

Race to Zero Lexicon

Purpose of this document: *Race to Zero partners and stakeholders are working toward harmonizing language regarding the transition. This document, prepared by the Race to Zero Expert Peer Review Group, continues to clarify some of the key terms we often use. We note, however, that Race to Zero partners currently use these terms in various ways. The aim of this lexicon is to encourage opportunities for convergence as a way to reduce communication friction and improve understanding across our community.*

Many of these definitions are inspired by or come directly from IPCC reports, [Oxford Net Zero](#) and/or ambitious other guidance documents.

Lexicon

Net zero	3
Absolute zero	3
Climate neutral(ity)	3
GHG neutral(ity)	4
Carbon neutral(ity)	4
Climate positive (net negative)	5
Carbon negative	5
Offsetting	5
Insetting	6
Neutralization	6
Compensation	7
Beyond value chain mitigation	7
Like for Like	7
GHG reductions	8
GHG removals	8
1.5°C aligned	8
Science-aligned	9
Paris-aligned	9
Residual emissions	9
Unabated emissions	10
Fair share	10
Equity	10
Justice	11
Net zero finance	11
Financing green & greening finance	11
Consumption emissions	12
Cumulative emissions	12

Lexicon

Net zero

Definitions	Comments
<p>Referring to the world as a whole, the IPCC defines net zero as: When anthropogenic emissions of greenhouse gases to the atmosphere are balanced by anthropogenic removals over a specified period.</p> <p>Race to Zero considers individual actors to have reached a state of net zero when: An actor reduces its emissions following science-based pathways, with any remaining GHG emissions attributable to that actor being fully neutralized by like-for-like removals (e.g. permanent removals for fossil carbon emissions) exclusively claimed by that actor, either within the value chain or through purchase of valid offset credits.</p>	<p>Valid end-state target for Race to Zero</p> <p>Net zero represents a state to be achieved by 2050, but the transition path to net zero and the time at which net zero is achieved are critical, as global warming is driven primarily by the stock of GHGs in the atmosphere.</p> <p>Net zero is a scientific concept, but how it is operationalized by different entities (e.g. countries, cities, regions, companies, etc.) involves economic, social, and political choices that have important implications for equity.</p>

Absolute zero

Definitions	Comments
<p>When no greenhouse gas emissions are attributable to an actor's activities across all scopes.</p>	<p>Valid end-state target for Race to Zero</p>

Climate neutral(ity)

Definitions	Comments
<p>Referring to the world as as whole, the IPCC defines climate neutrality as: A state in which human activities result in no net effect on the climate system. Achieving such a</p>	<p>Not the same as net zero because it does not necessarily require "like for like"</p>

<p>state would require balancing of residual emissions with emission (carbon dioxide) removal as well as accounting for regional or local biogeophysical effects of human activities that, for example, affect surface albedo or local climate.</p> <p>Race to Zero considers individual actors to be climate neutral when: GHG emissions or other activities with warming effects attributable to an actor are fully compensated by GHG reductions or removals, or other activities with cooling effects, exclusively claimed by the actor, such that the actor's net contribution is zero, irrespective of the time period or the relative magnitude of emissions and removals involved.</p>	<p>balancing.</p> <p>Near synonym for GHG neutral(ity), but may also include non-GHG radiative forcing effects, such as land use changes with albedo effects.</p> <p>Not an end-state target for Race to Zero, but a possible intermediate step.</p>
--	--

GHG neutral(ity)

Definition	Comments
<p>Where GHG emissions attributable to an actor are fully compensated by GHG reductions or removals exclusively claimed by the actor, such that the actor's net contribution to global GHG emissions is zero, irrespective of the time period or the relative magnitude of emissions and removals involved.</p>	<p>Not the same as net zero because it does not require “like for like” balancing.</p> <p>Near synonym for climate neutral(ity), but focused only on GHG-driven radiative effects.</p> <p>Not an end-state target for Race to Zero, but a possible intermediate step.</p>

Carbon neutral(ity)

Definition	Comments
<p>Referring to the world as as whole, the IPCC defines carbon neutrality as: Net zero CO2 emissions are achieved when anthropogenic CO2 emissions are balanced globally by anthropogenic CO2 removals over a specified period.</p> <p>Race to Zero considers individual actors to be carbon neutral when:</p>	<p>Not the same as net zero because it does not require “like for like” balancing.</p> <p>Not synonymous with GHG neutral(ity) or climate neutral(ity) because it only refers to carbon.</p>

CO2 emissions attributable to an actor are fully compensated by CO2 reductions or removals exclusively claimed by the actor, such that the actor's net contribution to global CO2 emissions is zero, irrespective of the time period or the relative magnitude of emissions and removals involved.	Not an end-state target for Race to Zero, but a possible intermediate step.
--	---

Climate positive (net negative)

Definitions	Comments
<i>When an actor's greenhouse gas removals, internal and external, exceed its emissions and any removals are "like for like." Must be specified over a declared time period, and whether removals and emissions are cumulative or represent only the time period specified.</i>	Valid end-state target for Race to Zero. The term climate positive is preferred to net negative.

