		
Synergies and trade-offs between mitigation and adaptation	Synergies and trade-offs identified between mitigation and adaptation actions	10	Essential: Mitigation and adaptation actions considered in an integrated way, maximising efficiencies and minimising investment risk. Best practice: A detailed summary of actions across sectors that seek synergies between mitigation and adaptation and actively leverage interdependencies. Consideration of cross-departmental cooperation to realise synergies between mitigation and adaptation.

Monitoring, Reporting and Evaluation (Impact)

SUB-CATEGORY	INDICATOR	SCORE	SCORING CRITERIA
Monitoring, reporting and evaluation of actions progress	Monitoring, reporting and evaluation of mitigation actions	10	Essential: A process for monitoring and reporting progress. Regular monitoring and yearly reporting, in line with existing governance and reporting systems. Progress reported internally and publicly, as well as to a common global platform to communicate the city's contribution to the Paris Agreement. Best practice: A publicly accessible city reporting platform. City departments update information about actions and including performance metrics to review progress.
	Monitoring, reporting and evaluation of adaptation actions		
Monitoring, reporting and evaluation of actions impact and co-benefits	Monitoring, reporting and evaluation of mitigation actions impact and co-benefits	10	Essential: A process for evaluating impact (emissions and climate risk reduction, and wider inclusive benefits). Regular evaluation, at pre-defined times and in line with emissions inventory reporting updates or as new information on climate risks becomes available. Best practice: Commitment to evaluate major actions included in the plan. Emissions inventory updated annually, and risk reduction impacts recalculated on a 2-5 yearly basis. Information updated on a public city reporting platform, with estimates of emissions reductions, risk reductions and associated inclusive benefits.
	Monitoring, reporting and evaluation of mitigation actions impact and co-benefits		
Revision process	Commitment to update the climate action and adaptation plans	10	Essential: Commitment to publishing updates, supplements or addenda on a 5-yearly basis, informed by evidence from monitoring and evaluation, and/or at the start of each new mayoral term. Best practice: Commitment to a 3-yearly process of review and revision, informed by evidence from action monitoring and evaluation.
	Commitment to update the climate action and adaptation plans		

Communication, Outreach and Advocacy (Impact)

SUB-CATEGORY	INDICATOR	SCORE	SCORING CRITERIA
Communication, outreach and advocacy	Communication strategy for climate mitigation plan	10	<p>Essential: Communications during the plan's development and launch. Communications targeted across different stakeholder groups and supported by engagement, capacity-building and behaviour change programmes to enable key stakeholders to support the delivery of the plan.</p> <p>Best practice: Targeted communications on progress delivered to the community and vulnerable groups. International communications about the city's plan, promoting an exemplary approach with cities. Translation of the plan or an executive summary into commonly spoken languages. Partners and stakeholders contribute to the communications, education and cultural effort.</p>
	Communication strategy for climate adaptation plan		

5. APPENDIX: DETAILED METHODOLOGIES

This section describes in further detail the methodologies used in the OPCC assessment.

5.1. EMISSIONS REDUCTION TARGETS

Background

The city carbon targets update to the OPCC drew inspiration from earlier work undertaken by C40 and Arup called ‘Deadline 2020’ (C40 Cities and Arup, 2016). This took the global remaining carbon budget predicted to keep global temperature increase to within 1.5 °C and allocated it to the C40 member cities. This ‘cities budget’ was divided between the cities with an allowance for some equity-based adjustments.

Fair Allocation Principles

There are three principles that dominate the global debate on fair allocation of carbon budgets. ‘Equality’ says that all people should have equal rights to emit emissions, regardless of level of development. Then, there should be ‘Responsibility’ for contributing to climate change, both historically and in future, which links to the ‘polluter pays’ principle. Thirdly, the ‘Capacity’ for solving the problem (also described as ‘capacity to pay’) should be considered.

IPCC SR15 Analysis

The first phases of the OPCC update sought to understand how a Deadline 2020-type approach could be applied to the OPCC. As this was underway, the Intergovernmental Panel on Climate Change (IPCC) published Special Report on Global Warming of 1.5 °C (IPCC, 2018). This brought together the latest scientific evidence and significantly revised the global remaining carbon budgets. This change drew attention to using and interpreting carbon budgets for policy, especially at city-level. The International Energy Agency (IEA, 2018) followed up, highlighting that “the inherent uncertainty makes it challenging to attribute a specific budget (or a specific emissions pathway) to a particular temperature outcome”. Instead, the IEA highlighted that the Paris Agreement sets three parameters for emissions trajectories: that GHG emissions peak soon, enter a steep decline and eventually reach net-zero post-2050. They conclude that focusing on a date for zero emissions and certain interim stages, provides a more robust method for defining ambition and setting policy.

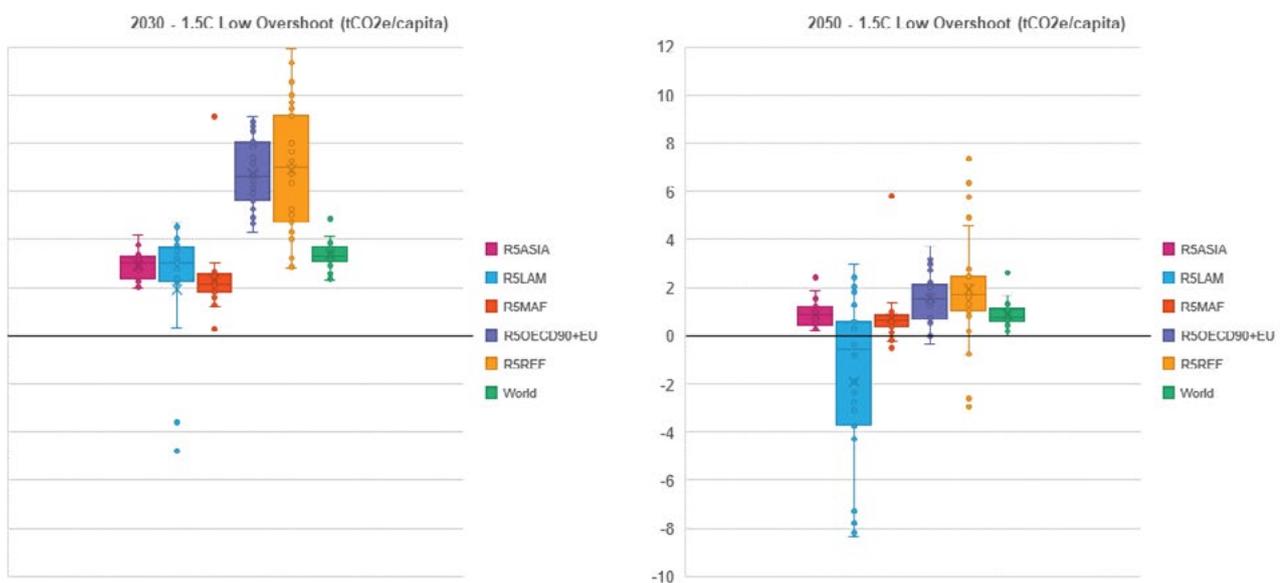
Indeed, instead of focussing on carbon budgets, the IPCC SR15 report presented global decarbonisation pathways for different temperature increases based on modelled scenarios. These models account for population and GDP growth by region and illustrate the scale of reductions required.

