



# SUSTAINABILITY GLOSSARY

# MAKING SENSE OF SUSTAINABILITY.

**Making sure you talk clearly and effectively about your approach to sustainability and ESG, or the differences between carbon neutral and net zero, is critical in today's world. A misplaced word or phrase can damage your reputation and impact investment. Being clear to avoid accusations of greenwashing or being misleading is essential.**

We know there's a lot of confusion about some of the terms being used currently, so we've developed this glossary to help you to better understand and communicate more clearly about these issues. Because getting it right is vital.

We also know that language evolves most quickly in areas where there's an increasing demand for clarity and subtlety. Our glossary provides a snapshot of some of the key terms in use today. But we'll continually upgrade it. We accept there'll be words or phrases that we've overlooked, but we feel it's important to start somewhere.

Sustainability terminology and ESG methodologies are rapidly evolving as industries improve their methods and the ways to communicate them on their journey to net zero. The live nature of this document is essential to maintaining up-to-date terminology to ensure clarity in your sustainability and ESG communications.

# A

## Allocation

The granting of emissions permits or allowances to GHG emitters to establish an emission trading market. It can also include the grandfathering method (where, in the allocation of permits, consideration of prior emissions increases future emissions entitlements) and/or auctioning.

## Array

A set of subsea power cables connecting offshore wind turbines to an offshore substation. Export cables deliver power from the offshore substation to the onshore substation. Inter array cables are the subsea cables that link one wind turbine to another.

# B

## Baseload power

The minimum level of demand on an electrical supply system, also meaning the load that exists 24 hours a day.

## Biodiesel

Biofuel in which organically-derived oils (soybean or canola oils, animal fats, waste vegetable oils or micro algae oils) are used as a substitute or additive with conventional diesel fuel.

## Bioenergy

Energy derived from biomass (see the definition for biomass below).

## Bioethanol

Liquid fuel generated from fermented sugar (alcohol). Bioethanol is made from starch plants (grain, mostly corn and tubers like cassava); sugar plants (sugar beet or sugar cane). Second generation ethanol is expected to be derived from the cellulose in plants.

## Biofouling

The fouling of underwater pipes and other surfaces by organisms such as barnacles and algae.

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# B

## **Biogas**

Methane-rich gas produced through the fermentation of dung or crop residues in an airtight container.

## **Biomass**

Organic matter than can be burned to produce energy or converted into a gas and used for fuel.

# C

## **Cap and trade**

An emissions trading system, where total emissions are limited or 'capped', and the credits for emissions can be traded between registered entities.

## **Carbon accounting**

A framework which enables a business to track and/or measure emissions from different parts of the organisation.

## **Carbon capture and storage (CCS)**

A process consisting of the separation of carbon dioxide from industrial and energy-related sources, transport to a storage location and long-term storage in disused oil wells or aquifers.

## **Carbon capture, utilisation and storage (CCUS)**

As above but instead of storing the carbon, it is re-used in industrial processes by converting it into plastics, concrete or biofuel, for example.

## **Carbon dioxide equivalent (CO2e)**

A measure used to compare the emissions from various greenhouse gases based upon their global warming potential (GWP). Carbon dioxide equivalents are commonly expressed in million tonnes (MTCO2E). One unit of CO2e is equal to one metric ton of carbon emissions.

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# C

## **Carbon intensity**

A measurement to understand the relative amount of carbon dioxide emitted per unit of activity undertaken. For example, the number of grams of carbon dioxide released to produce a kilowatt hour (kWh) of electricity.

## **Carbon neutral**

Absorbing the same amount of CO<sub>2</sub> as is produced by using carbon sinks. Importantly, carbon neutral differs from net zero because its focus is on CO<sub>2</sub>. Net zero refers to a neutral state of emissions for all greenhouse gases, including methane and nitrous oxide.

## **Carbon sequestration**

The process where carbon dioxide is absorbed to prevent its release into the atmosphere. It can be stored underground (see CCS) or in a carbon sink such as a former oil well offshore.

## **Carbon tax**

A tax normally on the use of carbon-containing fuels but can also be implemented as a levy on product-associated carbon emissions.

## **Circularity**

A model of product manufacture that involves sharing, leasing, reusing, repairing, refurbishing and recycling existing materials and products.

## **Coalbed methane**

Methane contained in coal seams. Often referred to as virgin coalbed methane or coal seam gas.

## **Community independent transaction log (CITL)**

Independent transaction log recording the issue, transfer and cancellation of carbon allowances within the European Union.

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# C

## Conference of the Parties (COP)

The COP is the supreme body of the United Nations Framework Convention on Climate Change (UNFCCC). The COP summit is held annually.

## Crediting period

When a project generates carbon credits. It cannot extend beyond the operational lifetime of the project.

