



Glasgow  
Council  
for the  
Voluntary  
Sector

**SECTOR**  
DEVELOPMENT

# GCVS Climate Development

## Climate change glossary

Updated October 2021

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Discourse on climate issues is packed with scientific terminology, colloquial words given technical subtext, political buzzwords, misleading ‘greenwashing’ terms, and other opaque forms of communication. We have made here a glossary of some of the more important terms used. Extensive reference was made to other pages for this, and these have been linked to below.

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## Terms

### 1.5°, 1.5° worlds

The world is 1.2°C warmer, on average, than before the industrial revolution. This is a mean across the entire globe across the entire year – the Antarctic is 3°C warmer in Summer than it was, the equivalent difference between London and Istanbul. This is all rising, and there are thresholds above which we cannot reverse it.

Limiting the world's temperature rise to below 1.5°C creates a situation we can improve and adapt to more easily than if global temperatures rise above it. Modelling climate change effects is a complicated job, but the scientific consensus is that things get far worse above 1.5°C than below. Currently, we are set to pass 1.5°C by 2025.

More on this:

World Meteorological organisation: 'New climate predictions increase likelihood of temporarily reaching 1.5°C in next 5 years.' <https://public.wmo.int/en/media/press-release/new-climate-predictions-increase-likelihood-of-temporarily-reaching-15-%C2%B0c-next-5>

### Actual Zero

The goal or practice of not emitting greenhouse gases, as opposed to offsetting emissions by planting trees or what have you. Cutting emissions is the only scientifically accepted solution to climate change, as each bit of carbon we release now kills off *existing* carbon sinks and pushes us towards and past irreversible thresholds. If we cross 1.5 by 2025, it won't matter that the trees you planted in 2019 will absorb more carbon than you let out by 2030.

This does not mean we must emit *none* to succeed. It means that the effect of pollution right now is cumulative over time and cannot simply be made up for in future. 'Net zero' serves as an important 'foot in the door' for climate negotiations and climate action.

More on this:

'The concept of net zero is a dangerous trap'. <https://theconversation.com/climate-scientists-concept-of-net-zero-is-a-dangerous-trap-157368>

### Adaptation / Resilience

In this context, 'adaptation' and 'resilience' tend to refer to infrastructure and practices that allow us to withstand the effects of climate change. A good example are the flood guards being built by Glasgow City Council around the Clyde, as rising global temperatures mean more flooding is now happening in temperate areas.

More on this:

Some European policies around the matter. [https://ec.europa.eu/clima/policies/adaptation\\_en](https://ec.europa.eu/clima/policies/adaptation_en)



## **Biodiversity**

The variety of forms within and between species and ecosystems.

This is a useful term when describing a population or ecosystem's 'health'. A diverse population of a species can more quickly adapt to a changing environment, so a reduction in its population reduces its resilience to change. The more different species there are in a place, the more ecological processes happen, which are usually good for us as well.

Oxygen production and carbon reduction from photosynthesis, and the aeration and enrichment of soil by bacteria, are good examples of those useful processes, hence the term 'ecosystem services'.

Global biodiversity loss from human action exacerbates climate change by reducing the levels and efficiencies of these 'services'.

More on this:

<https://plato.stanford.edu/entries/biodiversity/>

And a less dry but less thorough link: <https://www.cpre.org.uk/news/reversing-biodiversity-loss/>

## **Bluezone**

See 'COP Zones'

## **Carbon**

In this context, 'carbon' is a byword for the many carbon compounds put out by industrial processes that influence our atmosphere. Since it's the most produced hydrocarbon-and-greenhouse-gas, this usually refers to carbon dioxide, but it can also refer to other fossil fuel by-products like methane.

More on this:

Carbon the element: [https://en.wikipedia.org/wiki/Carbon\\_dioxide](https://en.wikipedia.org/wiki/Carbon_dioxide)

Carbon dioxide's action as a greenhouse gas: <https://youtu.be/Rt6gLt6G5Kc>

## **Carbon Dioxide**

A small carbon compound that contributes to the greenhouse effect when released into the atmosphere. Common by-product of industrial processes, and the most common greenhouse gas.

