SCIENCE BASED TARGETS NETWORK
GLOBAL COMMONS ALLIANCE

SCIENCE-BASED CLIMATE TARGETS: A GUIDE FOR CITIES

NOVEMBER 2020

C40 CITIES

CDP
DISCLOSURE INSIGHT ACTION

GLOBAL COVENANT of MAYORS for CLIMATE & ENERGY

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The guide was designed to help cities understand what a science-based climate target for cities is. It guides cities in choosing a methodology for setting an interim science-based target by 2030 and a net zero target for 2050. It also explains how to join the United Nations Framework Convention on Climate Change's (UNFCCC) Race To Zero.

1. WHY CITIES?

Home to 55% of the global population[1] and accounting for more than 70% of global emissions[2], cities are on the frontline of climate change and have a vital role to play in meeting global targets.

The science is telling us we have to act urgently to significantly reduce greenhouse gas (GHG) emissions to 45% by 2030 and achieve net zero by 2050, if we are to successfully adapt to climate change[3]. But we can't reach net zero emissions by mid-century if we don't start moving today.

When the Paris Agreement[4] was signed in 2015, 196 countries agreed to set long-term goals to reduce national emissions and adapt to the impacts of climate change. Nationally determined contributions (NDCs) are at the heart of the Paris Agreement and the achievement of these goals. Each country's NDC reflects its ambition for reducing emissions, taking into account its domestic circumstances and capabilities.

While NDCs are national plans, cities have an important role to play in achieving desired outcomes. Cities are well-placed to lead on and pilot climate action, often demonstrating greater ambition than national initiatives, for example New York's 2050 net zero target[5], which shows the city stepping up when leadership was needed from the US on climate change.

The COVID-19 crisis has brought us face to face with long-standing systems risks, including poorly funded healthcare systems, social inequality, a backlog of critical infrastructure investments, air pollution and unequal access to digital technologies. As cities worldwide rebuild, we must now focus on tackling climate change and averting climate breakdown, whilst addressing social justice and economic inequality.

To safeguard against future shocks, we need innovation and transformation. We need a recovery that is green, and which brings all sectors together in the race to net zero. In short, we need a Race To Zero.

COP26 will see national governments update their NDCs, which describe how they intend to meet the objectives of the Paris Agreement and which must be periodically revised. Ahead of this important milestone, cities worldwide can bolster national action through ramping up their commitments and action to cut emissions at the scale and pace required by science.

1. UN DESA, United Nations Department of Economic and Social Affairs. 2020. 68% Of The World Population Projected To Live In Urban Areas By 2050, Says UN (UN DESA | United Nations Department Of Economic And Social Affairs. [online] Available here.

2. Seto, K et al. Climate Change 2014: Mitigation of Climate Change. IPCC Working Group III Contribution to AR5 (Cambridge University Press, New York, 2014).

3. IPCC, 2018: Summary for Policymakers. In: Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global GHG emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty. [Masson-Delmotte, V., P. Zhai, H.-O. Pörtner, D. Roberts, J. Skea, P.R. Shukla, A. Pirani, W. Moufouma-Okia, C. Péan, R. Pidcock, S. Connors, J.B.R. Matthews, Y. Chen, X. Zhou, M.I. Gomis, E. Lonnoy, T. Maycock, M. Tignor, and T. Waterfield (eds.)]. World Meteorological Organization, Geneva, Switzerland, 32 pp

4. United Nations. 2015. Paris Agreement. United Nations Treaty Collection. 8 July 2016. [online]. Available here. Accessed 12 October 2020.

5. New York City Mayor's Office of Sustainability. 2017. 1.5°C: Aligning New York City with the Paris Climate Agreement [online]. Available here . Accessed 09 November 2020.

2. WHAT IS A SCIENCE-BASED CLIMATE TARGET?

Science-based targets (SBTs) are measurable and actionable environmental targets that allow cities to align their actions with societal sustainability goals and the biophysical limits that define the safety and stability of earth systems[6].

SCIENCE-BASED

"Aligned with Earth's limits and societal sustainability goals"

The scope and ambition of the target at actor level is aligned with the scientific limits that define a safe space for humanity, and societal sustainability goals/targets that define a just future for nature and people.