The challenge with this approach is illustrated below, where the ‘1.5 °C low overshoot’ IPCC scenarios are presented by region for 2030 and 2050. These scenarios were selected as those that limit median warming to 1.5 °C by 2100 with a small (<0.1C) overshoot of 1.5 °C before 2100⁷. The different models include a variety of assumptions resulting in a wide range of absolute targets, even at the regional level. Moreover, different models assume some regions to have significant potential for afforestation and Bio-energy with Carbon Capture and Storage (BECCS). This applies particularly to Latin America (i.e., ‘R5LAM’), where the range of possible decarbonisation is significant, particularly in 2050.

With respect to the 2050 (i.e. long-term) target, there is an emerging consensus that cities should target zero emissions. If this is only Scope 1 & 2 emissions, then the residual emissions may well align with those presented below. If zero emissions include Scope 3 too, then it simply represents a more ambitious position, with cities taking the lead on climate action ahead of other global actors.

The 2030 (i.e. mid-term, interim) target is less straightforward. Figure 2 shows that absolute targets are difficult to define precisely given the spread in modelled results.

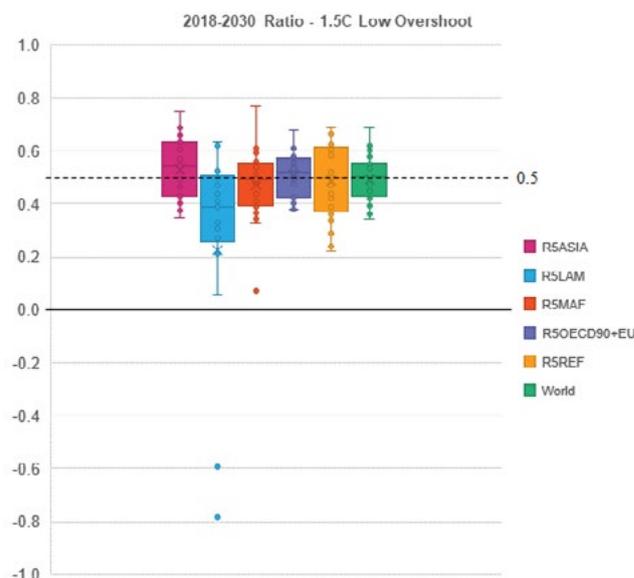
Figure 2 Analysis of the IPCC Scenario Explorer ‘per capita emissions’ data. Estimates based on ‘1.5 °C low overshoot’ scenario.



An alternative perspective is to look at the rate of reduction required in each region. Taking the ‘1.5 °C low overshoot’ IPCC scenarios, Figure 2 shows the ratio of per capita emissions reduction required between 2018 and 2030. Compared with the absolute values, this presents a much more consistent picture. Leaving aside Latin America, all regions are expected to reduce per capita emissions by 40-60% by 2030.

⁷ See Table 2.1, IPCC (2018)

Figure 3 Predicted reduction in ‘per capita emissions’ between 2018 and 2030. Estimates based on ‘1.5 °C low overshoot’ scenario.



Additional OPCC Considerations

Beyond the technical details of setting a mid-term and long-term target, the proposal for the OPCC update needs to consider other factors. Firstly, there is balance between policy pragmatism and analytical robustness. It is essential that the details of the OPCC are clear and communicable, particularly to low capacity cities; however, this must not over simplify the evidence required to demonstrate a ‘science-based’ approach.

Secondly, the calculation of the target must be repeatable and, to a certain degree, automated. This will allow the OPCC to grow to accommodate a larger cohort of cities, without requiring bespoke, data-intensive analysis for each participant at the pre-screening stage.

Selected Methodology

Several alternative approaches were developed and considered, then presented to the Advisory Panel. Following feedback and further analysis, the following methodology was selected for the pre-screening targets assessment.

2030 TARGET	2050 TARGET
50% reduction against 2018 per capita emissions (Scope 1 and 2), adjusted using country HDI weighting	Zero emissions (Scope 1 and 2)
ADVANTAGES	DISADVANTAGES
<ul style="list-style-type: none"> • Easily communicated and tested • Relative to 2018 emissions, so largest emitters have largest targets in absolute terms • Clear link to referenceable IPCC data • Larger reductions from more developed nations • Requires all cities to continue to act 	<ul style="list-style-type: none"> • Less transparent to the general public • HDI may not accurately represent city development • No consideration of hard-to-measure Scope 3 emissions

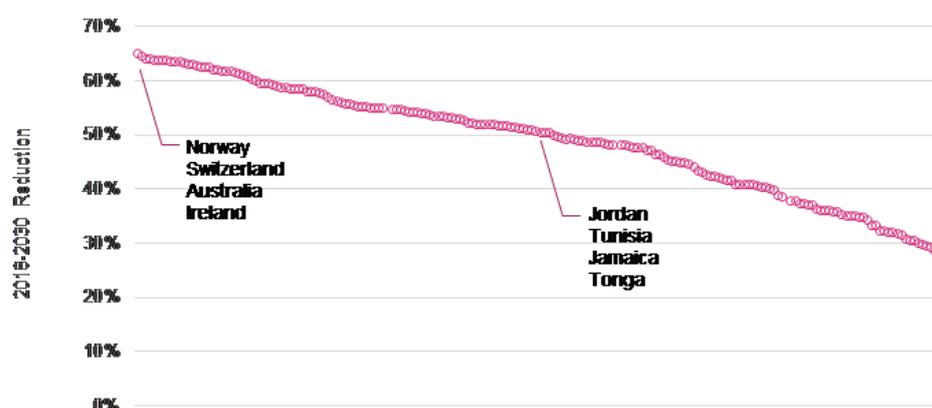
This methodology sets a relative mid-term target, clearly linked to the IPCC data, with the additional adjustment that pushes cities in developed nations further. Setting the target in this way stretches ambition and builds in a layer of equity that goes beyond the assumptions behind the IPCC scenarios.

The Human Development Index is an aggregated measure of several national development metrics. In this case, the 2018-2030 reduction required is calculated as follows:

$$0.5 * \left(1 - \left(\frac{HDI_{NATION} - HDI_{WORLD}}{HDI_{WORLD}} \right) \right)$$

The 2018-2030 reduction required for cities in each nation is shown below. When aggregated based on population, these reductions deliver 50% global emissions reduction.

