



ONE PLANET
CITY CHALLENGE 

Final report

FEEDBACK ON 1.5 °C ALIGNMENT

Sunderland City Council

"CITIES ARE WHERE THE CLIMATE BATTLE WILL BE WON OR LOST"

ANTÓNIO GUTERRES
SECRETARY-GENERAL OF THE UNITED NATIONS

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METHODOLOGY

Each participant in the One Planet City Challenge receives a strategic feedback report. This is yours.

In it the cities are analysed on how their reported climate efforts align with the Paris Agreement and its goal of a maximum of 1.5 °C of global warming.

The data has been assessed on factors such as GHG emissions reduction targets and inventories, and climate action plans according to our scoring matrix.

Important scoring factors include:

- Mid- and long-term, city wide, targets for Scope 1 and 2 emissions
 - 2030: Reduce per capita emissions to reflect a fair share of a 50 % global emissions reduction
 - 2050: Reduce total emissions to net zero

- Presence of a clear and actionable plan – including its development and the actions it contains
 - Planning should include engagement from a broad range of local stakeholders, including vulnerable and minority groups
 - Planning 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.
 - Whether mitigation actions align with the main emissions sectors and whether adaptation actions map effectively to the climate risks.

Additionally, stakeholder engagement is evaluated, actions are investigated for environmental, social and economic co-benefits and the implementation, monitoring and review process is validated.

The automated process highlights top performers and provides feedback to each city suggesting how it can develop its climate ambition and action.

To help knowledge sharing, the city feedback provides each candidate city with examples of how similar cities are taking climate action.

[Read more here.](#)

The data used by this report was collected in partnership by CDP and ICLEI - Local Governments for Sustainability. This data contains your city's response publicly reported through the CDP-ICLEI Unified Reporting System in 2021. This information is powered by CDP Data.



LIMITING CLIMATE CHANGE TO 1.5 °C

Scientists agree that human activities have caused average global temperature to rise by more than 1 °C, with levels of greenhouse gases in the atmosphere now higher than at any point in human existence, and that more than 1.5 °C of global warming will likely have catastrophic impacts.

The IPCC's Special Report on Global Warming of 1.5 °C (IPCC SR1.5) showed that exceeding 1.5 °C even temporarily will push many natural and human systems beyond their limits of adaptation and into possible futures about which we have limited scientific knowledge and no institutional governance experience.

Impacts from exceeding 1.5 °C of global warming include:

- Increased intensity and frequency of extreme weather, from floods and storms to droughts and heatwaves, bringing huge social and economic costs
- Melting ice, causing sea levels to rise and flooding coastal cities and whole island nations
- Water scarcity and crop failures, causing food shortages and unprecedented movements of people within countries and across national borders
- Huge irreversible damage to nature, putting increased pressure on the one million wildlife species already facing extinction due to human activities

There is a 50 % chance of limiting global warming to 1.5 °C if emissions start to decrease now, are halved every decade, and reach zero by 2050 at the latest.

Cities and urban areas are one of the systems most vulnerable to climate change. Luckily, as home to

over half of humanity, and generators of 80 % of global GDP, they are also critical global systems that can accelerate climate action exponentially.

Rapid and deep changes in the way we run economies, produce food and power, travel and build cities are required if we are to avoid the worst impacts.

We hope that you will rise to the challenge.



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YOUR CITY'S FAIR SHARE OF THE PARIS AGREEMENT

In this report, your targets have been assessed and compared to your 'fair share' of the Paris Agreement's goal of limiting global warming to 1.5 °C.

FAIR ALLOCATION PRINCIPLES

There are three principles that dominate the global debate on fair allocation of carbon budgets:

- Equality - all people should have equal rights to emit emissions, regardless of level of development.
- Responsibility - for contributing to climate change, both historically and in future, which links to the 'polluter pays' principle.
- Capacity - for solving the problem (also described as 'capacity to pay') should be considered.

The OPCC assessment takes this into account by using the Human Development Index (HDI) to require a deeper mid-term (2030) emissions reduction target for cities in countries with a higher HDI. Cities are assessed against 2030 emissions reduction targets ranging between 25 % and 65 %.

