

Glossary

Active travel

Travelling by walking, cycling, wheeling or other methods of getting around that do not involve motorised transport.

Adaptation

Preparing for the effects of climate change, such as changing rainfall and rising sea levels. It is often paired with 'mitigation' because the less the climate changes, the less adaptation will be required.

Baseline

An exercise which establishes the level of emissions in a given year. Statutory emissions reductions of 50% by 2030 are measured against the baseline of 1990.

Biodiversity

The variety of living things in the natural environment. Improved biodiversity leads to stable ecosystems and a more suitable living condition for human beings.

Built Environment

The buildings, infrastructure and facilities in which human beings live, work and occupy.

Carbon Emissions

The release of carbon dioxide (CO₂) emissions, the most prevalent greenhouse gas in the atmosphere which causes global warming and climate change.

Carbon capture and Storage

Removing carbon dioxide from the atmosphere and storing it underground. The aim is to prevent the release of large quantities of carbon dioxide into the atmosphere from heavy industry.

Carbon footprint

The emissions generated by an organisation, activity or product. Usually measured in kilotons of carbon dioxide or carbon dioxide equivalent (kt CO₂e).

Carbon negative

Also 'emissions negative.' An activity or product that removes greenhouse gases such as carbon dioxide from the atmosphere and reverses the causes of global warming.

Carbon neutral

Achieved when CO₂ emissions are balanced by CO₂ removals over a specified period.

Circular economy

An alternative to a traditional linear economy (make, use, dispose) in which resources are kept in use for as long as possible, the maximum value is extracted from them whilst in use, then products and materials are recovered at the end of each service life.

Clean energy

Energy, such as electricity or hydrogen fuel, that is produced without emitting greenhouse gases and therefore does not contribute to climate change.

Climate Change

The long-term shift in global climate patterns, including extreme weather events and rising sea levels, linked directly with the warming of the Earth's atmosphere. Climate change is rapidly accelerating due to human activities, such as burning hydrocarbons for transportation and energy.

Climate-conscious

Activities or products that try to limit their contribution to climate change and have the knowledge to do so effectively.

Climate-tipping points

The threshold at which the Earth's natural systems stop regulating themselves and begin to exacerbate change.

CO₂

Carbon dioxide, often referred to as just 'carbon,' is the greenhouse gas most responsible for causing climate change when it proliferates in the atmosphere. It is released into the atmosphere primarily by burning hydrocarbons for transportation and energy.

CO₂e

Carbon dioxide equivalent. A holistic way of measuring climate impact which accounts for other greenhouse gases, such as methane and nitrous oxide, which have varying warming effects. The warming effect of carbon dioxide is well-understood, so impact is often expressed as an equivalent of kilotons of carbon dioxide (kt CO₂e).

Co-benefits

Social, environmental, and economic benefits that arise from undertaking climate action that are incidental to avoiding the worst effects of climate change. For example, undertaking more active travel will result in improved cardiovascular health for the populace.

Committee on Climate Change

An independent, statutory body established under the Climate Change Act 2008 to advise the UK Government and Devolved Administrations on emissions targets and report to Parliament on progress made in reducing greenhouse gas emissions and preparing for climate change.

Decarbonise

Altering an organisation, product, service, or investment so that it is delivered producing less emissions. Carbon is used as a stand-in for all greenhouse gas emissions.

Embodied carbon

The greenhouse gas emissions generated from manufacturing materials, including extraction and transport of raw materials and manufacturing. It is usually used in construction and means that the structure has an emissions impact just by having been built.

(Greenhouse gas / GHG) emissions

Gases which, when dispersed in the atmosphere, trap the Sun's radiation within the Earth's atmosphere and cause global warming. This achieves a similar effect to a greenhouse, hence the name. Greenhouse gases include carbon dioxide, methane, nitrous oxide, and water vapour.

Emissions factor

The emissions, usually expressed as kilotons of carbon dioxide equivalent, which are generated by producing a unit of energy. This will vary depending on the fuel used and type of energy produced.

Empowerment

Empowerment is equipping staff and the community with the power and resources to undertake and accelerate climate action. Building climate knowledge, understanding, skills and capacity within the community will enable groups and individuals to undertake and accelerate their own climate activities.

Essy kert

The Shetland term for a refuse collection vehicle.

EV

Electric vehicle. Usually powered by a rechargeable battery and therefore a BEV (Battery Electric Vehicle).

Fixed links

Bridges or tunnels which connect islands, reducing or eliminating the need for inter-island ferries.

Fossil fuels

Fuels such as oil, coal, and natural gas which derive from decomposed organic material – hence 'fossil' fuel. This organic matter is primarily made of carbon, therefore burning it releases carbon dioxide. See: hydrocarbons.

Fuel poverty

A household that spends more than 10% of its income on fuel costs is in fuel poverty. If this rises to more than 20%, the household is in extreme fuel poverty.

Generation

How energy is made before it is distributed, such as from wind turbines turning or hydrocarbons burning in a power plant.

Global warming

An increase in the world's average temperature as a result of greenhouse gases trapping the Sun's heat in Earth's atmosphere. Global warming causes more extreme weather and chemical changes, and melts polar ice caps causing sea level rise.

