

SUSTAINABILITY TERMINOLOGY

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Sustainability

The ability to maintain or support a process continuously over time. In business and policy contexts, sustainability seeks to prevent the depletion of natural or physical resources, so that they will remain available for the long term. Most often refers to environmental sustainability.

Greenhouse gases (GHG)

Gases that trap heat in the atmosphere by absorbing infrared radiation. For example, [carbon dioxide](#) and methane.

Carbon dioxide (CO₂)

The main [greenhouse gas](#) when considering climate change influenced by human activities.

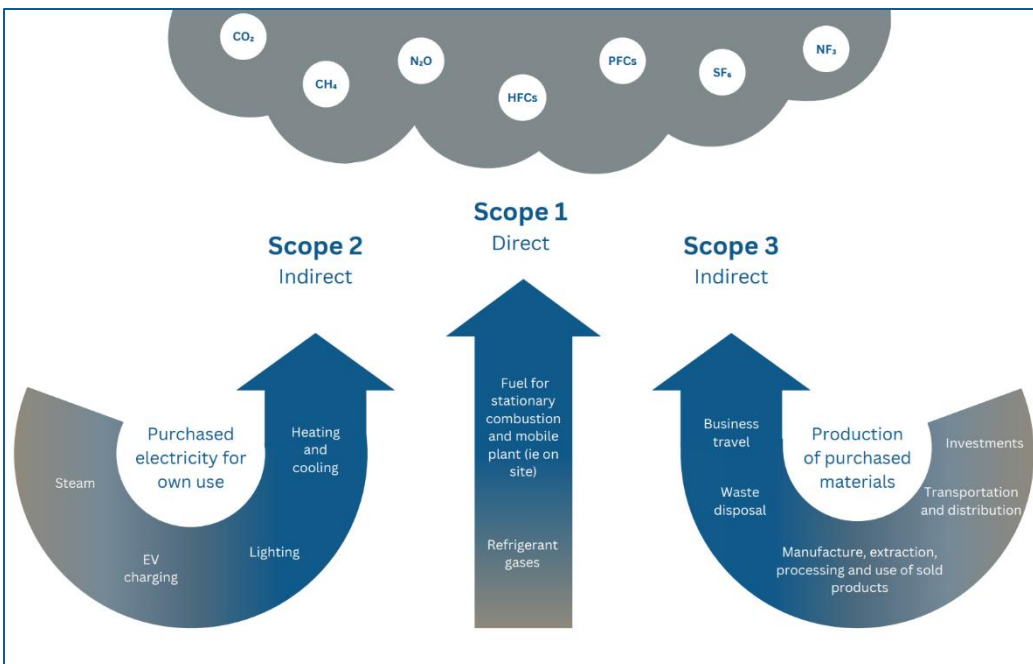
Carbon dioxide equivalent (CO₂-e)

A standard unit for comparing the [global warming potential](#) of different [greenhouse gases](#) based on the amount of [carbon dioxide](#) that would create an equivalent amount of atmospheric warming.

Greenhouse gas inventory

A list of the measured quantities of greenhouse gas [sources](#), [sinks](#), emissions and removals, within a defined boundary, over the course of a year.

Scope emissions diagram



Direct emissions

Emissions that occur at the point of use during construction or in the use of a building, such as combustion of fossil fuels.

Indirect emissions

Emissions that are related to construction processes or the use of a building but occur elsewhere, such as electricity from the national grid and the manufacture of materials.

Baseline year

A starting point in time against which future [greenhouse gas](#) emissions are measured. It provides an historic point of reference for companies looking to track their emissions-reduction performance over time.

Upstream and downstream emissions

Upstream emissions come from the production of a service or product e.g. emissions produced by the construction of a road, while downstream emissions come from their use and disposal e.g. emissions produced at landfills from the waste a site generates.

Gross and net emissions

In New Zealand gross emissions are total emissions from the Agriculture, Energy, [IPPU](#) and Waste sectors, as well as gross emissions from Tokelau (New Zealand's 'Other' sector).

Net emissions are gross emissions minus [carbon sinks](#).

Emission Trading Scheme (ETS)

A scheme that puts a price on emissions of [greenhouse gases](#) with the aim of reducing emissions, in line with NZ's emission reduction targets.

The NZ ETS requires that participating businesses measure and report on their greenhouse gas emissions and give the Government one [carbon credit](#) for each tonne of emissions they emit.