TARGETS

"Measurable, actionable, and time-bound objectives"

Actors must be able to measure a baseline, take action, and track progress with a reasonable level of effort.

SETTING A SCIENCE-BASED CLIMATE TARGET

Targets adopted by cities to reduce GHG emissions are considered to be science-based if they are in line with the goals of the Paris Agreement and Special Report on Global Warming of 1.5 °C. This means limiting global warming to 1.5 °C above pre-industrial levels.[7]

The world is far from on track to limit global heating. In fact, current NDCs under the Paris Agreement will lead to warming of between 2.9 °C and 3.4 °C by the end of the century[8]. Left unchecked, this will have huge implications for water and food security, living standards and human health, and will impact both current generations, and all generations to come.

To safeguard our future, cities must join all other actors in playing their part to reduce emissions. Together we can drive environmental action from all levels of government and all corners of the economy.

Cities setting science-based climate targets will benefit from clearly defined targets which specify the scale and pace at which they need to reduce their GHG emissions.

Science-based climate targets should be bound by the following principles: they must be science-driven, equitable and complete. Science-driven means led by the latest climate science. Equitable means they take into account the different historical contributions to levels of carbon dioxide in the atmosphere and take into account socio-economic development. Complete means that these targets are robust and comprehensive, taking into account city-wide emissions from a variety of sources (at least scopes 1 and 2) and multiple GHGs (see box on page 7 more information).

6. SBTN. 2020. SCIENCE-BASED TARGETS for NATURE: Initial Guidance for Business. Accessed here. Accessed on 9 November 2020.
7. Rogelj, J., D. Shindell, K. Jiang, S. Fifita, P. Forster, V. Ginzburg, C. Handa, H. Kheshgi, S. Kobayashi, E. Kriegler, L. Mundaca,R. Séférian, and M.V.Vilariño, 2018: Mitigation Pathways Compatible with 1.5 °C in the Context of Sustainable Development. In: Global Warming of 1.5 °C. An IPCC Special Report on the impacts of global warming of 1.5 °C abovepre-industrial levels and related global GHG emission pathways, in the context of strengthening the globalresponse to the threat of climate change, sustainable development, and efforts to eradicate poverty [Masson-Delmotte,V., P. Zhai, H.-O. Pörtner, D. Roberts, J. Skea, P.R. Shukla, A. Pirani, W. Moufouma-Okia, C. Péan, R. Pidcock, S. Connors, J.B.R. Matthews, Y. Chen, X. Zhou, M.I. Gomis, E. Lonnoy, T. Maycock, M. Tignor, and T. Waterfield (eds.)]. In Press.
8. IPCC, 2018: Summary for Policymakers. In: Global Warming of 1.5 °C. An IPCC Special Report on the impacts of global warming of 1.5 °C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty. [Masson-Delmotte, V., P. Zhai, H.-O. Pörtner, D. Roberts, J. Skea, P.R. Shukla, A. Pirani, W. Moufouma-Okia, C. Péan, R. Pidcock, S. Connors, J.B.R. Matthews, Y. Chen, X. Zhou, M.I. Gomis, E. Lonnoy, T. Maycock, M. Tignor, and T. Waterfield (eds.)]. World Meteorological Organization, Geneva, Switzerland.

CARBON BUDGETS AND FAIR SHARE EMISSIONS

Equity is a consideration in all recommended methodologies when calculating a city's carbon budget. Carbon budgets are a simplified measurement of the additional emissions that a city or country can still emit, if the world is to limit global heating to 1.5 °C. The carbon budget of a city or country will vary based on the following factors:[9]:

1. **Responsibility:** GHG emissions, particularly CO_2 emissions, accumulate in the atmosphere over time. Many industrialized countries have been the source of dangerous carbon emissions for the past 200 years. These past emissions are termed historical emissions. Other countries are still developing their economies and are permitted to peak their emissions later. These are called late emissions. Carbon budgets take into account historical emissions and late emissions, tasking those countries and cities who are most responsible for global CO_2 accumulation with reducing their emissions.