Figure 4 Required reduction in 'per capita emissions' between 2018 and 2030 after HDI adjustment



Calculation Methodology

The following steps describe the target setting assessment:

- Step 1 Create an annual population series (1990-2100) in three parts. Prior to the reported current population, use the national UN population change statistics ('estimates' scenario). Between the reported current population and the reported projected population, assume a linear change. After the reported projected population, use the national UN population change statistics ('medium variant' scenario).
- Step 2 Use the population series to estimate the population in the target start and end years, and in 2018, 2030 and 2050.
- Step 3 Create an annual GDP growth series (1990-2025) using the Economist Intelligence Unit GDP growth normalization factors.
- Step 4 Use the GDP growth series to modify the reported total inventory emissions and estimate the total emissions in the target start year and in 2018.
- Step 5 Calculate the total emissions in the target end year by applying the reported target percentage reduction.

- Step 6 Calculate the HDI reduction factor and calculate the science-based 2030 emissions.
- Step 7 Calculate ‘per capita’ emissions in the target start and end year, and in 2018, 2030 and 2050.
- Step 8 Test the city targets by interpolating between the ‘per capita’ emissions in the reported target start and end year and comparing against the science-based 2030 and 2050 emissions.

Comparing Per Capita Emissions Targets

To put this discussion in context, the table below presents some key features of other target setting programmes:

Table 1: Comparison of target-setting programmes

PROGRAMME	2030 TARGET	2050 TARGET	NOTES
C40 Deadline 2020	c.2.9 tCO ₂ /capita	Zero	Scope 1 and 2 only
EcoAct / WWF France	1.1 tCO ₂ /capita	Zero	Scope 1, 2 and 3
ICLEI	2.2 tCO ₂ /capita	-	Scope 1, 2 and 3
Carbon Law	50% reduction / decade	96% reduction over 45 years	Scope 1, 2 and 3
OPCC	50% reduction between 2018 and 2030	Zero	Scope 1 and 2 only

Further to the data above, ‘Deadline 2020’ (C40 Cities and Arup, 2016) indicates that different types of cities in the C40 network have different projected average Scope 1 and 2 emissions. Based on the data presented in the report, the breakdown is as follows:

Table 2: ‘Deadline 2020’ projected emissions

TYPOLOGY	DESCRIPTION	PROJECTED AVERAGE EMISSIONS (TCO ₂ /CAPITA)		
		2018	2030	2050
Early Peak	High GHG/capita, low GDP/capita	c.5.6	c.5.4	0
Late Peak	Low GHG/capita, low GDP/capita	c.4.2	c.4.4	0
Steady Decline	Low GHG/capita, high GDP/capita	c.3.1	c.1.3	0
Steep Decline	High GHG/capita, high GDP/capita	c.6.8	c.2.3	0

5.2. ACTION-ORIENTED FEEDBACK

Background

The OPCC is designed to offer action-oriented feedback tailored to each participating city. For such a large number of participating cities, this can be approached in two ways. Firstly, climate actions in similar cities give a useful indication of typical approaches, some of which are likely to be appropriate in the participating city. However, more useful feedback advises the participating city on the largest opportunities for accelerated climate action. This ‘forward-looking’ feedback is especially helpful as new technologies enable innovative climate action.

Mitigation Actions

A recent C40 and McKinsey report developed climate action pathways to achieve 90% carbon reductions by 2030 (C40 & McKinsey, 2017). This predictive analysis

assigns the most impactful actions based on six city typologies, each of which differs by their potential for climate action on buildings energy, electricity generation, transit and mobility and waste. The city typologies are described by various indicators, including size, income level and density. Each of the C40 cities are assigned to one of the typologies.

To develop a process to apply these typologies to cities outside the C40 network, correlations were tested using the C40 cities data. City typology was found to be strongly correlated to GDP per capita, so that often cities could be accurately assigned to one of the six typologies using this metric alone. The exception is for ‘Large Dense Cities’ and ‘Small High-Income Innovator Cities’, as the GDP capita ranges are too similar. In this case, population can be used as a secondary filter. Table 3 lists the city typology characteristics.

Table 3: Typology characteristics

TYPOLOGY	GDP CAPITA RANGE (\$)	POPULATION RANGE
Large Low Income Leapfrog City	0 - 4,500	NA
Low Income Megacity	4,500 - 11,000	NA
Large Semi-Dense Middle Income City	11,000 - 21,000	NA
Middle Income Megacity	21,000 - 37,000	NA
Large Dense City	>37,000	>1,000,000
Small High Income Innovator City	>37,000	<1,000,000

The report identifies which are the priority opportunities for each city typology, based on emission reduction potential. To illustrate this, Table 4 shows the top 5 priority actions for each typology, with the corresponding emissions reduction potential (%).

Table 4: Priority action opportunities

	LARGE, LOW INCOME, LEAP-FROG CITY	LOW INCOME MEGA CITY	LARGE, MIDDLE INCOME, SEMI-DENSE CITY
1	Distributed renewables (36%)	Distributed renewables (40%)	Distributed renewables (24%)
2	Ultra-high-efficiency new building standards (23%)	Ultra-high-efficiency new building standards (22%)	Next-generation vehicles (23%)
3	Mass transit, walking and cycling infrastructure (18%)	Next-generation vehicles (15%)	Centralised renewables (10%)
4	Transit-oriented development (13%)	Mass transit, walking and cycling infrastructure (14%)	Ultra-high-efficiency new building standards (10%)
5	Appliances and lighting upgrades (11%)	Transit-oriented development (13%)	Mass transit, walking and cycling infrastructure (8%)

	MIDDLE INCOME MEGA CITY	LARGE, HIGH-INCOME, DENSE CITY	SMALL, HIGH-INCOME, INNOVATOR CITY
1	Ultra-high-efficiency new building standards (22%)	HVAC and water heating upgrades (24%)	Centralised renewables (54%)
2	Centralised renewables (21%)	Centralised renewables (18%)	HVAC and water heating upgrades (26%)
3	Distributed renewables (15%)	Next-generation vehicles (13%)	Ultra-high-efficiency new building standards (13%)

	MIDDLE INCOME MEGA CITY	LARGE, HIGH-INCOME, DENSE CITY	SMALL, HIGH-INCOME, INNOVATOR CITY
4	Next-generation vehicles (8%)	Distributed renewables (7%)	Next-generation vehicles (11%)
5	HVAC and water heating upgrades (6%)	Building envelope and heating retrofits (6%)	Building envelope and heating retrofits (9%)

These city typologies and action pathways are used in the OPCC pre-screening feedback report. The participating city is assigned a typology, based on GDP per capita and population. The associated action pathway is tailored to the city using the city’s emissions inventory (where available), so that actions that address the largest emissions sectors are prioritised.

The city typology action pathways have been supplemented with additional ‘waste’ sector actions based on a broader literature search.

