



JOURNEY TO
NET ZERO

BUILD YOUR ROADMAP TO
A SUSTAINABLE FUTURE

Climate Change & Net Zero Jargon Buster





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Introduction

'Climate-speak' can be full of confusing, and sometimes misleading, jargon that often lacks a universally agreed definition.

Here is our handy guide to the key terms businesses need to know!

Did you know?



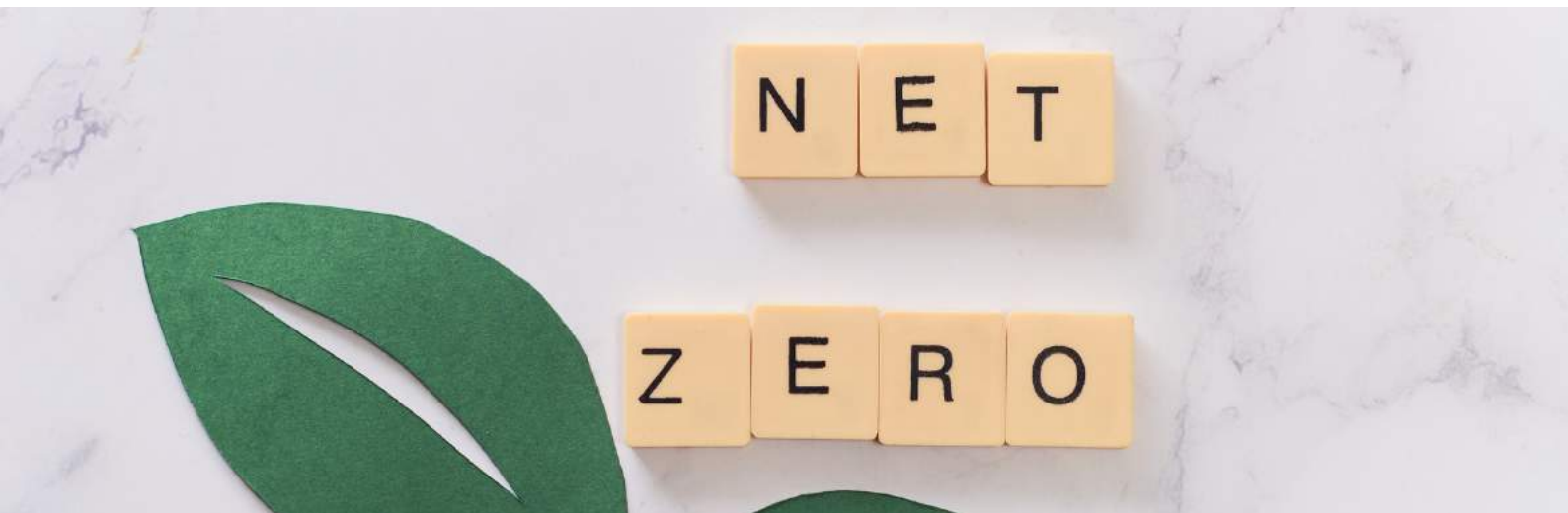
The UK needs to cut its emissions by around two thirds this decade



7 in 10 British businesses plan to introduce net zero emissions goals in the near future



Three quarters of the world's biggest companies expect to deselect suppliers based on environmental performance



A - Z 'Climate speak'

Biomass

Carbon-based organic matter derived from living organisms, such as timber or plants. Biomass is a renewable resource that can sometimes be used as a lower carbon alternative to fossil fuels, because the carbon released when burned is theoretically balanced out by the carbon that will have been absorbed by the organism while growing. However, energy from biomass is sometimes controversial, particularly if the organic matter comes from unsustainable sources. Biomass fuel can come in a solid (e.g. woodchip), liquid (e.g. biofuel) or gas form (e.g. methane from landfill).

Biodegradable

A biodegradable material is one which breaks down organically over time. Biodegradable materials differ widely – some may break down naturally in a short space of time in natural conditions (such as a garden compost bin), but others take much longer to degrade or may need industrial conditions (such as extreme heat) to complete the process.

Biodiversity

An umbrella term for the diverse range of living organisms existing in the environment, including animals, bacteria and plant life. A less biodiverse environment will provide fewer benefits to its inhabitants and will have less resilience to stresses such as disease.

Biofuel

A fuel produced from biomass, such as plants or food waste. Biofuels do not necessarily burn cleaner than fossil fuels such as petrol or diesel. However, because they are derived from living matter, they are sometimes considered a lower carbon alternative because the emissions from burning are balanced out by the carbon that will have been absorbed while growing. They may also have other environmental benefits, for example if produced from a resource that otherwise would have gone to waste.

