

## Race to Zero Lexicon

**Purpose of this document:** Race to Zero partners and stakeholders have identified a need to clarify and work toward harmonizing our language regarding the transition. This document, prepared by the Race to Zero Expert Peer Review Group, attempts 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 not to mandate standardization, but rather to suggest opportunities for convergence as a way to reduce communication friction and improve understanding across our community.

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## Net zero

Definitions	Comments
<p>Referring to the world as a whole, the <a href="#">IPCC</a> 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>	Valid end-state target for Race to Zero

## Absolute zero

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

## Climate neutral(ity)

Definitions	Comments
<p>Referring to the world as as whole, the <a href="#">IPCC</a> defines climate neutrality as:</p> <p>A state in which human activities result in no net effect on the climate system. Achieving such a 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,</p>	<p>Not the same as net zero because it does not necessarily require "like for like" 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. Not an end-state target for Race to Zero, but a possible intermediate step.</p>

such that the actor's net contribution is zero, irrespective of the time period or the relative magnitude of emissions and removals involved.

## 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 a whole, the <a href="#">IPCC</a> defines carbon neutrality as:            Net zero CO<sub>2</sub> emissions are achieved when anthropogenic CO<sub>2</sub> emissions are balanced globally by anthropogenic CO<sub>2</sub> removals over a specified period.</p> <p>Race to Zero considers individual actors to be carbon neutral when: CO<sub>2</sub> emissions attributable to an actor are fully compensated by CO<sub>2</sub> reductions or removals exclusively claimed by the actor, such that the actor's net contribution to global CO<sub>2</sub> 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>Not synonymous with GHG neutral(ity) or climate neutral(ity) because it only refers to carbon.</p> <p>Not an end-state target for Race to Zero, but a possible intermediate step.</p>

## 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 a	See also compensation and neutralization.

<p>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>	
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## Insetting

<p><b>Definition</b></p>	<p><b>Comments</b></p>
<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

<p><b>Definition</b></p>	<p><b>Comments</b></p>
<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>

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## 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>

## 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>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, geological-timescale. Although all CO<sub>2</sub> 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.</p>	<p>Part of many other definitions.</p>

## 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
<p>Target is aligned with scenarios that yield a long-term warming outcome of &lt;1.5C with some probability (e.g. 50%, 66%) and some amount of overshoot (no/low), <i>both of which should be explicitly specified.</i></p>	<p>None.</p>

## Science-based

Definitions	Comments
<p>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.</p>	<p>None.</p> <p>Synonym for Paris-aligned.</p>

## 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.	Refers to mitigation targets of Paris Agreement only.  Synonym for science-based.