2. **Capacity:** it is acknowledged that different cities and countries have varied capacities to respond to the challenge of climate change based on their respective levels of socio-economic development.

3. **Inter-generational justice:** present generations have certain duties towards future generations, in terms of decreasing climate change risks, increasing the availability of natural resources and the health of the planet's ecosystems.

LEARN ABOUT THE RESEARCH THAT UNDERPINS THIS GUIDE IN THE RESOURCES SECTION (PAGES 14-15) INCLUDING:

1. **Our research paper[10] defines the criteria for evaluating methodologies for climate targets in cities, and evaluates five methodologies, including the three methodologies included in this guide.**
2. **Our testing and technical research document[11] which underpins the data in this guide.**

9. Global Covenant of Mayors for Climate and Energy and C40 Cities Climate Leadership Group. Summary for Urban Policymakers. 2018. [Online]. Available here.

10. Research paper here.

11. Research document here.

3. HOW AMBITIOUS SHOULD YOUR SCIENCE-BASED CLIMATE TARGET BE?

This guide helps cities select a methodology for setting a science-based climate target. Before setting a target, cities may find it useful to gauge a broad estimate of the level of ambition their target is likely to require. This broad estimate can be determined using the table below and is based on a city's GDP and current emissions per capita. The level of emissions reductions required by 2030 is displayed as a percentage change in the per capita figure, and takes into account projected population increases in rapidly growing cities with low GDP per capita.

Finding this emissions reduction range does not substitute using a robust and established methodology, but can help cities gain an understanding of the political commitment their science-based climate target is likely to require.

The city trajectories in this table are taken from C40's Deadline 2020 methodology. They aim to help cities understand their emissions reductions trajectories and are based on the baseline emissions and GDP per capita of a city. You can find more detailed information and tools in the resources section on pages 14-15.

GHG/capita	City GDP/ capita (USD $)	Indicative city target reduction for 2030 per capita emissions (% change from 2015 levels)*	City 2050 target (from baseline year 2015)	Example cities that match this profile
High (>5.1 tCO_2e/capita)	High (>$15,000/capita)	-70% to -75%	Net zero emissions	Toronto Melbourne New York City Yokohama Heidelberg Wroclaw
	Low (<$15,000/capita)	-10% to -15%	Net zero emissions	Cape Town eThekwini Tshwete Rio Grande São José dos Campos
Low (<5.1 tCO_2e/capita)	High (>$15,000/capita)	-55% to -60%	Net zero emissions	Stockholm Seoul London Chula Vista Helsinki Barcelona
	Low (<$15,000/capita)	-0% to -5%	Net zero emissions	Quito Nairobi Amman Buenos Aires Johannesburg Pasig City

*These ranges are based on an estimation using existing targets of C40 cities.