Carbon

Carbon dioxide (CO₂) is the most common of six greenhouse gases emitted by human activity. Carbon is often used as shorthand for CO₂ and greenhouse gases in general (see 'greenhouse gases'). For this reason, the act of reducing greenhouse gas emissions is often called 'decarbonisation'.

Carbon budgets

A carbon budget is a cap on the amount of carbon an organisation, region or country can emit within a given length of time to stay in line with its climate commitments. At the national level, the UK sets legally binding five-yearly carbon budgets to ensure governments remain on track for the UK's long-term target to reach net zero emissions by 2050.

Carbon Capture and Storage (CCS)

CCS is an umbrella term for technologies which capture carbon, usually from industrial processes, and lock it away to prevent it entering the atmosphere. The Hynet hydrogen project in the North West is an example of CCS at scale.

Some applications also 'use' captured carbon as an input to new products and processes, known as CCUS.

Carbon footprint

A carbon footprint is a measure of an organisation's or product's carbon emissions. They usually cover all greenhouse gases and are expressed in tonnes of carbon dioxide equivalent (CO₂e) (see 'greenhouse gases'). However, sometimes they only cover CO₂, so it's important to be clear when making comparisons.

Carbon footprints are generally split into three scopes (see 'scope 1, 2 and 3 emissions') to make tracking and monitoring them easier.



Carbon insetting

Carbon insetting is similar to carbon offsetting in that it involves compensating for an organisation's carbon footprint by removing carbon emissions elsewhere. However, insetting is when these removals specifically take place within the organisation's value chain – for example by investing in the sustainable management practices of their suppliers.

Carbon negative

When a business removes more carbon emissions from the atmosphere than they emit. Also sometimes termed 'carbon positive'. See carbon neutral for more information

Carbon neutral

Carbon neutral means reducing carbon emissions to the point where a balance can be reached between the amount of carbon being emitted and the amount being removed from the atmosphere through practices such as carbon capture or carbon offsetting.

It is often used interchangeably with other terms such as climate neutral or net zero, although there can be subtle differences in their meaning. Climate neutral and net zero usually cover all greenhouse gas emissions, but carbon neutral sometimes only relates to CO₂ emissions. For example, Greater Manchester's target to become carbon neutral by 2038 only covers CO₂.

Some organisations are now setting 'carbon negative' targets, whereby they remove more emissions from the atmosphere than they emit. Confusingly, this is sometimes also termed 'carbon positive'.

Carbon offsetting

For unavoidable or difficult-to-reduce emissions, organisations can choose to purchase carbon credits to remove the equivalent emissions elsewhere. Carbon offsetting schemes often focus on projects that absorb carbon, such as tree planting or environmental restoration, but may also include emissions-reducing schemes such as renewable energy projects.

Carbon sink

A carbon sink is anything that absorbs carbon from the atmosphere and locks it away. Key carbon sinks include plants, soils and the ocean. Examples of artificial carbon sinks include the use of timber in construction or carbon capture and storage (CCS) technology.

Circular Economy

Just as nature is a 'circular' system with no waste, a circular economy is one that maximises resource efficiency, keeps materials in use for as long as possible and makes sure they are recycled or recovered at end-of-life (in contrast to the linear 'take, make, use, throwaway' approach that currently dominates economic thinking). Often also referred to as a 'closed loop' system.

Climate change

The change in long-term climate patterns as a result of global warming, resulting in more regular and violent extreme weather events, sea level rise and the loss of natural habitats.

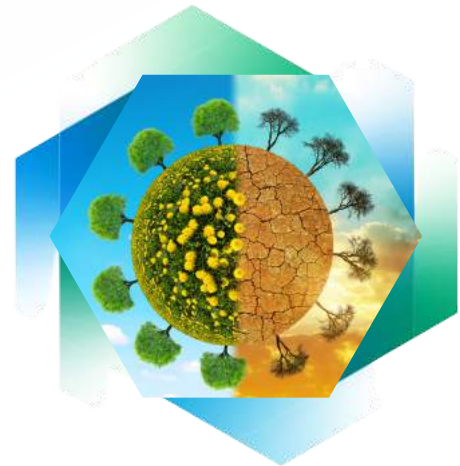
Some organisations now use terms like 'climate emergency' instead of climate change to better reflect the urgency of the situation.