# D

## Directive on landfill of waste

The objective of the Council Directive 99/31/EC is to prevent or reduce as far as possible negative effects on the environment from the landfilling of waste, by introducing stringent technical requirements for waste and landfills.

## Double counting

This is when a transaction, or credit, is counted twice. This can occur when different stakeholders in a credit generating project claim offsets through their involvement. At an international level, it could mean a project covered by the EU Emission Trading Scheme also counting for the generation of Emission Reduction Units through Joint Implementation – which is not allowed.

## Dual fuel

A vessel’s engine that can run on liquid or gas fuel. Using gas fuel can allow cleaner combustion and fewer carbon emissions compared to liquid fuel.

# E

## Energy efficiency design index (EEDI)

A newbuilding standard for shipping, ensuring that ship designs achieve a certain level of efficiency per capacity mile and decrease carbon emissions. The CO2 reduction level (grams of CO2 per tonne mile) for the first phase is set to 10% compared to a reference line calculated from the average efficiency for ships built between 2000 and 2010. It will be tightened every five years until 2025 and onwards when a 30% reduction is mandated for applicable ship types.

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# E

## Energy efficiency existing ship index (EEXI)

The EEXI is a measure introduced by the International Marine Organization (IMO) to reduce the greenhouse gas emissions of ships and is related to the technical design of a ship. Unlike the EEDI, which is applicable to new builds, the EEXI applies to existing vessels. The EEXI accounts for a vessel's engine and auxiliary engine power, transport capacity and given reference speed. Emissions are calculated using the installed power of the main and auxiliary engines, the engine's specific fuel oil consumption and a conversion factor of the fuel's mass into CO2 mass.

## Emissions control areas (ECAs)

Designated maritime zones where stricter regulations are enforced to limit emissions of air pollutants, such as sulphur oxides (SOx), nitrogen oxides (NOx), and particulate matter (PM), typically achieved using low-sulphur fuels or exhaust gas cleaning systems (scrubbers).

## ESG

Environmental, social and governance are a set of measurement criteria. They are often referred to as pillars.

**The environmental pillar includes:** emissions, resource use, circularity, land use and biodiversity.

**The social pillar includes:** employee development, labour practices and support for societies including access to products and services for supported social groups.

**The governance pillar includes:** diversity and inclusion, corporate behaviour.

ESG and sustainability are closely related but are not interchangeable terms. ESG provides a framework for a company to evaluate specific performance areas. Sustainability is a more holistic term for the capacity to maintain resources. ESG reporting can be considered as a component of a company's broader sustainability targets.

## European Union Allowances (EUA)

A tradable unit or credit under the EU ETS. Equals 1 tonne of CO2.

## European Union Emissions Trading Scheme (EU ETS)

Carbon trading scheme within the European Union.

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# F G

## Fuel cell

An electrochemical engine (no moving parts) that converts the chemical energy of a fuel, such as hydrogen, and an oxidant, such as oxygen, directly to electricity. Examples of fuel cells include solid oxide (SOFC), solid polymer (SPFC) and molten carbonate (MCFC) technologies.

## Global Legislators Organisation for a Balanced Environment (GLOBE)

Made up of senior cross-party members of parliament from all G8+5. It shadows the formal G8 negotiations and facilitates high-level negotiations between legislators on effective environmental and climate-change regulation and legislation.

## Global warming potential (GWP)

The ratio of warming caused by a substance compared to the warming caused by a similar mass of carbon dioxide. The GWP of carbon dioxide is 1.0.

## Greenhouse gases (GHG)

Gases which, when present in the atmosphere, slow the infrared radiation of heat from the Earth, upsetting the energy balance. They include water vapor, carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), halogenated fluorocarbons (HCFCs), ozone (O<sub>3</sub>), perfluorinated carbons (PFCs) and hydrofluorocarbons (HFCs).

## Greenhouse gas protocol (GHG Protocol)

The most widely used international accounting tool for government and business leaders to understand, quantify and manage greenhouse gas emissions.

## Greenwashing

The practice of making false, misleading or exaggerated claims about the environmental benefits of a product, service or company, typically to appeal to environmentally conscious consumers.

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**H**  
**I**

**Hard-to-abate industries**

Industries that use carbon as an integral part of their processes, such as steel, cement and petrochemicals. They account for about 30% of global greenhouse gas emissions.

**Intergovernmental Panel on Climate Change (IPCC)**

Established by the World Meteorological Organisation (WMO) and the United Nations Environmental Programme (UNEP) in 1988 to review scientific, technical and socio-economic information relevant for the understanding of climate change, its potential impacts and options for adaptation and mitigation. It is open to all Members of the UN and of WMO. This panel involves over 2,000 of the world’s climate experts and most of the climate change facts and future predictions covered come from information reviewed by the IPCC.

