

Methodology

To make a global appraisal of net zero targets we reviewed:

- 202 countries
- all of the 806 states and regions in the world's 25 largest emitting countries
- all 1,170 cities with populations above 500,000
- the 2,000 largest publicly traded companies by sales.³⁹

We looked for net zero commitments via a range of routes. First we surveyed the existing databases maintained by the UN Race to Zero and the Energy & Climate Intelligence's (ECIU) Net Zero Tracker.^{40,41} We then ran two 'hackathons' with trained student volunteers at the University of Oxford fluent in a range of languages, who searched for online references to entities that had pledged net zero targets. All analysis draws only on publicly available documents, so may not reflect internal discussions.

Noteworthy: New York State

In 2019, the State of New York enacted into law one of the most ambitious net zero emissions targets in the United States. The law mandates the state, home to over 19 million people, to reach an emissions-free electrical grid by 2040 and a net zero economy by 2050. Along the way, the state plans to reduce emissions 40% below 1990 levels by 2030.¹

The state bill contains stringent conditions and limitations on offsetting; stipulations put into place during legislative negotiations in exchange for moving the bill from an absolute zero to net zero target.² In short, offsets are limited to 15% of economy-wide emission reductions and can only be used when a source has reduced its emissions to the 'maximum extent possible' and further reductions are 'not technologically feasible'.³ The bill furthermore specifies that offsets be additional, permanent, maximise benefits to local ecosystems and public health and not result in a disproportionate environmental burden to disadvantaged communities.

Living up to its title, the Climate Leadership and Community Protection Act lays out clear mechanisms to ensure social equity and a just transition for New York communities. Between 35-40% of all state clean energy and climate spending, probably billions of dollars, is mandated to benefit disadvantaged communities, which are defined by a climate justice working group. A parallel just transition working group is mandated to report on job creation, workforce disruption and skill training needs resulting from the transition.⁴

Keeping up the momentum, a year after the Act was enacted, the New York State Pension Fund announced its goal to transition its portfolio, valued at an estimated \$226 billion, to net zero greenhouse gas emissions by 2040.⁵

1 A.B. 6995, Climate leadership and community protection act. 2019 Reg. Sess. (New York 2019).
<https://legislation.nysenate.gov/pdf/bills/2019/S6599>

2 <https://www.vox.com/energy-and-environment/2019/6/20/18691058/new-york-green-new-deal-climate-change-cuomo>

3 A.B. 6995, Climate leadership and community protection act. 2019 Reg. Sess. (New York 2019).
<https://legislation.nysenate.gov/pdf/bills/2019/S6599>

4 Ibid

5 <https://osc.state.ny.us/press/releases/2020/12/new-york-state-pension-fund-sets-2040-net-zero-carbon-emissions-target>

Image credit: Carlos Irineu da Costa, Unsplash



39 See Appendix for methodological details.

40 <https://climateaction.unfccc.int/views/cooperative-initiative-details.html?id=g4>

41 <https://eciu.net/netzerotracker/map>

Our analysis encompassed commitments to net zero for CO₂ only, or for multiple greenhouse gases. We included those referring to 'net zero' emissions or to other related concepts that are widely used to denote net zero or net negative emissions such as 'carbon neutrality' and 'climate neutrality'. These terms each have different technical meanings but are often used loosely, even interchangeably, by entities making commitments.

All the data were entered in a master database according to a pre-existing protocol that allows for documenting of declared parameters (eg, 'CO₂ only' or 'all greenhouse gases') but also allows us to note where no clarity is given, which is in itself a crucial parameter to quantify.

After surveying all 4,000+ entities, we calculated the fraction of global emissions, population and economic value covered by targets, and their robustness. Previous published figures for the share of GDP covered by net zero commitments have used the measure of nominal GDP;⁴² here we used the alternative metric, purchasing power parity (PPP). This gives a truer reflection of a nation's greenhouse gas footprint; we advocate its use for all future analyses.⁴³

In calculating the fraction of global emissions, population and GDP covered by targets, we avoided double-counting by leaving aside data for regions in nations that also had a net zero target, and those of cities in either nations or regions with a target. We did not include corporate entities in these calculations.

To assess the robustness of commitments, we drew on criteria identified as the 'starting line' and 'leadership practices' for participation in the Race To Zero Campaign.⁴⁴ Our benchmarks are as follows:

Timing: For each entity in our survey we collated the target year, interim targets where disclosed, and whether or not they refer to equity. We have not assessed their consistency with global temperature limits. Equity can be complex to quantify but as a common-sense starting point, those in prosperous parts of the world would be expected to reach net zero CO₂ emissions well before 2050.

Status: We documented the form commitments take, as this is a powerful marker of intent and affects the extent to which citizens or shareholders can hold entities to account. National targets may be announced by the government, published in an official policy document such as a Nationally Determined Contribution (NDC), in draft legislation, already in law or already achieved. The same applies to cities, states and regions, although many do not have power to draft legislation. Corporate targets range from simple promises through aspirational targets and inclusion in corporate strategies to

42 'Almost half of global GDP under actual or intended net zero emission targets', <https://eciu.net/news-and-events/press-releases/2020/almost-half-of-global-gdp-under-actual-or-intended-net-zero-emissions-targets>

43 PPP measures capture what goods and services a certain amount of money can buy domestically, while nominal GDP measures are better at comparing what a given amount of money can buy across countries. The former is more useful for assessing how much of the world economy is aligned to net zero because ultimately it is the share of goods and services aligned to net zero – or not – that determines climate outcomes.

44 https://4bafc222-18ee-4db3-b866-67628513159f.filesusr.com/ugd/6d11e7_347e267a4a794cd586b1420404e11a57.pdf