Green hydrogen

Hydrogen fuel which is produced using electricity from renewable generation, such as wind or tidal sources. It is the only sustainable hydrogen fuel because, while burning hydrogen is zero-emissions, producing hydrogen fuel using other means creates emissions.

Green skills / jobs

Skills and jobs which are related to renewable energy, climate change adaptation, or the circular economy. These are seen as future-proof skills and jobs because every industry will need to decarbonise in the coming years.

Hydrocarbons

An organic compound consisting of the elements hydrogen and carbon. These compounds are energy-dense when burned and have powered most human activity, such as transportation and energy, since the industrial revolution. See: fossil fuels.

Hydrogen (fuel)

Fuel which uses the element hydrogen and produces only water when burned. It is seen as a viable option for clean energy if it can be produced using electricity from renewable sources (see: Green hydrogen) and is suitable in a wide variety of applications where electricity is not.

Hydrogen economy

A system in which employment and economic activity is based on the production of hydrogen fuel rather than fossil fuels. It is more future-proof than a fossil fuel economy because changing legislation and technology mean that every industry will need to decarbonise in the coming years.

Islands-proof

A policy or plan that is suitable for the unique challenges faced by islands communities and is not reliant on connectivity and resources which are available only on the mainland.

Just Transition

A just transition is both the outcome – a fairer, greener future for all – and the process that must be undertaken in partnership with those impacted by the transition to net zero. The benefits of a transition should be shared widely, without unfairly burdening those who are least able to pay or benefitting those most well-off.

LULUCF

Land Use, Land Use Change, and Forestry. Refers to emissions from land and the way it is used, both historically and currently.

Mitigation

Reducing, eliminating, or offsetting the greenhouse gas emissions generated by human activity, minimising the possible impacts of climate change. This includes using less energy and replacing fossil fuels with renewables. Mitigating climate change is crucial to avoiding its worst effects.

Nature-based solutions

Nature-based solutions refers to ways of working with nature to address our societal needs and challenges, providing benefits to both community and environment. Our land and natural surroundings absorb excess greenhouse gas emissions from the atmosphere and build physical resilience to storms or flooding.

Net Zero

A balance between the emissions generated and those removed from the atmosphere – this means the activity does not contribute to climate change. This can be achieved by making the activity or product zero-emissions or by offsetting the emissions generated with another activity or product.

Ocean acidification

When carbon dioxide in the atmosphere dissolves in the ocean, the water becomes more acidic. This is damaging to marine ecosystems. Shellfish are damaged in particular, as their shells dissolve in acidic water.

Ocean warming

As the world's average temperatures rise due to global warming, the ocean warms and becomes a more hostile environment for fish and other marine ecosystems. Ocean warming could also weaken or collapse the Gulf Stream, which would result in much lower temperatures in Europe.

Pests, pathogens and invasive species

Warming temperatures globally and changing seasonality may cause pests and non-native species to travel to areas where they are not endemic and force out native species, disrupting local ecosystems. Diseases can also spread for these same reasons.

Renewable(s) energy

Energy, usually electricity, which is generated using equipment that harnesses natural resources that are virtually limitless such as wind or tidal energy. Contrast with fossil fuels, which are a finite resource and release greenhouse gases when burned.

Resilience

Preparing for and working around the impacts of climate change. This includes having knowledge of climate change's effects and having plans in place to ensure services continue despite the challenges.

Resilient buildings

Resilient buildings are designed to withstand and recover from environmental disruptions, while maintaining their functionality.

Re-skilling

Acquiring skills for careers and industries that are net zero by leaving behind old practices that are emissions-intensive and acquiring new ones that are suitable for future industries.

Scope 1, 2 and 3 emissions

Scope 1 emissions are those for which an organisation or individual are directly responsible, such as those from driving a vehicle. Scope 2 emissions are those produced from generating purchased energy. Scope 3 emissions are emissions produced further up and down the supply chain due to decisions made by those other than the consumer, but still resulting from purchases or decisions made by the consumer.

SDGs

The United Nations Sustainable Development Goals.

Sustainability

In an environmental context, sustainability means that no more resources are used by human activity than can be regularly replenished by Earth's natural systems.

Tipping points

The threshold at which the Earth's natural systems stop regulating themselves and begin to exacerbate change. For example, global temperatures may reach a point where trees release more carbon dioxide from burning in wildfires than they absorb by growing.

Transition (net zero / energy)

The energy transition or net zero transition is the shift in energy systems and global production to be zero emissions. This transition will necessarily mean that some industries, such as petrochemicals and fossil fuels, will be phased out. See: Just Transition.

Up-skilling

Acquiring skills for careers and industries that are net zero, ideally by adapting skills that have already been learned and are applicable to new jobs and needs.

Whole-life cost

The total cost of an asset over its life, from purchase and operation to disposal. Green and energy-efficient assets may have a higher purchase cost, but often save money over their entire life.

Zero-emissions

A product or activity that produces no greenhouse gas emissions and does not contribute to climate change.