More on this:

Carbon dioxide's action as a greenhouse gas: <https://youtu.be/Rt6gLt6G5Kc>



## **Carbon Footprint**

The total greenhouse gas (GHG) emissions of an individual, or business, or what have you. This term can be useful in thinking about where carbon gets released in our lives, but it has also been embraced, popularised, and in many cases defined by fossil fuel companies lobbying to prevent being legislated against. This is because it can lead one to believe that the consumer is responsible for the climate crisis, rather than which technologies are being used or the infrastructure of people's lives.

The global climate crisis owes its existence as much to the fact so many people must drive cars to live as it does to fossil fuel use for heating. A '20-minute neighbourhood' reduces an area's carbon footprint enormously but isn't due to people's behaviour – only what is available to them.

The term has some use in sustainability and the circular economy but should probably be used with caution elsewhere. The climate crisis did not come from you not recycling that milk bottle.

More on this:

Carbon footprint factsheet from the University of Michigan:

<https://css.umich.edu/factsheets/carbon-footprint-factsheet>

## **Carbon Neutral**

See 'Net Zero'

## **Carbon Offsetting**

Adding 'carbon sinks' to absorb, eventually, the greenhouse gases you put out, to allow the use of fossil fuels.

There are obvious pitfalls to this approach. It can imply that it's fine for you to release a ton of carbon dioxide now if you plant enough trees that will photosynthesise that ton into sugar by a few years from now.

Sadly, it doesn't work like that. Each drop of carbon put out now prevents carbon being absorbed in the future, and the effects are cumulative and often irreversible. See the entry here for 'actual zero': the only valid solution is changing our infrastructure and technology to not release greenhouse gases and trying to make up for present pollution by absorbing it later is a something of a red herring.

More on this:

Problems with carbon offsetting: <https://www.greenpeace.org.uk/news/the-biggest-problem-with-carbon-offsetting-is-that-it-doesnt-really-work/>



## **CFCs (Chloro-fluoro-carbons)**

Also called by the brand name 'freon'. This is a class of chemical compounds once commonly used as propellants. They are produced from fossil fuels, and react with ozone, removing it from the atmosphere.

When released in a spray, these molecules are light enough to float into the upper atmosphere, where UV light breaks them up, releasing chlorine gas. Chlorine reacts with ozone to release oxygen and carbon monoxide, removing the ozone. There is an interesting seasonal effect with this: it can gather in the atmosphere over Winter then start depleting ozone very quickly when UV levels increase in Spring, especially at the poles.

A serious ozone layer hole in the 1990s prompted regulation of this kind of chemical, which closed the hole.

More on this:

University Corporation for Atmospheric Research (UCAR) page on ozone layer:

<https://scied.ucar.edu/learning-zone/atmosphere/ozone-layer>

## **Circular Economy**

The idea of a circular economy is one in which goods and services are efficient and wasteless, where by-products are repurposed. The principles of a circular economy are to reuse, re-manufacture and repair goods, as opposed to the current culture of novelty, obsolescence, and waste. The term is often used interchangeably with sustainability and refers to a direction more often than a goal.

More on this:

<https://wrap.org.uk/about-us/our-vision/wrap-and-circular-economy>

## **Climate Change**

This refers to the changes in the world's climate since the industrial period, especially the parts caused or overwhelmingly contributed to by man. The world is 1.2 °Celsius warmer than before the industrial period. We usually use the term to refer to the rapid alteration in global meteorology that follows from this. Whatever natural changes would have happened have been superseded by human addition of carbon dioxide and other hydrocarbons into the atmosphere.

These higher temperatures have different effects depending on where you are in the world. Globally, sea levels are rising, and all environments are becoming more acidic, making more land impossible to farm. In tropical areas it causes desertification, as has happened in Sudan.