The One Planet City Challenge method is recognized by the Science-Based Targets Network (SBTN) as a method that can enable cities to set GHG emission reduction targets in line with the Paris Agreement.

A new guide for science-based climate targets for cities has been developed by SBTN. Backed by months of technical research and testing, the guide assesses and explains the OPCC methodology.

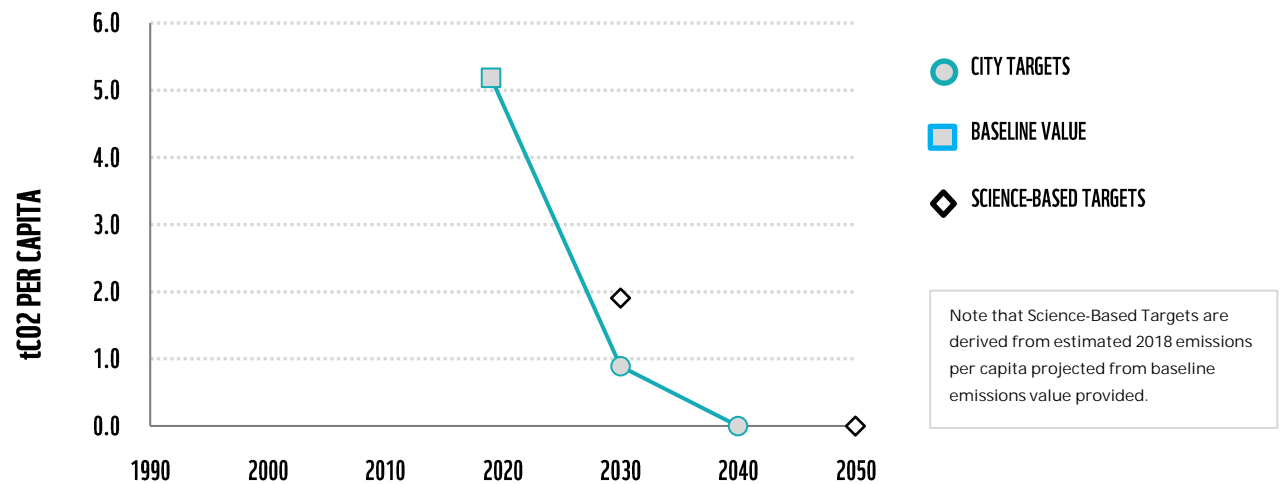
[You can read more about our method here.](#)



YOUR CITY'S FAIR SHARE OF THE PARIS AGREEMENT

The graph shows our assessment of your GHG targets compared to science-based targets.

- One of your targets is aligned with a science-based target for 2030
- Your city has reported a net zero emissions target for 2050 at the latest
- Your city is therefore fully aligned with science-based targets



Use the graph to understand whether your city's climate ambition is consistent with your fair share of the Paris Agreement.

The OPCC requires cities to have a mid-term and a long-term target for Scope 1 and 2 emissions: reduce per capita emissions in-line with a fair share of the 50 % global emissions reduction by 2030, and set a net zero target for 2050 at the latest.

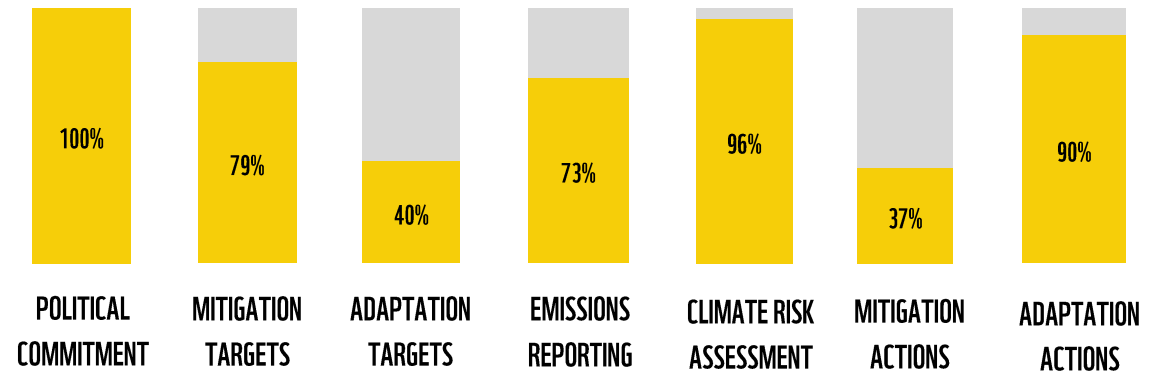
See previous slides for more information. If GDP, population or a city-wide target is lacking in your reporting, the graph will remain empty.