4. UNDERSTANDING SCIENCE-BASED CLIMATE TARGETS & PRINCIPLES

THREE PRINCIPLES FOR SETTING A SCIENCE-BASED CLIMATE TARGET

SCIENCE-DRIVEN

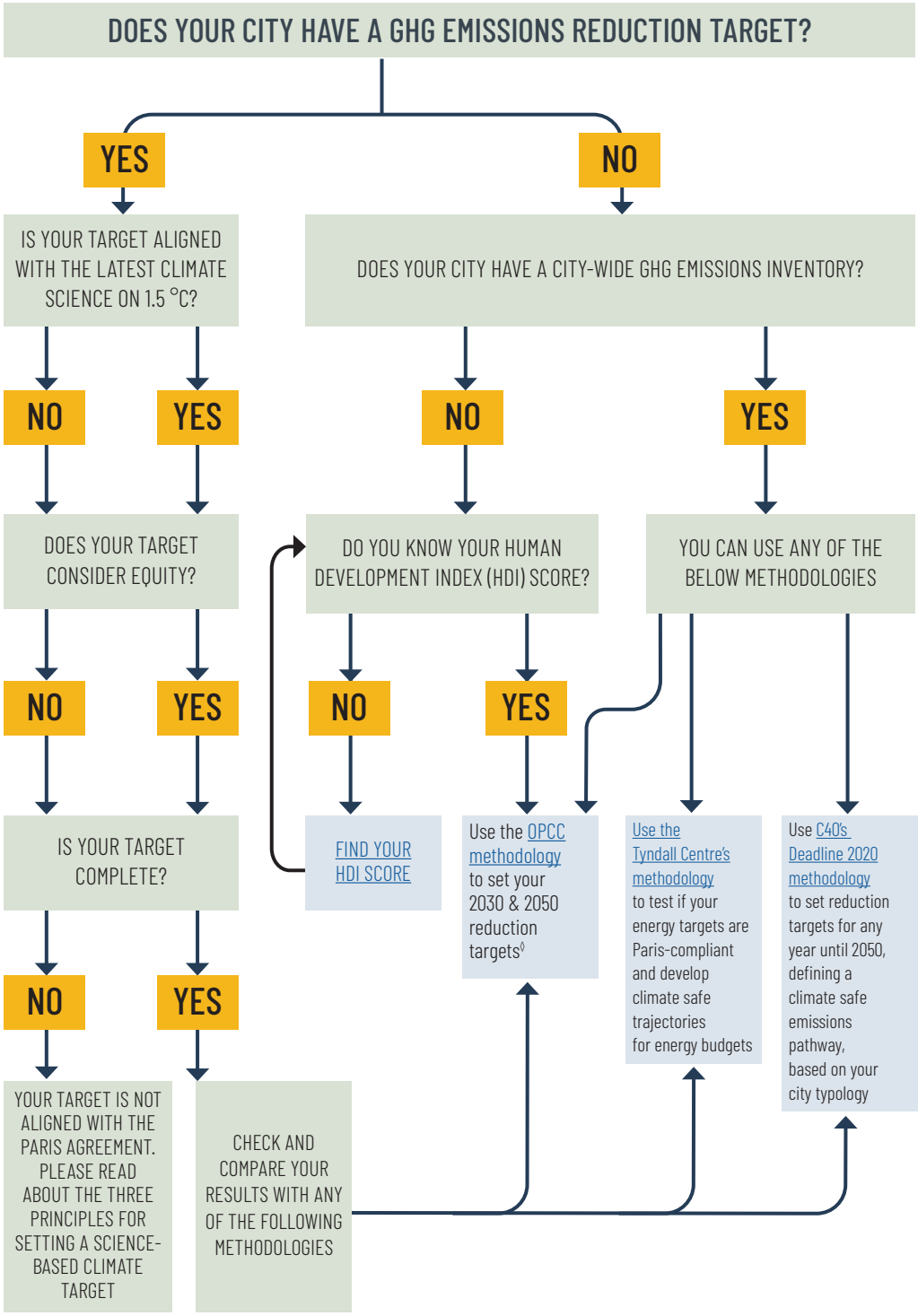
1. Do you have a clear global heating target of 1.5 °C?
2. Do you have a defined carbon budget and have you calculated agreed overshoot?*
3. Are you clear on which scenario** your target follows and where the starting point is (baseline)?

EQUITY

1. Does your target look into national-level considerations of equity, such as those contained within your country's NDC? Have you applied this to your city-level targets?
2. Does your target consider historical contributions to emissions and inter-generational emissions?

COMPLETENESS

1. Is your target city-wide focused on one sector (e.g. energy)?
2. What scope does your target focus on i.e. scope 1, 2 or 3? Or a combination? [Δ]
3. Does your target focus on some or all of these GHGs: carbon dioxide (CO_2), hydrofluorocarbons (HFCs) methane (CH_4), nitrous oxide (N_2O), perfluorocarbons (PFCs), sulfur hexafluoride (SF_6)?



*Overshoot is the temporary exceedance of a specified level of global warming, such as 1.5°C. Overshoot implies a peak followed by a decline in global warming, achieved through anthropogenic removal of CO2 exceeding remaining CO2 emissions globally. IPCC, 2018: Annex I: Glossary [Matthews, J.B.R. (ed.) https://www.ipcc.ch/sr15/chapter/glossary/ Accessed 12.11.20.

**A climate scenario is a plausible representation of future climate that has been constructed for explicit use in investigating the potential impacts of anthropogenic climate change. Ibid.