Climate change adaptation

Climate change adaptation strategies focus on adjusting to climate change and its effects, for example by taking measures to reduce the risk of flooding or safeguard against extreme temperatures. This contrasts with climate change mitigation, which focuses on preventing or limiting climate change.

Climate change mitigation

Climate change mitigation strategies focus on preventing or limiting climate change by reducing greenhouse gas emissions or removing them from the atmosphere. This contrasts with climate change adaptation, which focuses on adapting to the effects of climate change.



Compostable

A biodegradable material that will decompose alongside other organic matter to produce compost. Some compostable materials can decompose at ambient temperatures in garden compost bins and can therefore be labelled as 'home compostable', but others require specific industrial conditions such as high heat and therefore need to go to specialist facilities

COP26

COP stands for 'Conference of the Parties', a group of nearly 200 countries who have signed up to the United Nations Framework Convention on Climate Change (UNFCCC). The COP meet at summits once a year to work towards reducing global greenhouse gas emissions.

Some COPs mark key junctures in the fight against climate change. COP21, held in Paris in 2015, led to an historic agreement where all countries agreed to work towards reducing their emissions for the first time. COP26, to be held in Glasgow in November 2021, is the first opportunity since Paris for countries to formally agree the stronger targets and measures that are needed to put the world on track to avoid catastrophic levels of climate change. As co-president, the UK will be leading the negotiations.

Cradle-to-cradle

A cradle-to-cradle process ensures that a product can be continuously reused or recycled into a new product at end-of-life, creating a circular solution. It differs from cradle-to-grave, which only takes into account a product's lifecycle up to the point of disposal.

Cradle-to-grave

Cradle-to-grave is the term given to assessing a product's full lifecycle, from the extraction of raw materials all the way through to manufacturing, distribution, use and disposal. A cradle-to-grave carbon footprint therefore includes both the product's operational emissions and its embodied carbon. This is also referred to as 'whole life carbon'.

Decentralised energy

The use of large numbers of small energy generators (such as rooftop solar panels) on the power network, as opposed to a conventional 'centralised' power network controlled by small numbers of large power stations.

Demand-side response (DSR)

DSR entails providing 'flexibility' services to network operators whereby an organisation agrees to temporarily reduce (or sometimes increase) their energy consumption when prompted, thereby helping the network operator to balance out peaks and troughs in grid demand.

Embodied carbon

The emissions involved in the creation of a product or asset, in contrast to the emissions involved in its operation. For example, the embodied carbon of a car is the carbon emitted in its pre-use phase (e.g. the extraction/transport of raw materials and the car's manufacture).

Energy storage

Energy storage technology allows organisations to capture excess power (e.g. from solar generation) and store it for later use when needed, thereby reducing reliance on the grid at peak times. Batteries are rapidly becoming more affordable for businesses and are set to become more commonplace in the 2020s. When plugged in, battery electric vehicles are also expected to play a similar role in future.

Fossil fuels

A natural carbon-based fuel that comes in the form of a solid (coal), liquid (oil) or gas state, derived from the remains of living organisms that were placed under huge pressure beneath the Earth's surface over millions of years. Although naturally formed, fossil fuels are finite in supply. They release carbon when burned, contributing to global warming.

Global warming

The gradually rising average temperature of the Earth since pre-industrial times as a result of increasing concentrations of greenhouse gases in the atmosphere.

Global temperatures have so far risen by more than 1°C since pre-industrial times and are currently on course for 3-4°C before the end of the century, which would result in catastrophic impacts across the world. Some organisations now use the term 'global heating' instead of global warming to better reflect the speed at which the Earth is warming

Greenhouse gas

-
- Greenhouse gases trap heat in the atmosphere through a process known as the 'greenhouse effect'. There are six key greenhouse gases that are contributing to climate change through human activity:
- Carbon dioxide (CO₂), primarily from burning fossil fuels, deforestation and industrial processes such as cement making
- Methane (CH₄), primarily from livestock, landfills and the extraction/transport of fossil fuels
- Nitrous oxide (N₂O), primarily from agriculture and transport
- Hydrofluorocarbons (HFCs), primarily from refrigeration, air conditioning and aerosols
- Perfluorocarbons (PFCs), primarily from industrial processes and refrigeration
- Sulphur hexafluoride (SF₆), primarily from insulation and industrial processes.

To make things easier, all greenhouse gases can be converted into carbon dioxide equivalent (CO₂e) using special conversion factors. Even though some of these gases are several thousand times more powerful than CO₂ at trapping heat (also known as their Global Warming Potential (GWP)), CO₂ is still considered the most important because of the sheer amount being emitted and the length of time it remains in the atmosphere.