THE SEVEN LEVERS FOR CHANGE

Successful climate action often requires management to both mitigate your climate emissions, and increase the resilience of your city to adapt to the effects of climate change.

The seven bars to the right give you an overview of your reporting and how well you score on important parameters.

Use the graph to understand your strengths and weaknesses.



This graph shows your accumulated score expressed in percentages on seven weighted indexes, based on your reporting to the CDP database. You will find a full explanation of each index [here](#).

YOUR CITY'S VISION & IMPACT - BY NATIONAL COMPARISON

This analysis illustrates how your city compares to other cities in your country, under two key dimensions of vision and impact.

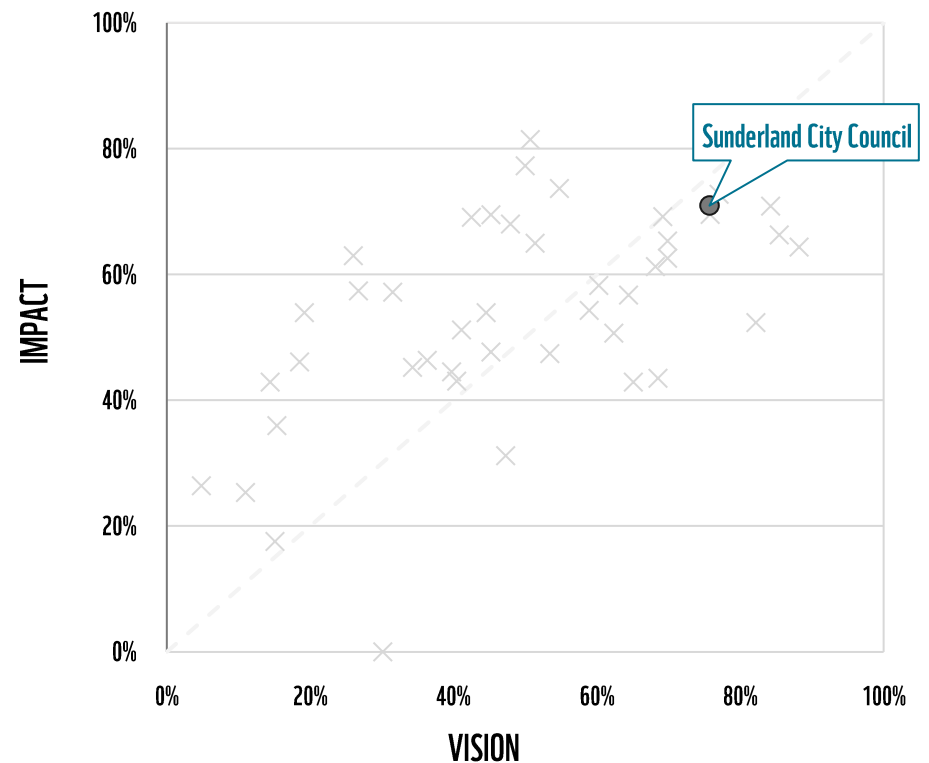
Use the graph to understand how strong and well balanced your goals and actions are.

- If you score high on vision, but low on impact you may have strong targets, but you have yet to back them up with strong climate action.
- If you score high on impact, but low on vision, you may lack an ambitious goal to guide your climate actions.

The 'Vision' score includes a review of city commitments and an assessment of the ability to drive change. This includes: Political Commitment, Mitigation Targets, Adaptation Targets and Emissions Reporting.

The 'Impact' score includes the reduction potential of climate actions, the role of renewable energy and the emphasis on energy efficiency. This includes: Climate Risk Assessment, Mitigation Actions and Adaptation Actions.

All the cities shown here are participating in the OPCC.