By design, these proposed actions are not tested against the actions reported by participating cities. It is often difficult to identify which city actions are planned, on-going or completed and to verify their impact. Moreover, in a sample of past city submissions, many actions were not assigned to an emissions sector. Since this automated feedback is offered to all participating cities, it is more robust to simply provide an external perspective on the most impactful actions.

Limitations

Typology analysis provides cities with a ‘likely’ perspective on the climate opportunities and constraints. It should be noted that there will always be anomalies within each typology. In time, individual cities should be reviewed, and actions more tailored to that city. Until then, the typology analysis can provide a ‘direction-of-travel’ towards the most impactful climate action.

Currently, this analysis only draws on research based on the cities in the C40 network. This includes the largest global megacities, along with many other smaller cities, with populations from 110,000 up to 23,000,000. Thus, the published findings may not be directly applicable to smaller municipalities. However, an analysis of the city typology indicators using C40 city data showed a strong correlation with GDP per capita and demonstrated that the typologies can be largely grouped by geographic region. Thus, it can be expected that many of the proposed actions will still be applicable to cities of similar GDP per capita in the same region. The structure of the OPCC city feedback will allow further actions to be added in future, as more research becomes available.

Adaptation Actions

In the data submission, participating cities report their major climate risks. While the climate risks are certain to vary across cities, the responses to the same climate risks are likely to be the same or similar. Therefore, by analysing existing adaption actions in other cities, a package of adaption actions can be allocated to each participating city. This does not imply which actions are most impactful, but it does suggest which are likely to be achievable.

The package of actions was derived using the published CDP dataset (CDP, 2016). The top 5 most common actions were identified for each climate hazard. These are presented in Table 5.

For each participating city, the pre-screening feedback report lists the top actions against each climate hazard.

Where a city reports fewer than 5 climate hazards, additional region-specific climate hazards are included. These are taken from the tables published in the IPCC AR5 report (IPCC, 2014). The top actions against these climate hazards are also included in the pre-screening feedback report.

Table 5: Top adaptation actions

CLIMATE HAZARD	TOP 5 ACTIONS				
Air-borne disease	Air quality initiatives	Disease prevention measures	Testing/vaccination programs for vector-borne disease	Community engagement/ education	Incorporating climate change into long-term planning documents
Atmospheric CO2 concentrations	Air quality initiatives	Tree planting and/ or creation of green space	Community engagement/ education	Projects and policies targeted at those most vulnerable	Incorporating climate change into long-term planning documents
Avalanche	Incorporating climate change into long-term planning documents	Community engagement/ education	Soil retention strategies		
Coastal flood	Flood mapping	Flood defences – development and operation & storage	Sea level rise modelling	Incorporating climate change into long-term planning documents	Crisis management including warning and evacuation systems
Cold wave	Community engagement/ education	Awareness campaign/ education to reduce water use	Disease prevention measures	Projects and policies targeted at those most vulnerable	Real time risk monitoring
Cyclone (Hurricane/ Typhoon)	Crisis management including warning and evacuation systems	Public preparedness (including practice exercises/drills)	Resilience and resistance measures for buildings	Flood mapping	Sea level rise modelling
Drought	Water use restrictions and standards	Community engagement/ education	Awareness campaign/ education to reduce water use	Diversification of water supply	Tree planting and/ or creation of green space
Extratropical storm	Landslide risk mapping	Crisis management including warning and evacuation systems	Community engagement/ education	Real time risk monitoring	Resilience and resistance measures for buildings
Extreme cold days	Projects and policies targeted at those most vulnerable	Community engagement/ education	Retrofit of existing buildings	Hazard resistant infrastructure design and construction	Heat mapping and thermal imaging
Extreme hot days	Tree planting and/ or creation of green space	Heat mapping and thermal imaging	Community engagement/ education	Cooling centers, pools, water parks/ plazas	Projects and policies targeted at those most vulnerable
Extreme winter conditions	Public preparedness (including practice exercises/drills)	Crisis management including warning and evacuation systems	Incorporating climate change into long-term planning documents	Community engagement/ education	Projects and policies targeted at those most vulnerable
Flash/surface flood	Flood mapping	Storm water capture systems	Flood defences – development and operation & storage	Crisis management including warning and evacuation systems	Projects and policies targeted at those most vulnerable

CLIMATE HAZARD	TOP 5 ACTIONS				
Fog	Air quality initiatives	Public preparedness (including practice exercises/drills)			
Forest fire	Crisis management including warning and evacuation systems	Community engagement/ education	Incorporating climate change into long-term planning documents	Real time risk monitoring	Hazard resistant infrastructure design and construction
Groundwater flood	Flood mapping	Incorporating climate change into long-term planning documents	Hazard resistant infrastructure design and construction	Storm water capture systems	Additional reservoirs and wells for water storage
Hail	Crisis management including warning and evacuation systems	Community engagement/ education	Real time risk monitoring	Hazard resistant infrastructure design and construction	Public preparedness (including practice exercises/drills)
Heat wave	Heat mapping and thermal imaging	Tree planting and/ or creation of green space	Projects and policies targeted at those most vulnerable	Cooling centers, pools, water parks/ plazas	Incorporating climate change into long-term planning documents
Heavy snow	Crisis management including warning and evacuation systems	Incorporating climate change into long-term planning documents	Public preparedness (including practice exercises/drills)	Resilience and resistance measures for buildings	Community engagement/ education
Insect infestation	Community engagement/ education	Disease prevention measures	Testing/vaccination programs for vector-borne disease	Incorporating climate change into long-term planning documents	Biodiversity monitoring
Land fire	Crisis management including warning and evacuation systems	Community engagement/ education	Hazard resistant infrastructure design and construction	Hazard resistant infrastructure design and construction	Heat mapping and thermal imaging
Landslide	Landslide risk mapping	Restrict development in at risk areas	Crisis management including warning and evacuation systems	Projects and policies targeted at those most vulnerable	Incorporating climate change into long-term planning documents
Lightning/ thunderstorm	Crisis management including warning and evacuation systems	Public preparedness (including practice exercises/drills)	Community engagement/ education	Real time risk monitoring	Real time risk monitoring
Monsoon	Flood defences – development and operation & storage	Community engagement/ education	Water butts/ rainwater capture		
Ocean acidification	Economic diversification measures				