Greenhouse Gas Removal (GGR) Technology

Also known as Negative Emissions Technologies (NETs), GGR Technologies remove emissions from the atmosphere either directly by capturing it from the air, or indirectly through enhancing natural processes. Most GGR Technologies are not yet tested at scale and some are considered controversial.

Greenwashing

When an organisation uses marketing spin to give a false impression that it is an 'environmentally friendly' company. Risks of greenwashing are high because of the use of jargon, like some of the terms on this list, without proof of any real action or an understanding of what they entail. Always ensure climate commitments are backed up with evidence of a credible strategy.

Hydrogen

Hydrogen is a gas which, unlike carbon-based fuels like fossil fuels and biomass, burns cleanly – producing only heat and water as a by-product. It can either be burnt for heating or industrial processes, or used to power electric vehicles and other electrical equipment via fuel cells. Fuel cell technology generates clean electricity through the chemical reaction of converting hydrogen (H) and oxygen (O₂) into water (H₂O).

Hydrogen can be produced in a number of ways. The most common technique today uses natural gas, which is also known as 'brown' hydrogen. If combined with Carbon Capture and Storage (CCS) technology to capture the emissions produced during the process, it is known as 'blue' hydrogen. The most environmentally sustainable method, 'green' hydrogen, is produced via electrolysis – which requires only electricity and water. To be the most effective, green hydrogen should be produced using excess renewable electricity on the grid, rather than electricity that could be better utilised elsewhere.

The vision of using hydrogen as a low carbon source of energy to replace fossil fuels is known as the 'hydrogen economy'.

Natural capital

Natural capital refers to the physical stock of natural assets, such as water and woodland, in a given area. These natural assets provide a flow of services that underpin many aspects of the economy (referred to as 'ecosystem services'), such as raw materials or air and water purification. See also nature-based solutions.

Nature-based solutions

Unlike technology-based solutions, nature-based solutions are measures that work with nature to provide environmental or social benefits. A good example is 'living walls' – vegetation-covered facades on buildings which help to improve air quality, absorb carbon, cool spaces and reduce water runoff.

Nature-based solutions are often called 'green infrastructure' (or 'blue infrastructure' if they are water-based).



Net positive

In contrast to net zero, net positive is when an organisation is having a positive impact on the climate overall, i.e. by removing more greenhouse gas emissions from the atmosphere than they emit.

Net positive may also be used in a broader sense to mean an overall positive impact on the environment through other means, such as biodiversity.

Net zero

Net zero means reducing greenhouse gas emissions to as close to zero as possible, to the point where they can be balanced out by removing greenhouse gases from the atmosphere through carbon offsetting or carbon capture. It differs from 'zero carbon', which means no emissions are produced at all.

Net zero is often used interchangeably with other terms such as carbon neutral or climate neutral. Like these terms, net zero targets are difficult to compare like-for-like because different activities and greenhouse gases may be included or excluded depending on the measurer. For example, the UK's 2050 net zero target covers all greenhouse gases, but it does not include emissions from the goods and services we import.

The term 'net zero carbon' is sometimes used synonymously with 'carbon neutral' and typically focuses just on carbon emissions from energy use.

Process efficiency

The act of manufacturing a product or managing a process in such a way as to avoid wasting materials, energy, effort, money and time. Poor process efficiency can lead to a build-up of 'invisible costs' that often escape diagnosis, such as downtime or quality losses. See also true cost of waste.

Renewable energy

Energy that is generated from natural sources that will never run out. The most common examples are solar and wind, but other forms include geothermal heat, wave and tidal energy.

Scope 1 emissions

When calculating a carbon footprint, these are the emissions from sources you own and control and are therefore directly responsible for. Examples include gas heating, emissions from company vehicles or refrigerant gas losses from refrigeration and air conditioning.

Scope 2 emissions

These are the emissions you indirectly produce through the energy, heat or steam you purchase. For most businesses, this is usually just electricity. By using electricity, you are indirectly responsible for the greenhouse gases generated at source by the energy producer.

Scope 3 emissions

These are other emissions you're indirectly responsible for from sources outside your direct control. These can be 'upstream', such as the emissions from the goods and services you purchase from suppliers; or 'downstream', such as the distribution and end use of your own goods and services, business travel, employee commuting and the disposal of your waste.