Carbon negative

Definitions	Comments
<i>When an actor's carbon removals, internal and external, exceed its emissions and any removals are "like for like." Must be specified over a declared time period, and whether removals and emissions are cumulative or represent only the time period specified.</i>	Not an end-state target for Race to Zero, because not all GHGs are included, but a possible intermediate step.

Offsetting

Definition	Comments
Reducing GHG emissions (including through avoided emissions), or increasing GHG removals through activities external to an actor, in order to compensate for GHG emissions, such that an actor's net contribution to global emissions is reduced. Offsetting is typically arranged through a marketplace for carbon credits or other exchange mechanism. Offsetting claims are only valid under	See also compensation and neutralization. In the Race to Zero, offsetting cannot

<p>a rigorous set of conditions, including that the reductions/removals involved are additional, not over-estimated, and exclusively claimed. Further, offsetting can only be used to claim net zero status to the extent it is “like for like” with any residual emissions.</p>	<p>substitute for or delay decarbonization, but can be used to contribute to beyond value chain mitigation.</p>
--	---

Insetting

Definition	Comments
<p>Reducing GHG emissions (including through avoided emissions), or increasing GHG removals through an actor’s scope 1, 2, or 3 emissions, in order to compensate for GHG emissions, such that an actor’s net contribution to global emissions is reduced . Insetting claims are only valid under a rigorous set of conditions, including that the reductions/removals involved are additional, not over-estimated, and exclusively claimed. Further, insetting can only be used to claim net zero status to the extent it is “like for like” with any residual emissions.</p>	<p>See also compensation and neutralization.</p>

Neutralization

Definition	Comments
<p>GHG removals outside an actor’s emissions inventory, that balance residual GHG emissions such that an actor’s net contribution to global emissions is reduced or eliminated. Neutralization claims are only valid under a rigorous set of conditions, including that the reductions/removals involved are additional, not over-estimated, exclusively claimed, and like for like.</p>	<p>May include offsetting, but also all other activities an actor makes outside its value chain that are contributions to mitigation.</p> <p>Near synonym of compensation, but limited to removals, and requires “like for like” balancing of residual emissions. Required if residual emissions remain after net zero status is achieved.</p>

Compensation

Definition	Comments
<p>Reducing GHG emissions, or increasing GHG removals through activities outside of an actor's emissions inventory, in order to compensate for GHG emissions such that an actor's net contribution to global emissions is reduced. Compensation claims are only valid under a rigorous set of conditions, including that the reductions/removals involved are additional, not over-estimated, and exclusively claimed.</p>	<p>Includes offsetting, but also all other activities an actor makes outside its value chain that are contributions to mitigation.</p> <p>Near synonym of neutralization, but not limited to removals, and does not necessarily imply "like for like" balancing of residual emissions. Potentially helpful during the transition to net zero.</p>

Beyond value chain mitigation

Definition	Comments
<p>A company's investment in emission reductions and/or removals in activities outside its value chain (scopes 1, 2, and 3). In the transition to net-zero and beyond, companies should take action to mitigate emissions beyond their value chains above and beyond their internal emissions reductions or removals. For example, devoting philanthropic funding to mitigation activities, or purchasing high-quality carbon credits. Examples could include: jurisdictional and project-based credits, methane mitigation projects, investing in direct air capture research and development, etc.</p>	<p>Beyond value chain mitigation should be additional to companies' internal emissions reductions, and not substitute for or delay decarbonization. See Race to Zero criteria and interpretation guide for details.</p>

Like for Like

Definition	Comments
<p>When a source of emissions and an emissions sink correspond in terms of their warming impact, and in terms of the timescale and durability of carbon storage.</p>	<p>Part of many other definitions.</p>

For example, fossil carbon is stable in the lithosphere over millennia if it is not extracted and burned, therefore mitigating measures (e.g. offsets) that aim to neutralise the effect of these emissions must persist for a comparable timescale. Although all CO₂ once emitted, whether originally sourced from the lithosphere or biosphere, persists in the active carbon cycle for centuries to millennia, it may be appropriate to balance shorter-duration carbon released from biogenic carbon stocks (e.g. forests and soils) with comparably temporary storage in like stocks. The variable risks of reversal of different carbon stocks must also be considered, for example forests may suffer from unforeseen anthropogenic (e.g. illegal logging), non-anthropogenic (e.g. disease and disaster), or climate change-induced (e.g. warming) reversal risks. Protection of nature and sustainable land management is of critical importance to long-term climate stability, and therefore needed for global net zero.