CLIMATE HAZARD	TOP 5 ACTIONS				
Permanent inundation	Incorporating climate change into long-term planning documents	Flood mapping	Sea level rise modelling	Hazard resistant infrastructure design and construction	
Rain storm	Flood mapping	Flood mapping	Crisis management including warning and evacuation systems	Incorporating climate change into long-term planning documents	Incorporating climate change into long-term planning documents
River flood	Flood mapping	Flood defences – development and operation & storage	Hazard resistant infrastructure design and construction	Restrict development in at risk areas	Real time risk monitoring
Rockfall	Landslide risk mapping	Crisis management including warning and evacuation systems	Soil retention strategies		
Salt water intrusion	Additional reservoirs and wells for water storage	Sea level rise modelling	Diversification of water supply	Incorporating climate change into long-term planning documents	Water use restrictions and standards
Severe wind	Crisis management including warning and evacuation systems	Hazard resistant infrastructure design and construction	Public preparedness (including practice exercises/drills)	Resilience and resistance measures for buildings	Incorporating climate change into long-term planning documents
Storm surge	Sea level rise modelling	Flood mapping	Community engagement/ education	Crisis management including warning and evacuation systems	Hazard resistant infrastructure design and construction
Subsidence	Landslide risk mapping	Projects and policies targeted at those most vulnerable	Additional reservoirs and wells for water storage	Water use restrictions and standards	Crisis management including warning and evacuation systems
Tornado	Crisis management including warning and evacuation systems	Community engagement/ education	Real time risk monitoring	Resilience and resistance measures for buildings	Retrofit of existing buildings
Tropical storm	Crisis management including warning and evacuation systems	Public preparedness (including practice exercises/drills)	Promoting low flow technologies	Landslide risk mapping	Flood mapping
Vector-borne disease	Disease prevention measures	Testing/vaccination programs for vector-borne disease	Community engagement/ education	Real time risk monitoring	Projects and policies targeted at those most vulnerable
Water-borne disease	Disease prevention measures	Community engagement/ education	Water use restrictions and standards	Improve water supply distribution method	Public preparedness (including practice exercises/drills)

5.3. CONSUMPTION-BASED EMISSIONS

Background

As discussed above, the OPCC is seeking to encourage leading cities to go further and consider the additional emissions of imported goods and services produced outside a city's boundary. This approach links carbon budgets to consumer responsibility and since most cities are net importers, often drastically increasing the emissions associated with the city. At this stage, the focus will be on cities in OECD nations, reflecting the observation that many OECD countries are net 'importers' of emissions due to their consumption behaviour (Wiebe, K. and Yamano, N, 2016).

Consumption-based emissions (CBE) accounting is an emerging area of study. In 2017, C40 Cities and Arup published CBE inventories for cities in the C40 network, while some other cities have undertaken their own assessments. WWF Cities is convening leading Swedish cities to share experiences of city CBE reporting, as well as to discuss opportunities for action and barriers to change. Meanwhile, C40 and Arup are continuing their research, updating the CBE inventories and investigating the most impactful actions. As part of this work, it is expected that a series of indicators will be produced that will help cities without a CBE inventory to estimate the scale of their CBE emissions.

OPCC Assessment

Since CBE accounting is uncommon in cities, it is not appropriate to make it a requirement of participating in the OPCC assessment. Nonetheless, as the OPCC aims to stretch ambition and drive change, CBE will be included as part of the deep-dive assessment of the shortlisted cities. As part of the additional data collection for shortlisted cities, these cities will be asked to provide their CBE inventory, if available.

If they do not have a CBE inventory, the backstop is to use data published by the OECD. This data is published at a national scale (OECD, 2015) compares 'production emissions' with 'final demand'. Using these ratios, the shortlisted cities production-based emissions will be adjusted.

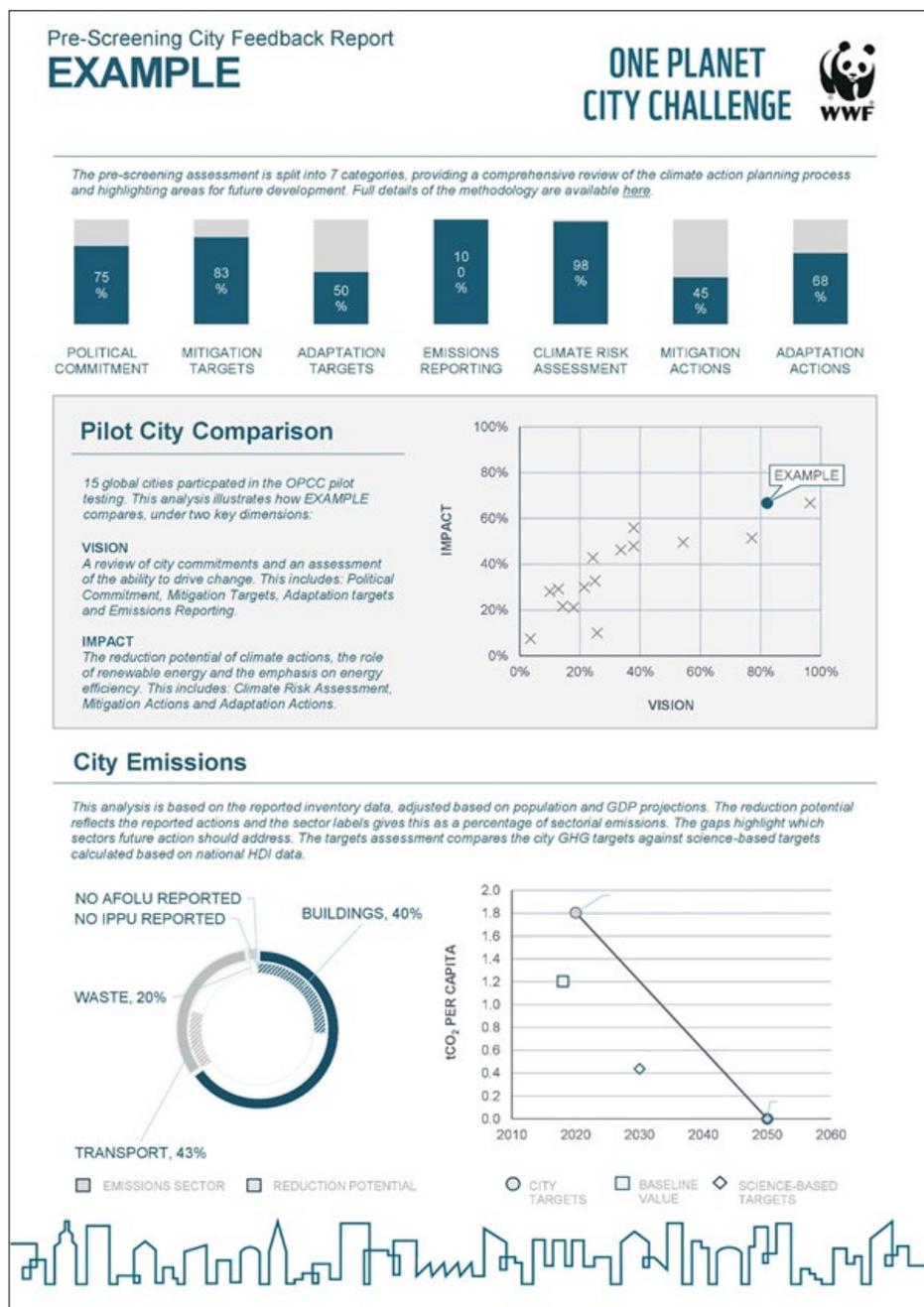
This is only a rough estimate, since in practice, city consumption is likely to exceed national averages. Therefore, these adjustment factors will be updated when new city-specific research is published.