Scope 3 emissions are often excluded from many carbon footprints because they are difficult to measure. However, they are becoming much more important, especially among larger businesses whose supply chains are responsible for many times more emissions than their direct operations.

Sustainability

Sustainability has many different meanings, which can make it confusing or misleading. However, the most commonly accepted definition is "meeting the needs of the present without compromising the ability of future generations to meet their own needs".

Sustainability is closely tied with the concept of the 'triple bottom line', which entails evaluating performance against social and environmental factors as well as economic/financial factors. These are also known as the 'three pillars' of sustainability and can be roughly translated into the three 'Ps' of people, planet and profit.

Zero carbon

Reducing emissions to absolute zero (in contrast to net zero, which involves a degree of offsetting to balance out emissions). In practice, this is extremely difficult for most organisations to achieve overall but it is possible for some processes or activities, such as zero carbon power through renewable energy.

Zero carbon may refer to both carbon emissions only or greenhouse gas emissions as a whole (see carbon neutral for more information).

Zero Waste to landfill

When an organisation reuses, recovers or recycles 100% of its waste, ensuring that none goes to landfill. Similarly, zero waste products are those that are designed and manufactured to ensure the materials can be recycled or recovered at end-of-life.

Organisations and Institutions

Climate Change Committee (CCC)

The CCC independent statutory body established under the Climate Change Act to advise the government on its emissions targets and carbon budgets, and to report on the UK's progress in tackling climate change.

IPCC (Intergovernmental Panel on Climate Change)

The IPCC is a body established by the UN to provide policymakers with scientific assessments on climate change, its implications, potential future risks, and options for mitigation and adaptation. It is made up of leading scientists and experts from around the world.

UNFCCC (United Nations Framework Convention on Climate Change)

The United Nations Framework Convention on Climate Change established an international environmental treaty to combat "dangerous human interference with the climate system", in part by stabilizing greenhouse gas concentrations in the atmosphere.



Rules and Regulations

Climate Change Act

The Climate Change Act was a world-first law passed in 2008, committing the UK to a legally binding target of reducing greenhouse gas emissions by 80 per cent by 2050 compared to 1990 levels. In 2019, the target was upgraded to net zero by 2050. The Act also commits governments to setting and meeting five-yearly carbon budgets to ensure the UK stays on track.

Climate Change Levy (CCL)

The CCL is a tax added to business energy bills to incentivise improvements in energy efficiency. Different rates are charged depending on the fuel being used. Some companies can qualify for a discount on CCL rates through the Climate Change Agreement (CCA) scheme.

ESOS (Energy Saving Opportunity Scheme)

ESOS is a regulation requiring all large companies with either 250 employees or more, a turnover in excess of €50 million or a balance sheet in excess of €43 million to conduct an in-depth energy audit of their operations every four years.

Minimum Energy Efficiency Standards (MEES)

Under the MEES regulations, the vast majority of non-domestic properties in England & Wales must have an EPC rating of at least 'E' to be leased to a new tenant. From April 2023, all properties must achieve this energy efficiency rating, regardless of whether there has been a change in tenancy.

Paris Agreement

In 2015, nearly 200 countries reached an historic commitment in Paris to collectively reduce their emissions in an effort to limit global temperature rise to less than 2°C above pre-industrial levels, and to pursue a much more ambitious 1.5°C target (see 'global warming').

As part of the Paris Agreement, every country agreed to review and strengthen their voluntary commitments (called Nationally Determined Contributions, or NDCs) every five years to keep in line with the latest climate science. The UK's current NDC is to reduce emissions by 68 per cent compared to 1990 levels by 2030.

SECR (Streamlined Energy and Carbon Reporting)

SECR is a regulation that requires all large UK companies and LLPs, as well as quoted companies, to publicly disclose on their annual energy use, greenhouse gas emissions and energy efficiency actions they have taken. Smaller businesses can also take part on a voluntary basis.



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Additional resources

[Net Zero: What it is and why it matters to you](#)

[Think net zero won't impact you anytime soon? Think again](#)

[Greater Manchester's drive to carbon neutral and what it means for you](#)

[A beginner's guide to carbon footprinting](#)

[A quick-fire guide to 'Scope 3' emissions](#)

[An introduction to science-based climate targets](#)

[Why sustainable supply chains are essential in the post-coronavirus world](#)

[How to be a 'net zero ready' supplier](#)

[How to create an environmentally aware workforce](#)

[The good, the bad and the ugly: Switching to renewable electricity](#)

[Greenwashing: What it is and how to avoid it](#)



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