◊When a city does not have a city-wide GHG emissions inventory, this tool uses that city's Human Development Index (HDI) score to determine targets. However, a city-wide emissions inventory is essential for acting on a target and tracking progress against it, so cities should develop one as soon as possible. In addition, cities should report their environmental data, including progress against targets, annually through a recognised platform, e.g. the CDP-ICLE Unified Reporting System or MyCovenant.

ΔEmissions are grouped into three categories. Scope 1 occur within the city boundary. Scope 2 occur due to the use of grid-supplied electricity, heat, steam and/or cooling within the city boundary. Scope 3 occur outside the city boundary as a result of activities taking place within the city boundary. Source: C40, ICLEI, WRI. 2014. Global Protocol for Community-Scale Greenhouse Gas Emissions Inventories (GPC), Executive Summary. Accessed here. Date accessed: 7.11.2020.

5. CHOOSING YOUR METHODOLOGY

There are many ways for cities to set an emissions reduction target. The following three methodologies have been thoroughly evaluated and tested and can be used to set science-based targets in line with a 1.5 °C scenario. They are backed by the latest science, appropriately comprehensive and take account of equity.

METHODOLOLOGY

Deadline 2020

OWNER

C40 Cities Climate Leadership Group

DESCRIPTION

The Deadline 2020 (D2020) methodology was developed for cities in the C40 network to show a detailed pathway of what these cities need to do to play their part in implementing the Paris Agreement commitments. There is a particular focus on 2030 targets to ensure cities focus on the GHG reductions required over the next ten years that will keep the goals of the Paris Agreement in sight. Based on global and sub-global carbon budgets and adopting a contraction and convergence approach, Deadline 2020 outlines four different emission reduction trajectories depending on city context: GDP and per capita emissions. It has been applied to C40 network cities, composed mainly of the world's megacities in developed and emerging economies, but the principles can be applied to any city.

A key factor for cities to consider is assumptions they are making in areas outside of their control (e.g., building codes, grid decarbonization). To meet ambitious targets for 2030, C40 encourages cities to do everything in their power over the next decade to reduce GHG emissions, and clearly identify and make assumptions about additional action that must be taken by others (e.g., national or state government).

DATA POINTS REQUIRED

- GDP per capita
- GHG emissions inventory / baseline (2015)
- Baseline population and population growth until 2050

HOW TO SET YOUR TARGETS

Use the steps below for a high level view of the process involved in setting a science-based climate target using the Deadline 2020 methodology. You can check an existing city target using the following steps or by referring to the table on page 6.

Setting a new target

1. Gather 2015 city-wide GHG emissions inventory using the Global Protocol for Community-scale GHG Emissions Inventories (GPC) or the Common Reporting Framework.
2. Gather population data for 2015, and population forecasts until 2050.
3. Gather GDP data for 2015, and convert to US$.

*Note, using the 1.5 ºC scenario will require significant negative emissions post 2050.

4. Determine GHG emissions per capita and GDP per capita.
5. Select a city typology according to GHG emissions per capita and GDP per capita. Find an explanation of the different city typologies in the Deadline 2020 Methodology report (p. 104.)
6. Apply reduction trajectory to 2015 baseline per capita emissions until 2050.
7. Multiply D2020 per capita emissions from any year (until 2050) by the population forecast for the same year, to obtain absolute emissions for that year.

Using Deadline 2020 to assess an existing target

1. Apply city target and obtain per capita emissions for any year (until 2050).
2. Compare expected per capita emissions under city target and D2020 for any year (until 2050).

OUTCOME FROM USING THIS METHODOLOGY

Emissions trajectory for your city type indicating 2030 and 2050 targets (based on four city typologies)*.

LEARN MORE

Download the Method Report. Tools will be made available via the C40 Knowledge Hub.

METHODOLOGY

One Planet City Challenge (OPCC)

OWNER

World Wide Fund for Nature (WWF)

DESCRIPTION

WWF's One Planet City Challenge (OPCC) has developed a methodology based on the latest data from IPCC's Special Report on Global Warming of 1.5 °C; this new approach builds upon the Deadline 2020 methodology, integrating new considerations of fair emissions budgets allocation compatible with the 1.5 °C goal. The methodology is suitable for any type of city that reports in line with the reporting requirements of Global Covenant of Mayors. The methodology has been applied to 255 cities participating in OPCC's 2019-2020 version.