**K**

**Kyoto Protocol**

The Kyoto Protocol to the United Nations Framework Convention on Climate Change (UNFCCC) was adopted in 1997 in Kyoto, Japan, at the Third Session of the Conference of the Parties (COP) to the UNFCCC. Countries included in Annex B of the Protocol (most Organization for Economic Cooperation and Development countries and countries with economies in transition) agreed to reduce their anthropogenic greenhouse gas emissions (carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and sulphur hexafluoride) by at least 5% below 1990 levels in the commitment period 2008 to 2012. The Kyoto Protocol entered into force on 16 February 2005.

**L**

**Levelised cost of electricity (LCOE)**

The average cost of generating one kilowatt hour (kWh) of electricity over the lifetime of a generating system.

**Life cycle assessment/analysis (LCA)**

A methodology to analyse the environmental impact of a product or services at all stages of the lifecycle. The six stages of a life cycle assessment are: design, raw material extraction, manufacturing and processing, transportation, usage and retail, waste disposal.

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# N

## National allocation plan (NAP)

Allocation of emission allowances at the national level to individual sites, under the European Union Emission Trading Scheme.

## Net zero

A state where the emissions of all greenhouse gases due to human activities and the removal of these gases are in balance over a given period. Most countries have agreed a target of net zero by 2050. In Scotland it is 2045. The term differs from carbon neutrality, which covers carbon emissions only and does not consider other greenhouse gases such as methane and nitrous oxide.

# O

## Offset

The purchase of carbon credits by a government or business to offset CO2 emissions.

# P

## Paris Agreement

This is the replacement treaty for the Kyoto Protocol, signed in 2015. It is a non-binding climate change treaty that covers mitigation, adaptation, finance and technology transfer, focusing on building resilience, reducing emissions and encouraging international co-operation. It relies on peer pressure to accelerate action on addressing climate change through nationally determined contributions (NDCs). The overall goal is to keep global warming under 2°C degrees, with an ambition of 1.5° C.

## Photovoltaic (PV) cells

Cells, usually made of specially-treated silicon, that transform solar energy from the sun to electrical energy.

# R

## Radiative forcing

A change in the balance between incoming solar radiation and outgoing infrared radiation. Without any radiative forcing, solar radiation coming to the Earth would continue to be approximately equal to the infrared radiation emitted from the Earth. The addition of greenhouse gases traps an increased fraction of the infrared radiation, radiating it back toward the surface and creating a warming influence.

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# R

## Radiative forcing index

The change in radiation received at the surface of the earth due to the emission of greenhouse gas(es). The radiative forcing index equates this to the effect of a similar quantity of CO<sub>2</sub>.

## Regional Greenhouse Gas Initiative (RGGI)

The Regional Greenhouse Gas Initiative is a cooperative effort by 10 North-eastern and Mid-Atlantic states of the US to reduce carbon dioxide emissions by establishing a regional cap-and-trade programme, initially covering carbon dioxide emissions from power plants in the region.

## Renewable or biogenic CO<sub>2</sub>

Carbon dioxide that is produced by burning carbon sourced from natural renewable materials such as food waste or paper. Biogenic CO<sub>2</sub> is usually treated as having no impact on climate change, as it is part of the natural carbon cycle.

# S

## Scope 1, 2 and 3 carbon emissions

Named by the GHG Protocol (see definition above), their aim according to the GHG Protocol is to "enable companies to understand their full value chain emissions and focus their efforts on the greatest reduction opportunities".

**Scope 1** covers direct emissions from sources that a business owns or controls directly – for example the fuel in a fleet of vehicles.

**Scope 2** are indirect emissions from the generation of purchased energy.

**Scope 3** emissions are all indirect emissions (not included in scope 2) that occur in the value chain of the reporting company.

## Sequestration

Carbon storage in terrestrial or marine reservoirs.

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# S

## **Sustainable Development Goals (SDGs)**

These are 17 goals agreed in 2015 by the UN. They are interlinked targets provided to countries to help build a blueprint for a pathway to a healthier, more equitable and sustainable future.

## **Sustainability**

There is no universally agreed definition of sustainability. The United Nations defines sustainability as "meeting the needs of the present without compromising the ability of future generations to meet their own needs". The Oxford English dictionary describes sustainability as: "The degree to which a process or enterprise is able to be maintained or continued while avoiding the long-term depletion of natural resources". Sustainability is closely linked with ESG but doesn't mean the same (see definition of ESG).

# U

## **United Nations Framework Convention on Climate Change (UNFCCC)**

International agreement with the objective - the "stabilisation of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system". It contains commitments for all Parties. Under the Convention, Parties included in Annex I aim to return greenhouse gas emissions not controlled by the Montreal Protocol to 1990 levels by the year 2000. The convention entered into force in March 1994.

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ESG **INSIGHTS**