Carbon sink

A natural or artificial process which removes a [greenhouse gas](#) from the atmosphere, or which absorbs more carbon from the atmosphere than it releases e.g. a forest.

Carbon source

A natural or artificial process which introduces a [greenhouse gas](#) into the atmosphere, or which releases more carbon into the atmosphere than it absorbs e.g. driving a car using fossil fuels.

Circular economy

A model of production and consumption, involving sharing, leasing, reusing, repairing, refurbishing and recycling existing materials and products as long as possible. The life cycle of products is therefore extended and in practice, it implies reducing waste to a minimum.

While recycling is a necessary component in a circular economy, it needs to be ensured that products and materials are designed, from the outset, to be reused, repaired, and remanufactured, in order to address potential problems right at the source.

Net zero carbon

When emissions being introduced to the atmosphere are equal to that being removed so that the [net carbon emissions](#) are zero.

Embodied carbon/Capital carbon

The amount of carbon produced to construct an asset e.g. the embodied carbon of a road includes extraction of materials, construction, maintenance and the end-of-life carbon emissions.

Compare this to [whole of life carbon](#), which includes the emissions from the use of the construction, operation and use of the asset.

Operational carbon

Carbon associated with the operation and maintenance of an asset e.g. for road maintenance, the emissions associated with all maintenance activities to keep the road open and functioning (inspections, pothole repairs, slip repairs etc).

User carbon

Carbon associated with the use of the asset e.g. for a road, the emissions associated with the vehicles using that road.

Global warming potential (GWP)

Measuring the amount of heat that one unit of a given [greenhouse gas](#) will trap in the atmosphere, relative to an equivalent amount of [carbon dioxide](#), over a given period (typically 100 years).

Whole of life carbon/lifecycle assessment

The [embodied/capital carbon](#) plus [operational carbon](#) and [user carbon](#) e.g. for a road, the whole of life carbon would be the total emissions of all operations and maintenance, plus the emissions of the vehicles using that road during its lifetime as well as the embodied/capital carbon.

ISO 14064-1:2018

International Organization for Standardization standard on greenhouse gases - Part 1: Specification with guidance at the organization level for quantification and reporting greenhouse gas emissions and removals.

IPPU

Industrial Processes and Product Use (IPPU) is one of five sectors that the NZ [greenhouse gas inventory](#) reports greenhouse gas emissions and removals from each year. Most emissions produced in construction fall into this sector.

Boundaries

A limit within which [greenhouse gas](#) emissions are measured. An organisational boundary includes [direct emissions](#) from sources owned or controlled by the organisation e.g. emissions from combustion of fuel in vehicles owned or controlled by the organisation.

Whereas a reporting boundary includes the emissions within the organisational boundary as well as the organisations [indirect emissions](#), such as emissions due to freight.

Stationary combustion fuel

Fuel used in an unmoving engine e.g. a generator, power plant or boiler.

SBN

Sustainable Business Network (SBN) is an organisation dedicated to sustainable business in New Zealand.

ISC

Infrastructure Sustainability Council (ISC) is an organisation working in Australia and New Zealand to enable sustainability outcomes in infrastructure.

Carbon intensity

A measure of how clean electricity is. It refers to how many grams of [carbon dioxide](#) are released to produce a kilowatt hour of electricity. Electricity that's generated using fossil fuels is more carbon intensive, as its generation creates carbon emissions.

Environmental Product Declaration (EPD)

A document, produced five-yearly by individual companies, that reports the [lifecycle assessment](#) of a particular product. Such as asphalt products manufactured by a company.

Carbon credit

A financial instrument that represents a unit of [carbon dioxide equivalent](#). One carbon credit is equal to 1 tonne of CO₂-e.

Carbon credits created under the NZ [Emission Trading Scheme](#) are called New Zealand Units (NZU) and can be traded. Carbon credits may be awarded by the Government for projects that store, avoid or reduce [greenhouse gas](#) emissions.

Independent verification

An independently verified carbon footprint is an essential pre-requisite to consider becoming 'carbon neutral' through the purchase of certified [carbon credits](#). There are several organisations within New Zealand that provide independent verification.

Greenwashing

Making an unsubstantiated claim to deceive consumers into believing that a company's products are environmentally friendly or have a greater positive environmental impact than they actually do.