OPCC Feedback

Feedback to shortlisted cities begins with a straightforward comparison of the CBE per capita against the emissions inventory data. For many cities, this will be the first time they have seen this comparison. It is intended that this will be supported by recommended actions, or examples of existing action taken by other cities.

5.4. EXAMPLE PRE-SCREENING CITY FEEDBACK REPORT

The pre-screening city feedback report is an automated summary of the pre-screening analysis, along with the tailored city feedback based on the emissions inventory and climate hazards. This sub-section contains an example of city feedback report.



Climate Mitigation

This analysis presents the prioritised sectoral actions that will typically accelerate climate mitigation in cities like EXAMPLE.

EMISSIONS SECTOR	POTENTIAL ACTIONS
 BUILDINGS	HVAC and water heating upgrades Centralised renewables Distributed renewables Building envelope retrofits Building automation and controls
 TRANSPORT	Next-generation vehicles Mass transit, walking and cycling infrastructure Transit-oriented development Commercial freight optimisation
 WASTE	Universal municipal recycling Minimised waste to landfill Supply-chain waste prevention Circular economy partnerships

CONSUMPTION-BASED EMISSIONS

The OPCC is seeking to encourage leading cities to go further and consider the additional emissions of imported goods and services produced outside a city's boundary.

Action areas to reduce such emissions include:

- More plant based diets
- Low carbon travel (train before plane)
- Reuse and recycling of goods and clothing

These actions can be implemented in different ways, for example, via procurement policies and educational programs.

Climate Adaptation

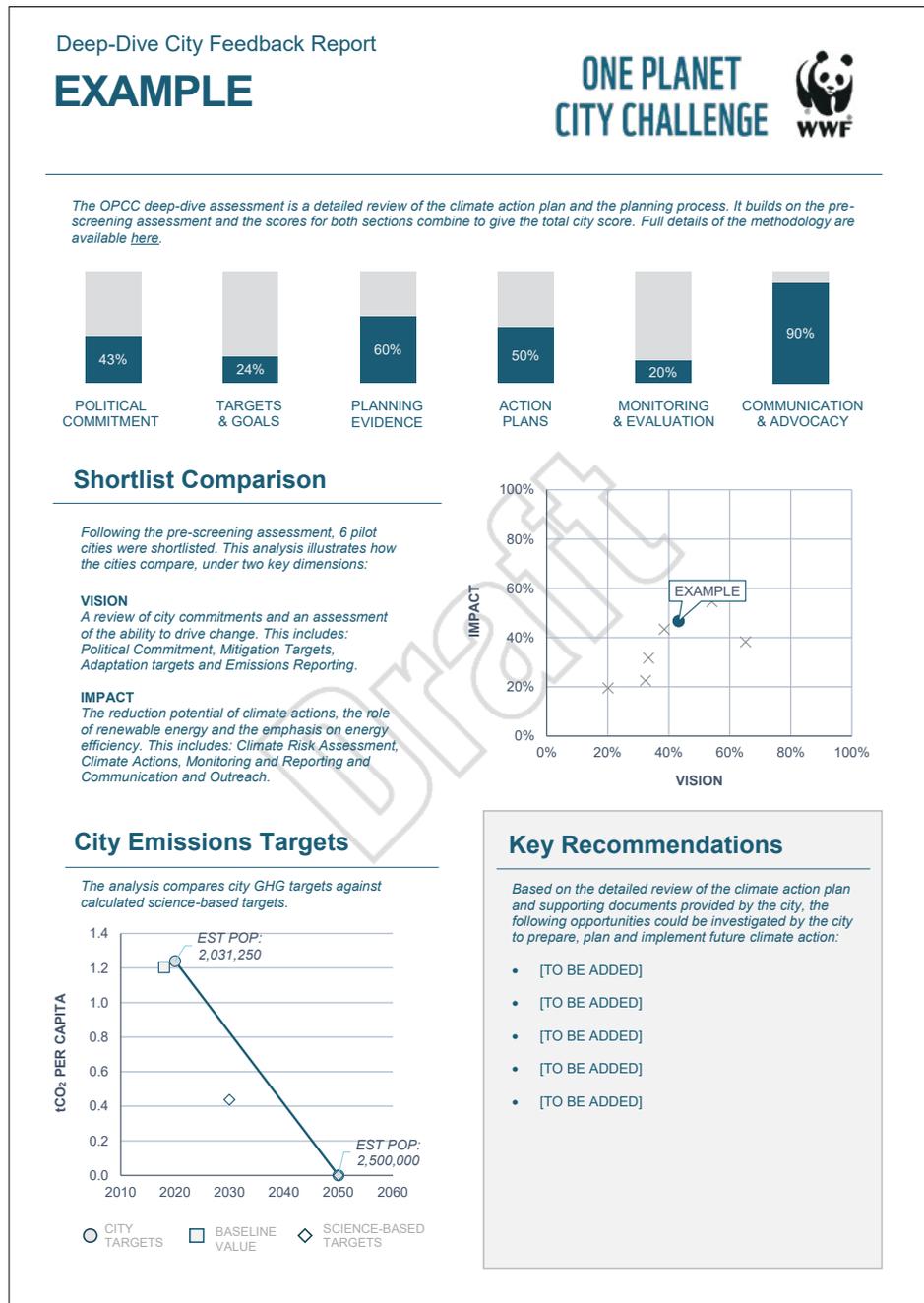
These are the top climate hazards reported in EXAMPLE, along with the number of related city actions. Additional regional climate hazards have also been considered. Based on analysis of actions taken in other cities facing similar hazards, these are the actions that the city could consider taking.

HAZARD	CURRENT ACTIONS	POTENTIAL ACTIONS
 RIVER FLOOD	1 CITY ACTION(S) ALIGN	Flood mapping Flood defences – development and operation & storage Hazard resistant infrastructure design and construction Restrict development in at risk areas Real time risk monitoring
 RAIN STORM	1 CITY ACTION(S) ALIGN	Flood mapping Storm water capture systems Crisis management including warning and evacuation systems Hazard resistant infrastructure design and construction Real time risk monitoring
 SALT WATER INTRUSION	NO REPORTED CITY ACTION	Additional reservoirs and wells for water storage Sea level rise modelling Diversification of water supply Incorporating climate change into long-term planning documents Water use restrictions and standards
 HEAT WAVE	NO REPORTED CITY ACTION	Heat mapping and thermal imaging Tree planting and/or creation of green space Projects and policies targeted at those most vulnerable Cooling centers, pools, water parks/plazas Incorporating climate change into long-term planning documents
 HEAVY SNOW	NO REPORTED CITY ACTION	Crisis management including warning and evacuation systems Incorporating climate change into long-term planning documents Public preparedness (including practice exercises/drills) Resilience and resistance measures for buildings Community engagement/educa



5.5. EXAMPLE DEEP-DIVE CITY FEEDBACK REPORT

The deep-dive city feedback report is a detailed summary of the deep-dive assessment. The scores are aggregated and presented in the ‘Impact’ and ‘Vision’ matrix, compared against all the other shortlisted cities. Key recommendations will be added based on the assessor’s comments. This sub-section contains an example of city feedback report.



