Understanding net zero

There are lot of specific terms and vocabulary associated with net zero. To help you get to grips with them, we've created this (somewhat) short glossary.

Abatement
Measures enforced by companies to prevent, lessen, or eradicate greenhouse gas emissions within their value chain (see value chain definition). A similar term is *decarbonisation*, which refers to the process by which CO_2 emissions associated with electricity, industry and transport are reduced or eliminated. Under the Net-Zero Standard, most companies are required to reduce emissions by at least 90% to reach net zero.

Anthropogenic
A word to describe effects arising from humans or their activities. It's usually used when talking about climate change, environmental damage and pollution.

Absolute emissions
The total reported emissions of a company generated from a project or investment over a specific period, usually measured in tonnes.

Avoided emissions
Emissions that are outside of a company's value chain.

Backward-looking metrics
Performance measures, including carbon emissions and carbon intensity, that are based on data from past business projects.

Baseline position
A starting point or reference against which an investment's environmental, social and governance performance is assessed and measured.

Carbon budget
A restriction on the maximum amount of greenhouse gases that the world (or sometimes a country or company) can emit over a set time period from human activities and industrial processes, while still keeping global warming within a specific target. This could include limiting the increase in the average global temperature to well below 2°C, as outlined in the Paris Agreement.

Carbon capture
Industrial processes can create carbon dioxide, which contributes to climate change. Carbon capture is the process of removing carbon dioxide from these processes, transporting it to a secure storage location, and allowing it to be safely stored.

Carbon dioxide (CO_2)
A greenhouse gas that's released when we burn fossil fuels such as oil, gas and coal. It's also released during industrial processes and when we burn vegetation.

Carbon-dioxide equivalent (CO_2e)
A metric used to show the impact of various greenhouse gases in a standardised way, by presenting emissions in terms of the aggregate amount of CO_2 that would create the same level of global warming.

Carbon finance
Finance given to carbon dioxide (CO_2) reduction projects.

Carbon footprint
The measure of the impact of human activities on the environment, calculated in units of carbon dioxide. For investments, this is known as one of the two key emissions intensity metrics – showing the total emissions of an investment per £1m invested.

Carbon intensity
A measure of how many grams of carbon dioxide are released to produce a kilowatt hour of electricity per unit of activity, like generating a product.

Carbon neutral
Although often used interchangeably with 'net zero', the two are not the same. In general, when companies claim carbon neutrality, they are counterbalancing CO_2 emissions with carbon offsets without necessarily having reduced emissions by an amount consistent with reaching net zero at the global or sector level. This may conceal the need for deeper emissions reductions that are in line with what the science requires for the world to restrict global warming to 1.5°C. Carbon neutrality claims also do not necessarily cover non-CO_2 greenhouse gases. The SBTi does not validate carbon neutrality claims.

Carbon offset
A strategy used by investors and companies to negate the amount of carbon emissions released into the atmosphere. This involves investing in projects that remove or reduce the emissions from the atmosphere.

Carbon sink
A reservoir (natural or human, in soil, ocean, and plants) where a greenhouse gas, an aerosol, or a precursor of a greenhouse gas is stored, or a process that removes CO_2 from the atmosphere.

Carbon tax
The amount of tax that carbon dioxide (CO_2) emission sources must pay. It is calculated on a per tonne basis.

Clean energy
Renewable, zero-emission energy that does not pollute the Earth's atmosphere.

Climate Transition Action Plan
A time-bound plan detailing actions a company will take to change its existing assets, and entire business model, to achieve climate-related ambitions.

Decarbonisation
The reduction of emissions of CO_2 or other greenhouse gases from a product, organisation or country with the overarching aim to eliminate them (as far as possible). In practice, this means shifting from using fossil fuels to alternative low-carbon energy sources, as well as reducing the emissions produced more widely across the value chain (as well as just energy usage).

Financed emissions
Emissions produced as a result of investments and financial activities. Calculating financed emissions includes estimating the total carbon footprint of the financial activity, then allocating that carbon footprint to the financial institution via a shared attribution calculation.

Forward-looking metrics
A set of indicators that contain signals about the future performance of the business or project. Forward-looking metrics may include Paris Alignment Metrics, such as Implied Temperature Rise.

Glasgow Financial Alliance for Net Zero (GFANZ)
A coalition of over 550 financial companies across 50 countries that's committed to accelerating the decarbonisation of the global economy. It was formed during the COP26 climate conference held in Glasgow in 2021.

Greenhouse gas (GHG) emissions
Harmful gases emitted as a result of human activities which exacerbate the effects of climate change. For example, burning fossil fuels (coal, oil and natural gas) releases carbon dioxide (CO_2).

Greenwashing
The act of falsely claiming or overstating the positive environmental impact of products/services.

Intergovernmental Panel of Climate Change (IPCC)
A UN body that provides politicians with regular scientific research on climate change, including its implications and potential future risks, and adaption and mitigation plans. You can find out more here.

Implied Temperature Rise
A metric that allows investors to see how well their portfolio is aligned to global temperature targets. A common target is to limit global temperature rises to 1.5 degrees above pre-industrial levels, in line with the Paris Agreement.

Low-carbon economy (LCE)
Also referred to as a decarbonised economy, this is an economy that produces a minimal amount of greenhouse gas emissions.

Long-term science-based targets
The end goal of a decarbonisation journey. These targets highlight the magnitude of emissions reduction necessary for a company to reach net zero before 2050. A company can only claim to have reached net zero when its long-term science-based target has been achieved across its entire value chain.