In temperate areas like Scotland, higher average temperatures lead to more heat waves, more flash floods, more flash freezes, and more extreme weather events. 'Climate change' is more appropriate than 'global warming' because, for example, the flash freezes don't obviously follow.

More on this:

350.org's summary of the science behind understanding climate change:

<https://350.org/science/>

## **Climate Crisis**

See 'Climate Change'.

## **Climate Justice**

A commitment to ensure the approach taken to resolve the climate crisis is a transparent, accountable, and fair one.

The countries facing the brunt of current disasters did least to cause them, and there is a strong argument that this makes it the job of the nations with the largest carbon outputs to do their share to solve it.

The term is sometimes used to also include issues like 'climate racism' and other ways climate crises are exacerbating the effects of inequality.

More on this:

Article on the relationship between inequality and climate change:

<https://www.greenpeace.org.uk/news/climate-change-inequality-climate-justice/>

## **Climate Racism**

The effects of climate change are worse for the worst-off, and this applies at almost all levels of inequality we can observe. This includes the way racism shapes the lives of black and minority ethnicity (BME) people in Scotland, particularly in terms of health and poverty: a poorer neighbourhood will face more health issues from a heat wave than a richer one, and BME people are often restricted to poorer or even racially stratified neighbourhoods.

It's worth noting here that 'racism' in a sociological context is *not* referring to personal prejudices, but instead to the social factors that allow an ethnic majority to maintain its hegemony. That things are worse-off for ethnic minorities is a systemic issue that includes wide financial and political factors, which are referred to by sociologists as 'racism'. Matters of whether an individual is 'a racist' are not as relevant.





More on this:

Yale article on links between inequality and climate change:

<https://e360.yale.edu/features/unequal-impact-the-deep-links-between-inequality-and-climate-change>

## **COP, COP26**

Conferences of Parties (COPs) to a UN agreement. In this context, COP meetings discuss and update the accords reached by the UN nations in Paris in December 2015. The 26th conference comes shortly before the point at which the climate crisis will become unsolvable without work towards actual zero.

A COP can refer to any other UN agreement. COP26 is the 26<sup>th</sup> COP of the Paris Accords in particular.

More on this:

COP26 Coalition's rundown on the event: <https://cop26coalition.org/cop26/understanding-cop/>

## **COP Zones**

The area around a Conference of Parties (any of them) is divided into a **Blue Zone** for delegates and observers and a **Green Zone** for attendant events by, for example, civil society groups.

More on this:

Scottish Renewables' guide to COP26 <https://www.scottishrenewables.com/news/585-a-beginner-s-guide-to-cop26>

## **Environmental Justice**

See '**Climate Justice**'.

More on this:

<https://www.greenpeace.org.uk/news/climate-change-inequality-climate-justice/>

## **Environmental racism**

See '**Climate Racism**'.

More on this:

<https://e360.yale.edu/features/unequal-impact-the-deep-links-between-inequality-and-climate-change>

## **Fossil fuels**

From Merriam-Webster: "a fuel (such as coal, oil, or natural gas) formed in the earth from plant or animal remains". Over time, geological pressures on the remains of living things transform their remains into base hydrocarbons. Most crude oil is formed from the remains of marine animals and plant/animal plankton, and coal forms from trees.



More on this:

<https://www.nrdc.org/stories/fossil-fuels-dirty-facts>

<https://www.eia.gov/energyexplained/oil-and-petroleum-products/>

## Global Warming

See '**Climate Change**'. The world's temperatures are now, on average, 1.2 degrees Celsius above pre-industrial levels. The term 'global warming' is a slightly out-of-date way of referring to this. It implies warmer weather, and doesn't allow for extreme weather events, soil acidification, rising sea levels, or any of the other downstream effects of a rise in average global temperatures.