Deep-Dive Analysis

Political Commitment

Sub-category	Indicator	Score	Scoring criteria	Scoring justification
Resources	Dedicated financial, human and time resources for climate action planning	0 / 10	Essential: Determined financial, human and time resources to deliver the plan. Resourcing and budget allocated to implementation for at least the first year of plan implementation.	[TO BE ADDED]
	Dedicated financial, human and time resources for climate adaptation planning		Best practice: Long-term planning to secure skills and capacity and finance. Resourcing and budget allocated to monitoring for at least the first year of plan implementation.	

Targets and Goals

Sub-category	Indicator	Score	Scoring criteria	Scoring justification
Ambition for wider benefits	Wider and inclusive benefits considered in climate action plan	0 / 10	Essential: A clear ambition for inclusive climate action, identifying the wider environmental, economic and social benefits gained.	[TO BE ADDED]
	Wider and inclusive benefits considered in climate adaptation plan		Best practice: Goals and objectives are identified for specific benefits at the city, sector, community and/or action level.	[TO BE ADDED]
Consumption-based emissions	Consumption-based emissions inventory	0 / 10	Essential: Sector-level inventory with details of, or references to the methodology used, for consumption-based emissions. The inventory is from a year no more than 4 years prior to publication of the plan. The inventory also includes IPPU and AFOLU emissions where a city's economy contains strong contributions from industrial and agricultural sectors.	[TO BE ADDED]
	Consumption-based emissions target	0 / 10	Essential: Targets or carbon budget and milestones present, an accelerated but realistic picture of citywide consumption-based emissions as part of emissions neutrality target by 2050.	[TO BE ADDED]
			Best practice: Inventory available for multiple years, and there is commitment to update the inventory.	
			Best practice: Carbon budgets and milestones including consumption-based emissions are identified for specific major climate actions, sectors or city projects and programmes.	

Evidence for Action Planning

Sub-category	Indicator	Score	Scoring criteria	Scoring justification
City baseline	Environmental and socio-economic baseline for climate mitigation	0 / 10	Essential: A description of the current administrative and physical geography relevant to climate change (e.g. topography, coastal, fluvial). Contextual data and trends on social and economic priorities for the city.	[TO BE ADDED]
	Environmental and socio-economic baseline for climate adaptation		Best practice: Information on the city's environmental quality (e.g. water quality, air quality) and/or resource management (e.g. waste management, green infrastructure management). Greater analytical detail about trends including demographics (e.g. travel patterns), sustainable city (e.g. quality of critical assets), economic growth (housing affordability, energy access) and future trends (e.g. innovations).	
Stakeholder engagement	Stakeholder engagement for climate action planning	0 / 10	Essential: Plan informed by consultation with key government, business and civil society stakeholders, including vulnerable communities.	[TO BE ADDED]
	Stakeholder engagement for climate adaptation planning		Best practice: Commitment from other government, business and civil society stakeholders to actively collaborate in delivering the plan.	[TO BE ADDED]
Powers assessment	City management and powers assessment for climate action planning	0 / 10	Essential: A description of the city's governance and administrative structure. Assessment of the powers held by city government over relevant sectors, assets, functions or actions, noting where additional collaboration is needed.	[TO BE ADDED]
	City management and powers assessment for climate adaptation planning		Best practice: Assessment of other stakeholders with powers over sectors, assets, functions and actions and systems where city government power is weaker.	[TO BE ADDED]
Planning integration	Integration of climate action plan with existing policies, programmes and plans	0 / 10	Essential: Opportunities for integration with existing regulations, laws, policies, plans reviewed and institutions/departments/agencies that are key for delivery engaged in the development of the plan.	[TO BE ADDED]
	Integration of climate adaptation plan with existing policies, programmes and plans		Best practice: Existing city regulations, laws, policies, plans updated to integrate the delivery of climate action. City advocacy or collaboration with relevant authorities to reform necessary national or sub-national regulations, laws, policies.	[TO BE ADDED]

Climate and Adaptation Action Plans

Sub-category	Indicator	Score	Scoring criteria	Scoring justification
Strategic alignment and evidence for actions	Strategic alignment and evidence for mitigation actions	0 / 15	<p>Essential: A list of mitigation and adaptation actions across sectors, informed by the evidence base and the emissions reductions or risk reduction impact from existing actions, where quantification is feasible. Action prioritisation based on action impact on sectoral emissions reductions or hazards, as well as city powers to achieve change.</p> <p>Best practice: Actions relate to specific mitigation and adaptation goals and milestones. Actions quantified in terms of their contribution to the city's sectoral emission reduction targets or specific climate hazards. Mitigation actions address residual emissions. Wider impacts or benefits relevant to the city considered when prioritising actions. Stakeholders beyond city government engaged in the action prioritisation process.</p>	[TO BE ADDED]
	Strategic alignment and evidence for adaptation actions			[TO BE ADDED]
Action ownership and stakeholders	Mitigation action ownership and stakeholders	0 / 5	<p>Essential: Each action has, at a minimum, a lead organisation, with the means of implementation identified. Acknowledgement of where actions are shared with and/or owned by other tiers of government or stakeholders.</p> <p>Best practice: Roles and responsibilities of partners (e.g. owning or delivering actions) informed by an assessment of powers held by organisations outside of city government. Partner organisations engaged and committed to contributing to the delivery of actions.</p>	[TO BE ADDED]
	Adaptation action ownership and stakeholders			[TO BE ADDED]
Delivery timescales	Delivery timescales for mitigation actions	0 / 5	<p>Essential: Each action has, at a minimum, a timescale included. The means of implementation are identified in the plan.</p> <p>Best practice: Action delivery timelines broken down into phases (e.g. planning, design, construction) with milestones on the way to the end date.</p>	[TO BE ADDED]
	Delivery timescales for adaptation actions			[TO BE ADDED]
Cost-benefit analysis	Cost-benefit analysis for mitigation actions	0 / 10	<p>Essential: Capex and Opex attributed to each action. Wider social, economic and environmental benefits of actions identified. Detail provided on how inclusivity has been considered and how specific vulnerabilities or inequality in the city have been considered.</p> <p>Best practice: A detailed summary of financial resources allocated to actions with estimates for full lifecycle costs, sources of funding, and cost savings from action implementation. Relevant social, economic and environmental benefits quantified and used to prioritise actions. Actions prioritised based, in part, on their ability to improve accessibility and distribution of benefits. Vulnerable groups actively engaged in the development of the plan.</p>	[TO BE ADDED]
	Cost-benefit analysis for adaptation actions			[TO BE ADDED]
Potential barriers	Potential barriers for mitigation actions	0 / 5	<p>Essential: Challenges to action implementation assessed through a risk assessment, and addressed through risk management and monitoring measures.</p> <p>Best practice: Unintended consequences assessed and a process set out for managing negative knock-on effects.</p>	[TO BE ADDED]
	Potential barriers for adaptation actions			[TO BE ADDED]
Synergies and trade-offs identified between mitigation and adaptation	Synergies and trade-offs identified between mitigation and adaptation actions	0 / 10	<p>Essential: Mitigation and adaptation actions considered in an integrated way, maximising efficiencies and minimising investment risk.</p> <p>Best practice: A detailed summary of actions across sectors that seek synergies between mitigation and adaptation and actively leverage interdependencies. Consideration of cross-departmental cooperation to realise synergies between mitigation and adaptation.</p>	[TO BE ADDED]