Mitigation hierarchy
A set of guidelines that can be used to limit the negative implications and improve the biodiversity value of a project. They state that companies should prioritise reducing value-chain emissions, as this is key to any credible net zero strategy.

Net neutral vs net zero
Net neutral (more commonly referred to as carbon neutral) differs from net zero. Net zero refers to the amount of greenhouse gases that are removed from the atmosphere being equal to those emitted by human activity – usually following a trajectory (eg to achieve 1.5 degrees). Any residual emissions would generally focus on GHG sequestration from the atmosphere.

Carbon neutrality is similar in that GHG emissions are offset, although it generally includes a wider definition of offsetting residual emissions, including emissions avoidance activities, and wouldn't prescribe a specific reduction trajectory. It's also less prescriptive regarding the reporting boundary, with the inclusion of wider value chain (Scope 3) emissions being encouraged but not mandatory. Net zero is similar in principle to carbon neutrality, but is bigger in scale. To achieve net zero means to go beyond the removal of just carbon emissions. Net zero refers to all greenhouse gases being emitted into the atmosphere, such as methane (CH_4), nitrous oxide (N_2O) and other hydrofluorocarbons.

Near-term science-based targets
Outline what companies will do in the immediate as well as a timespan of the next 5–10 years to restrict global warming to 1.5 degrees.

Net zero ambition
The goal of limiting global warming to well below 2°C, as agreed upon by world leaders in the Paris Agreement.

Net Zero Investment Consultants (NZIC) Initiative
A group of investment consultancies that has committed to align operations and advisory services with the goals of the Paris Agreement. Hymans Robertson is a member of the NZICI.

Net zero pathway
A plan to help countries, companies and investors (among others) reach net zero greenhouse gas emissions. It starts with setting a strategy, then monitoring interim and long-term goals to assess progress made and any further action that is needed.

Net zero strategy
A plan taken by investors to eliminate, reduce and compensate for greenhouse gas emissions to meet a net zero target.

Paris Agreement
An international treaty on climate change agreed by 175 countries in Paris in 2015. It came into force in November 2016. Its key aim is to limit global temperature increase to 2 degrees above industrial levels by the end of this century, and ideally keep temperature rises below 1.5 degrees.

Paris aligned
Paris alignment refers to the commitment to align portfolios with the objectives of the Paris Agreement and a country's pathway towards reducing greenhouse gas emissions. It includes reaching net zero greenhouse gas emissions by 2050 or sooner, and keeping temperature rises below 1.5 degrees.

Science-based Targets initiative (SBTi)
A partnership run by the Carbon Disclosure Project (CDP), the UN Global Compact, the World Resources Institute and the World Wide Fund for Nature. The initiative helps companies set emissions reduction targets backed by climate science.

Scope 1, 2 and 3 emissions
The concept of 'scopes' came from the Greenhouse Gas Protocol. The idea is to let companies accurately measure their emissions, both in their own operations and in their wider supply chains. Greenhouse gas emissions are categorised into three scopes:

- **Scope 1** – All direct emissions from sources owned or controlled by a company (eg emissions from factory operations).
- **Scope 2** – Indirect emissions that occur from the generation of purchased energy consumed by a company.
- **Scope 3** – Indirect emissions that arise as a consequence of the activities of a company, eg supply chains and the use and disposal of their products. These are sometimes the greatest share of a carbon footprint, covering emissions associated with business travel, procurement, production of inputs, use of outputs, waste, and water.

With respect to investments, an investment's ownership of emissions comes down to how much is owned by that investment. For instance – a 5% ownership of a company's shares would equate to a 5% ownership of that company's emissions. This does get a little tricky when we then account for both equity and debt – which is where measures such as Enterprise Value Including Cash (EVIC) enter the equation. We suggest asking one of the RI team if you'd like further information on this – but currently the industry is still figuring this out. When it comes to properties, for example, a tenant owns all Scope 1 and 2 emissions, thereby becoming the investor's Scope 3 emissions, meaning most real estate investments have very low Scope 1 and 2 emissions. Derivatives and sovereigns are also difficult to measure, with debates on reflecting ownership vs exposure still very much ongoing. Again – if you'd like further information or a chat about this, please get in touch with one of the team – it gets tricky fast!

Stranded assets

Assets that have become less valuable in the transition to a low-carbon economy. Coal mines, for example, are likely to become less valuable as society becomes less reliant on burning fossil fuels.

Taskforce on Climate-related Financial Disclosures (TCFD)

A framework detailing procedures to improve transparency around managing and reporting on climate-related risks and opportunities. It includes mandatory requirements, varying between companies. The goal is to ensure that the effects of climate change are routinely considered in investment decision-making. Currently, pension schemes above £1bn and authorised Master Trusts are required to report in line with TCFD, and requirements are expected to be published for LGPS funds over 2024.

Value chain

The process or activities by which a company adds value to an article, including production, marketing, and the provision of after-sales service. This also ties in to supply chains (as mentioned above under Scope 3 emissions).

Value chain emissions

This can mean a company's Scope 3 emissions. However, sometimes the term value chain is used more broadly and includes both a company's operational (Scope 1 and 2) emissions as well as Scope 3.

Weighted average carbon intensity

An emissions intensity metric that shows a portfolio's exposure to carbon-intensive companies, expressed in tons of CO_2e/\$M revenue (or per million of EVIC – Enterprise Value Including Cash). A staple of our climate reporting, this metric is recommended by the TCFD. However, carbon footprint is the emissions intensity metric recommended for pension schemes (a slightly different metric to WACI).