DATA POINTS REQUIRED

- City-wide Human Development Index (HDI) score
- City-wide emissions baseline as close to 2018 as possible

When a city does not have a city-wide GHG emissions inventory, this tool uses that city's Human Development Index (HDI) score to determine targets. However, a city-wide emissions inventory is essential for acting on a target and tracking progress against it, so cities should develop one as soon as possible. In addition, cities should report their environmental data, including progress against targets, annually through a recognised platform, e.g. the CDP-ICLE Unified Reporting System or MyCovenant, within 12 months of using this methodology.

*Note, using the 1.5 ºC scenario will require significant negative emissions post 2050.

HOW TO SET YOUR TARGETS

Use the steps below for a high-level view of the steps involved in setting or checking a science-based climate target using the OPCC methodology. Further information about how to apply these steps can be found in the Learn More section below.

Using the OPCC methodology to set a new interim target for 2030:

1. Gather 2018 Scope 1 and Scope 2 city-wide GHG emissions and divide by 2018 population to obtain baseline per capita emissions. You can do this using the Global Protocol for Community-scale GHG Emissions Inventories (GPC).
2. Use the Human Development Index (HDI) to estimate a reduction target, from 2018 levels, that reflect a fair share of the 50% global emissions reduction by 2030 identified in the IPCC Special Report on Global Warming of 1.5 °C. Find a country's HDI here. Use the following formula:

$$\textit{reduction target} = 0.5 \times \textit{(HDI correction factor)}$$
$$\text{where HDI correction factor} = 1 - ((HDI_{\text{Country where city is located}} - HDI_{\text{Global average}}) / HDI_{\text{Global average}})$$

3. Translate the 2030 target to a reduced per capita emissions value. Multiply 1- the reduction target (step 2) by the baseline per capita emissions value (step 1). That is: baseline per capita emissions x (1 - reduction target).
4. Translate the 2030 reduced per capita emissions value to an absolute emissions value. Multiply the 2030 reduced per capita emissions (step 3) by the forecasted 2030 population of the city.

Using OPCC to assess an existing target:

1. Calculate the 2030 per capita emissions resulting from the application of the existing target.
2. Compare the result against the 2030 reduced per capita emissions level estimated in step 3 above.
3. If the 2030 city per capita emissions derived from existing target is larger than the 2030 reduced per capita emissions, then the existing city target does not reflect a fair share of the 50% global emissions reduction by 2030 identified in the IPCC Special Report on Global Warming of 1.5 °C and will need to be revised.

OUTCOME FROM USING THIS METHODOLOGY

Reduction targets for per capita 2030 and 2050 emissions, based on 2018 levels.

What if I don't have 2018 emissions data?

To use this methodology, cities can approximate emissions levels by projecting latest available verified emissions levels to 2018, assuming these grew at the same pace as city (or country) GDP.

Information about GDP change rates at national level (and sometimes city level) is available from various trustworthy sources such as the United Nations Department of Economic and Social Affairs (UNDESA), the World Bank or OECD.

LEARN MORE

Explore the OPCC Assessment Framework 2019.

METHODOLOGY

Tyndall Centre

OWNER

Tyndall Centre

DESCRIPTION

The Tyndall Centre methodology was developed for local authorities to set carbon emissions targets that are consistent with the United Nations Paris Climate Agreement. The methodology can be easily used to calculate carbon budgets (for CO_2 emissions from energy) for any part of the United Kingdom from local authority area scale up to regions and devolved administrations. The methodology, until updated further, is best suited for cities in the United Kingdom. It could be used by cities outside of the UK, but additional data would be required (see below). Using the Tyndall Centre methodology, cities can set science-based climate targets in line with a well below 2 °C scenario. The latest science says we need to aim for a 1.5 °C scenario, which can be obtained by using the Tyndall Centre methodology with 1.5 °C aligned carbon budgets.