Monitoring, Reporting and Evaluation

Sub-category	Indicator	Score	Scoring criteria	Scoring justification
Monitoring, reporting and evaluation of actions progress	Monitoring, reporting and evaluation of mitigation actions	0 / 10	<p>Essential: A process for monitoring and reporting progress. Regular monitoring and yearly reporting, in line with existing governance and reporting systems. Progress reported internally and publicly, as well as to a common global platform to communicate the city's contribution to the Paris Agreement.</p> <p>Best practice: A publicly accessible city reporting platform. City departments update information about actions and including performance metrics to review progress.</p>	[TO BE ADDED]
	Monitoring, reporting and evaluation of adaptation actions			[TO BE ADDED]
Monitoring, reporting and evaluation of actions impact and co-benefits	Monitoring, reporting and evaluation of mitigation actions impact and co-benefits	0 / 10	<p>Essential: A process for evaluating impact (emissions and climate risk reduction, and wider inclusive benefits). Regular evaluation, at pre-defined times and in line with emissions inventory reporting updates or as new information on climate risks becomes available.</p> <p>Best practice: Commitment to evaluate major actions included in the plan. Emissions inventory updated annually, and risk reduction impacts recalculated on a 2-5 yearly basis. Information updated on a public city reporting platform, with estimates of emissions reductions, risk reductions and associated inclusive benefits.</p>	[TO BE ADDED]
	Monitoring, reporting and evaluation of adaptation actions impact and co-benefits			[TO BE ADDED]
Revision process	Commitment to update the climate action and adaptation plans	0 / 10	<p>Essential: Commitment to publishing updates, supplements or addenda on a 5-yearly basis, informed by evidence from monitoring and evaluation, and/or at the start of each new mayoral term.</p> <p>Best practice: Commitment to a 3-yearly process of review and revision, informed by evidence from action monitoring and evaluation.</p>	[TO BE ADDED]
	Commitment to update the climate action and adaptation plans			[TO BE ADDED]

Communication, Outreach and Advocacy

Sub-category	Indicator	Score	Scoring criteria	Scoring justification
Communication, outreach and advocacy	Communication strategy for climate mitigation plan	0 / 10	<p>Essential: Communications during the plan's development and launch. Communications targeted across different stakeholder groups and supported by engagement, capacity-building and behaviour change programmes to enable key stakeholders to support the delivery of the plan.</p> <p>Best practice: Targeted communications on progress delivered to the community and vulnerable groups. International communications about the city's plan, promoting an exemplary approach with cities. Translation of the plan or an executive summary into commonly spoken languages. Partners and stakeholders contribute to the communications, education and cultural effort.</p>	[TO BE ADDED]
	Communication strategy for climate adaptation plan			[TO BE ADDED]

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ONE PLANET CITY CHALLENGE

CITIES

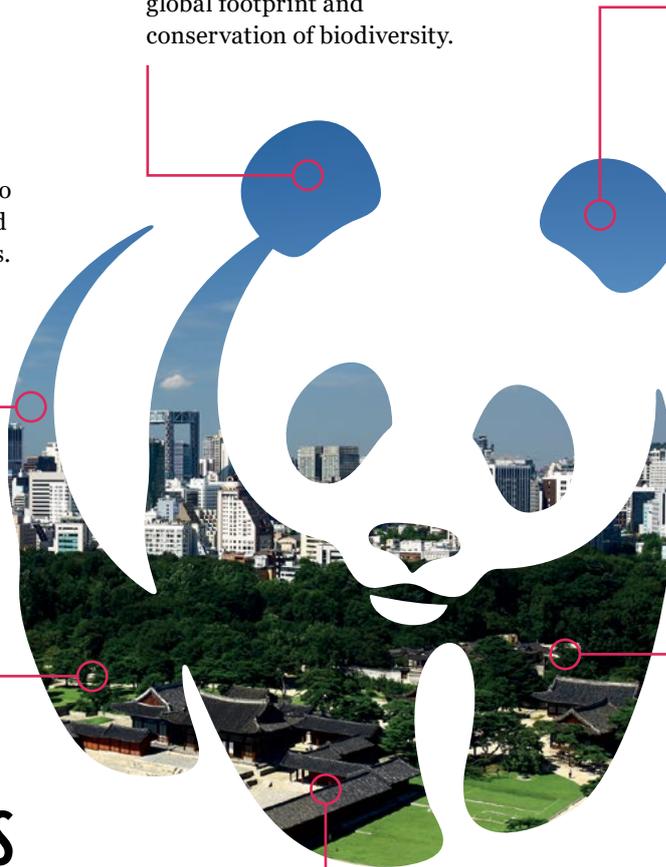
Cities are the epicentre of sustainable development. Working with cities is critical for achieving a sustainable global footprint and conservation of biodiversity.

ECOSYSTEM SERVICES

In the sustainable city, ecosystem services – both in the city and in relation to the world around it – stand for a wide range of benefits.

ECOLOGICAL FOOTPRINTS

Smart, efficient cities can reduce their footprints while raising quality of life.



LEADERSHIP

A strong focus on urban solutions is needed in order to secure a globally sustainable development in the coming decades.

INVESTMENTS AND INNOVATIONS

Sustainable cities require new ways of thinking about and organizing the city's needs, functions and infrastructure.

BRIDGING THE GAP

Cities and their residents will play a critical role in closing the gap between nations' commitments so far and the additional emission reduction needed to keep global warming well below 2 degrees.



Why we are here

To stop the degradation of the planet's natural environment and to build a future in which humans live in harmony with nature.

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