GHG reductions

Definition	Comments
<p><i>Actions that reduce the quantity of GHGs attributable to an entity vis-a-vis a baseline.</i></p> <p>Examples include: Replacing fossil-burning power with renewable energy, reducing consumption of emissions-intensive products or inputs, avoiding damage to ecological carbon sinks, carbon capture and storage (CCS), avoided emissions from deployment of renewable energy, etc.</p>	<p>Part of many other definitions.</p> <p>Includes avoided emissions.</p>

GHG removals

Definition	Comments
<p><i>Actions that remove GHGs from the atmosphere relative to baseline.</i></p> <p>Examples include: Afforestation and reforestation, soil carbon enhancement, bioenergy with carbon capture and storage (BECCS), direct air capture, mineralization, or enhanced weathering.</p>	<p>Part of many other definitions.</p>

1.5°C aligned

Definitions	Comments
Target is aligned with scenarios that yield a long-term warming outcome of <1.5C with a probability of at least 50% and no or limited overshoot, <i>both of which should be explicitly specified</i> .	

Science-aligned

Definitions	Comments
Targets are considered 'science-based' if they are in line with what the latest climate science deems necessary to meet the goals of the Paris Agreement – limiting global warming to well-below 2°C above pre-industrial levels and pursuing efforts to limit warming to 1.5°C, with no or low overshoot.	Near synonym for Paris-aligned.

Paris-aligned

Definitions	Comments
Targets are considered 'Paris-aligned' if they are in line with what the latest climate science deems necessary to meet the goals of the Paris Agreement – limiting global warming to well-below 2°C above pre-industrial levels and pursuing efforts to limit warming to 1.5°C, with no or low overshoot, as well as incorporating the core principles around equity, justice, and human rights embodied in the Paris Agreement.	Goes beyond mitigation targets of Paris Agreement. Near synonym for science-based.

Residual emissions

Definitions	Comments
-------------	----------

Emissions that remain on an annual basis after all efforts to reduce within value-chain or boundary emissions have been implemented.	
--	--

Unabated emissions

Definitions	Comments
Emissions that have not been addressed through reduction or neutralization.	

Fair share

Definitions	Comments
<p>The appropriate contribution an entity should make to global decarbonization efforts based on a coherent and consistent set of ethical and/or legal principles. While there is no globally agreed framework for identifying entities' fair share, such frameworks may take into account (though not necessarily be restricted to) an entity's:</p> <ul style="list-style-type: none"> -Sector -Actor type -Geographic region -Rights and duties arising from international law -Level of development and development priorities -Historical emissions <p>-Social Considerations (e.g. gender, race)</p>	

Equity

Definitions	Comments
The concept of equity requires further operationalization for non-state actors. However, equity	Central to climate action,

<p>considerations can be guided by the below high-level principles and approaches:</p> <ul style="list-style-type: none"> - Facilitating and ensuring the capacity to act for all, through, for instance, the distribution of resources. - Considering particular social divides and identities, such as gender,youth, race and ethnicity, in conjunction with intersectional framing - Equal participation in decision-making including access to decision-making structures - Consideration of the unequal impacts and causes of climate change, and how these occur in a context shaped by broader inequalities related to historical processes and legacies, both within and across nations. - Stronger reference to human rights as a key concern in climate change -Principles of international law such as the principle of common but differentiated responsibilities and respective capabilities 	<p>accountability, sustainable development and human rights, and is a key element from which other criteria should be rooted.</p>
---	---

Just transition

Definitions	Comments
<p>Ensuring the process of decarbonization advances justice and does not cause greater injustice. Understanding that justice is fundamentally oriented towards systemic imbalances and historical roots of injustice, the definition of justice may include:</p> <ul style="list-style-type: none"> - Distributive justice, restorative justice, transformative justice considerations - The role of the law and political institutions - Minimum standards and moral foundations of conduct 	<p>Central to climate action, accountability, sustainable development and human rights, and is a key element from which other criteria should be rooted.</p>

Net zero finance

Definitions	Comments
<p>Making existing and new finance flows consistent with the pathway toward low greenhouse gas emissions and climate-resilient development (Paris Agreement, art 2.1(c)). For the financial sector, finance flows should be in line with IPCC no/ low overshoot 1.5C pathways per sector in the real economy in which the financial institution is invested.</p>	

Financing green & greening finance

Definitions	Comments
Increasing public/ private/ blended investment for net zero activities e.g., infrastructure, technology and renewable energy. Incorporating climate and environmental factors into the financial system and processes, improving the identification and management of financial risks related to the climate and the environment, in order to mobilise private capital flows in green investments.	

Consumption emissions

Definitions	Comments
The direct and lifecycle GHG emissions of goods and services (including those from raw materials, manufacture, distribution, retail and disposal) consumed by the final purchasers of those goods and services.	

Cumulative emissions

Definitions	Comments
The sum of emissions an entity has produced over its entire existence.	