More on this:

<https://350.org/science/>

## Greenhouse Gas (GHG)

Any of the chemicals contributing to global warming by absorbing or reflecting heat back onto the planet. Carbon dioxide is the main culprit in that we've pushed a lot of it into the atmosphere, but other gases, usually industrial hydrocarbons, also contribute.

More on this:

Carbon's action as a greenhouse gas: <https://youtu.be/Rt6gLt6G5Kc>

## Greenwashing

Marketing practice where ineffective action, insufficient action, or inaction on climate issues is reframed as useful for reducing climate change. It is useful to pay attention to these accusations, and to remember it is possible to be keen but choose the wrong method.

More on this:

<https://www.investopedia.com/terms/g/greenwashing.asp>

## Greenzone

See '**COP Zones**'

## Hydrocarbon

Any chemical compound containing only carbon and hydrogen. Many have industrial uses as fuels, plastics, and other materials, but these processes often release greenhouse gases (themselves often hydrocarbons).

More on this:

Several technical definitions of the term: <https://www.sciencedirect.com/topics/physics-and-astronomy/hydrocarbon>



## Hydrogen

In most contexts, a reactive chemical element with the symbol H and a weight of 1. In this context, 'hydrogen' usually refers to hydrogen extracted from fossil fuels for use in generating energy.

Unfortunately, while creating electricity from hydrogen is less harmful than burning the fossil fuel itself, the extraction process is just as bad. At the risk of putting this too informally, what do you get when you take hydrogen out of a hydrocarbon?

More on this:

Pros and cons of hydrogen power: [https://www.conserve-energy-future.com/advantages\\_disadvantages\\_hydrogenenergy.php](https://www.conserve-energy-future.com/advantages_disadvantages_hydrogenenergy.php)

## Methane

A small hydrocarbon with a stronger effect on global warming, pound for pound, than carbon dioxide. It is produced by fossil fuel use, but also produced as a by-product of other processes. One such process is rumination in cows, as the gas is produced in their stomach and escapes, unfortunately for them, through the nose.

More on this:

<https://scied.ucar.edu/learning-zone/how-climate-works/methane>

## Net Zero

A hypothetical situation or goal where a carbon footprint is 'neutral' through offsetting carbon output with 'sinks' that will absorb that much carbon (eventually). This is the goal of the Paris accords and is agreed by scientists to be unhelpful, certainly in the timeframe those accords allow.

For climate change to be dealt with, emissions must stop, as every drop of carbon we put out now kills existing climate sinks, bringing us closer to levels we cannot reverse. Many of the temperatures we rise to cannot be lowered, and a tree's growth won't do anything about that. Unfortunately, one can negotiate with a head of state, but not with chemistry.

It should be stressed that the concept of net zero, while not the right answer, has been an important 'foot in the door' for climate action. That there is plenty of hope for the COP26 to accelerate that action to the point it is useful, especially with the right safeguards.

More on this:

<https://theconversation.com/climate-scientists-concept-of-net-zero-is-a-dangerous-trap-157368>

## Ozone Layer

A thin layer of the gas ozone (O<sub>3</sub>, also called trioxygen) in the upper atmosphere which absorbs most of the harmful wavelengths of UV radiation from the sun as it reaches the



Earth. UV radiation has important effects on human health and is the main cause of skin cancer.

This layer is threatened occasionally by certain emissions, such as chlorofluorocarbons (CFCs) used as sprays, which release chemicals that react with ozone. A large hole appeared in this layer towards the turn of the last millennium due to the use of chloro-fluorocarbon propellants, which was resolved by limiting their use.

More on this:

<https://scied.ucar.edu/learning-zone/atmosphere/ozone-layer>

### **Ozone-Depleting Substances (ODS)**

These are gases that are light enough to float into the upper atmosphere, and react in some way with ozone, increasing the amount of UV radiation reaching the planet. See CFCs for some detail on this.

More on this:

<https://www.epa.gov/ozone-layer-protection/ozone-depleting-substances>