DATA POINTS REQUIRED

If city is located in the United Kingdom

- City CO_2 emissions from energy (2013-2017)
- City CO_2 emissions from energy (2019)

If city is located outside the United Kingdom

- Global CO_2 emissions from energy by country (2013-2017)
- City CO_2 emissions from energy (2013-2017)
- National CO_2 emissions from aviation, shipping and military from energy (with a projection for 2020-2100) for the country where the city is located
- City CO_2 emissions from energy (2019)

HOW TO SET YOUR TARGETS

Use the steps below for a high-level view of the steps involved in setting or checking a science-based climate target using the Tyndall Centre methodology. Further information about how to apply these steps can be found in the Learn More section on p12.

Using Tyndall Centre to set a science-based climate target:

1. Learn if your country is categorized as "developing" (DD2) or "developed" (DG2)*.
2. Gather the value of the carbon budget of your sub-global group of "developing" or "developed" countries.
3. Calculate your country's share of total CO_2 energy emissions of your sub-global group for a period of five years e.g. 2013-2017. Calculate the share of each year and then calculate the average for five years.
4. Use your country's share of emissions to define your country's share of the remaining sub-global budget, to obtain your national budget.
5. Gather the amount of CO_2 emissions from energy coming from shipping, and aviation for the period of 2020-2100 and deduct from your national CO_2 inventory.

*Anderson et al (2020). A factor of two: how the mitigation plans of 'climate progressive' nations fall far short of Paris compliant pathways. Accessed at https://www.tandfonline.com/doi/pdf/10.1080/14693062.2020.1728209. Accessed on 10 November 2020.

6. Calculate your city's share of total national CO_2 energy emissions for a period of five years e.g. 2013-2017. To do this, calculate the share of each year and then make an average of the five years.
7. Use your city's share of emissions to define your city's share of the national budget, to obtain your city budget for CO_2 energy emissions for 2020 to 2100.
8. You can then determine a projected reduction rate or pathway for emissions that fits within the city's carbon budget (e.g. the average reduction rate from 2019 baseline that keeps future emissions within the city budget).

Using Tyndall Centre to assess an existing target:

Apply your CO_2 energy emissions target and obtain your absolute emissions for each year between 2020-2100 (or until they reach zero) and aggregate them. These should not go above your calculated city carbon budget under Tyndall.

OUTCOME FROM USING THIS METHODOLOGY

City-level carbon budget for CO_2 energy emissions.

Trajectory of CO_2 energy emissions until 2100, compliant with carbon budget, based on a reduction rate.

A year in which CO_2 energy emissions would reach zero or near zero.

LEARN MORE

Explore the Tyndall Centre Methodology.

Read how Durham is using the Tyndall Centre Methodology to make a fair contribution to the Paris Agreement.

For UK cities - find out more about SCATTER.

Read how Manchester Climate Change Agency used this approach.

CLICK FOR MORE INFORMATION AND SUPPORT TO SET YOUR SCIENCE-BASED CLIMATE TARGET

6. RACE TO ZERO

Science-based climate targets for cities is one of the approved ways for cities to join the UNFCCC's Race to Zero campaign ahead of COP26.

The Race to Zero is a global campaign to mobilize leadership and support from businesses, cities, regions and investors for a healthy, resilient and fair zero carbon economy. An economy that prevents future threats, creates good jobs and unlocks inclusive sustainable growth. The main aim of the campaign is for actors across sectors, including cities, to commit to net zero targets by 2050 and the actions required to meet them.

The four steps below outline how cities make these commitments and join the Race to Zero.

1	**Pledge:** Pledge at the head-of-organization level to reach net zero in the 2040s or sooner, or by mid-century at the latest, in line with global efforts to limit warming to 1.5 °C. Find out more about ways to pledge here.
2	**Plan:** In advance of COP26, explain what steps will be taken toward achieving net zero, especially in the short-to medium-term. Set an interim target to achieve in the next decade, which reflects a fair share of the 50% global reduction in CO_2 by 2030 identified in the IPCC Special Report on Global Warming of 1.5 °C. For cities, this means setting a science-based climate target. Get in touch for support setting your target here.
3	**Proceed:** Take immediate action toward achieving net zero, consistent with delivering interim targets specified. Develop or update your climate action plan to incorporate your science-based climate targets and integrate it with other planning instruments. Get in touch for action planning support here.
4	**Publish:** Commit to report progress at least annually, including via, to the extent possible, platforms that feed into the UNFCCC Global Climate Action Portal*.