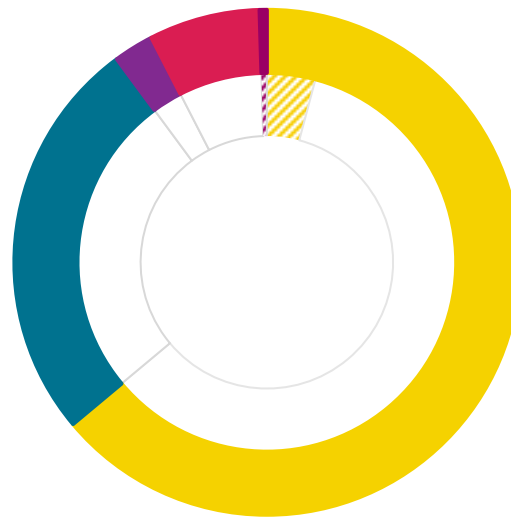


YOUR SECTORAL EMISSIONS & THEIR PLANNED ABATEMENT

The outer wheel of the graph shows the distribution of your reported GHG emissions over different sectors. The inner wheel shows the potential impact of your reported mitigation actions in avoiding these emissions.

Use the graph to understand where stronger climate actions are needed.

This analysis is based on reported inventory data and the reduction potential you have reported for your climate actions. If no inner wheel appears, sufficient data is lacking in your reporting.



EMISSIONS SECTOR

- Buildings emissions
- Transport emissions
- Waste emissions
- IPPU* emissions
- AFOLU** emissions

REDUCTION POTENTIAL




- Buildings actions reduction
- Transport actions reduction
- Waste actions reduction
- IPPU* actions reduction
- AFOLU** actions reduction

* Industrial Process and Product Use emissions
 ** Agriculture, Forestry and Other Land Use emissions

POTENTIAL ACTIONS BY SECTOR

This analysis presents the prioritised sectoral actions that will typically accelerate climate mitigation in cities like Sunderland City Council¹.

Use the table to compare it with your current actions.

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

1. City typology has been determined in line with the methodology here, however where city GDP data is unavailable, the log of national GDP has been used as an approximate measure instead.

CONSUMPTION-BASED EMISSIONS

Cities have an impact on global emissions stretching far beyond their physical boundaries. For many cities, particularly in high income countries, emissions from imported goods and services (Scope 3) can be significantly larger than their own Scope 1 and 2 emissions. By working with residents to address their consumption-based emissions, cities have many opportunities to transform their citizens' lifestyles and thereby influence global emissions.

Action areas to reduce such emissions in cities like Sunderland City Council² include:

CATEGORY POTENTIAL ACTIONS






CATEGORY	POTENTIAL ACTIONS
Food	Dietary change
Clothing & Textiles	Reduce number of new clothing & textile items
Construction	Avoid household waste
Vehicles	Reduce number of flights
Food	Reduce ownership

2. Consumption-based emissions action recommendations are informed by recent research by C40 Cities, Arup and University of Leeds on 'The Future of Urban Consumption in a 1.5 °C World'.

YOUR CLIMATE ADAPTATION ACTIONS

The table shows the top climate hazards reported in your city, along with the number of corresponding city actions. It also shows additional 'Potential actions' based on an analysis of actions taken in other cities facing similar hazards.

Use the table to get an overview of your climate risks and how you plan to adapt to them. If you think that more adaptation is necessary, have a look at the 'potential actions' listed.

HAZARD	CURRENT ACTIONS	POTENTIAL ACTIONS
 COLD WAVE	2 city action(s) align	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
 HEAT WAVE	1 city action(s) align	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
 RIVER FLOOD	2 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
 COASTAL FLOOD	1 city action(s) align	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
 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

OUR MISSION IS TO CONSERVE NATURE AND REDUCE THE MOST PRESSING THREATS TO THE DIVERSITY OF LIFE ON EARTH.



Working to sustain the natural world for the benefit of people and wildlife.

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WWF, Avenue du Mont-Bland, 1196 Gland, Switzerland

Tel. +41 22 364 9111. Fax. +41 22 364 0332

For contact details and further information, please visit our international website at www.panda.org/opcc or email opcc@wwf.se.