*Cities can report targets and progress against these targets, as part of their existing reporting commitments through the CDP-ICLEI Unified Reporting System. This supports a number of initiatives by C40, WWF and ICLEI. GCoM committed cities can report through either of GCoM's recognised platforms: the CDP-ICLEI Unified Reporting System or the MyCovenant platform.

COMMITMENTS UNDER THE RACE TO ZERO ALLIANCE NOW COVER

OVER HALF THE GLOBAL GDP

A QUARTER OF CO_2 EMISSIONS

AND A THIRD OF THE POPULATION.

7. RESOURCES

The following resources will support you to set a science-based climate target.

TECHNICAL RESEARCH

Read our research paper titled: 'Results of the assessment of GHG emission reduction target setting methodologies for cities'

Explore our technical research document underpinning the guide: 'Testing the applicability of science-based targets setting methodologies: technical summary document.'

METHODOLOGIES TO SET A SCIENCE-BASED CLIMATE TARGET

Information on Deadline 2020 and additional resources can be found on the C40 Knowlegde Hub.

Cities using the OPCC methodology can find out more here.

Explore the Tyndall Centre's methodology.

TOOLS AND RESOURCES

Measuring your city-wide emissions

- Global Protocol for Community-scale GHG Emission Inventories – Provides a robust framework for GHG accounting and reporting city-wide GHG emissions
- City Inventory Reporting and Information System (CIRIS) - A flexible Excel-based tool for reporting emissions in a format that is fully compatible with the CDP-ICLEI Unified Reporting System and the Global Covenant of Mayors' Common Reporting Framework
- Google's Environmental Insights Explorer – Uses Google data sources and modelling to produce estimates of activity data, emissions, and reduction opportunities for cities across the world

Creating a climate action plan

- Use C40's Focused Acceleration report to find out which climate actions are most effective at reducing emissions at the scale and pace required
- Develop a plan for how your city will achieve these targets using C40 tools

To consider when target-setting

- To help clarify the definitions of different types of targets, the Tyndall Centre has laid out the three most important things to look out for when reviewing a target
- Carbon Budget Tool - Developed by the Tyndall Centre for Climate Change Research to allow local authorities to set carbon budgets that are in line with the latest science. This tool applies to UK cities only
- The IPCC Special Report on Global Warming of 1.5 °C – A summary for urban policy makers and key takeaways
- Defining Carbon Neutrality for Cities and Managing Residual Emissions – Outlines what city-wide carbon neutrality looks like and how to implement and realise both interim milestones and carbon neutrality, as part of the C40 Cities Climate Action Planning Framework
- GHG Protocol Mitigation Goal Standard - Provides guidance for designing national and subnational mitigation goals and a standardised approach for assessing and reporting progress toward goal achievement
- Learn about ICLEI's Climate Neutrality Framework and how it can support cities to include a science-based climate target in an urban integrated approach
- Learn about WWF's One Planet City Challenge and how its Assessment Environmental Framework helps transforming local action into global climate leadership

EXAMPLES OF TARGETS AND PLANS

- Greater Manchester: Carbon neutral by 2038
- Zurich: 1 tonne Co_2e per capita by 2050
- Vaxjo: 100% Co2 reduction by 2030
- Bristol's: One City Climate Strategy
- Copenhagen: 2025 Climate Plan
- Oslo: Climate Budget
- Indianapolis: Thrive Indianapolis Plan
- eThekwini: Climate Neutrality Plan
- Accra: Climate Action Plan
- Cape Town: Commitment to Carbon Neutral
- Wellington: Te Atakura First to Zero Blueprint

FURTHER READING

- Companies and cities will also soon be able to set science-based targets for nature. Learn about science-based nature targets

CLICK FOR MORE INFORMATION AND SUPPORT TO SET YOUR SCIENCE-BASED CLIMATE TARGET

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