Alcumus ISOQAR

ISO 14064 & 14068

Glossaries

Understanding the language of greenhouse gas (GHG) monitoring, reporting, and verifying is essential for organisations aiming to measure, manage, and reduce their environmental impact.

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ISO 14064
General GHG Reporting Terminology

The following glossary outlines key terms and concepts that underpin ISO 14064 and ISO 14068, helping organisations navigate the technical language of GHG accounting, reporting, and verification.

Greenhouse Gas (GHG)
Gases that trap heat in the atmosphere and contribute to climate change, including carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), and others.

Greenhouse Gas Emissions
The release of GHGs into the atmosphere.

Greenhouse Gas Removals
Processes that remove GHGs from the atmosphere, such as photosynthesis by plants.

Carbon Footprint
The total amount of GHGs emitted by an organisation, project, product or individual.

Quantification
The process of measuring and calculating GHG emissions and removals from a business, project or product

GHG quantification model
A framework or methodology used to estimate greenhouse gas (GHG) emissions from various sources. These models help assess the environmental impact of activities, projects, or entire systems by quantifying the amount of GHGs released, often expressed as carbon dioxide equivalents (CO2e). Examples include: UK GOV DESNZ GHG Conversion Factors.

GHG Conversion Factor
A value that quantifies the amount of greenhouse gas (GHG) emissions associated with a specific activity or unit of production. It's used to standardize and compare the warming impact of different greenhouse gases, often expressed as carbon dioxide equivalent (CO2e).

Monitoring
The ongoing tracking and measurement of GHG emissions and removals.

Reporting
The presentation of GHG emissions and removals data in a clear and consistent manner.

Verification
The independent assessment of GHG emissions and removals data to ensure its accuracy and reliability, typically reviewing historical data and information. Examples include: The verification of 1 financial reporting year of an organisations scope 1, 2 and 3 emissions.

Validation
A process by which the validity of a method or procedure is confirmed, and a third party will review the methodologies used, typically focusing on assessing the reasonableness of assumptions, methods and data used in future GHG-related activities. Examples include: Validation of a GHG emission reduction project.

Scope 1, 2, and 3 Emissions

Scope 1 includes direct GHG emissions from an organization's own sources; Scope 2 includes indirect emissions from the purchase of energy; and Scope 3 covers all other indirect emissions across the supply chain.

Scope 1 emissions

Direct emissions from an organisations owned or controlled sources. Examples include: Gas usage in boilers, diesel use in company vans.

Scope 2 emissions

Indirect emissions from purchased energy. Examples include: Consumption of electricity in an office.

Scope 3 emissions

All other indirect GHG emissions from an organisations value chain. Examples include: Purchase of products and services, deliveries to and from site, material use and waste disposal, business travel and employee commuting.

Further breakdown of all GHG emissions scopes:

Scope	Sub-scope	Examples
Scope 1 "Direct emissions"	**Stationary combustion emissions**	· Gas combustion in boilers · Coal combustion in a furnace · Kerosene in a heating tank
	Mobile combustion emissions	· Petrol combustion in a company car · Diesel combustion in a plant vehicle · Petrol combustion in a private car
	Industrial process emissions	· Cement production emissions · Lime production emissions · Chemical reactions · Oil and gas refining
	Fugitive emissions	· Leaks from fossil fuel extraction and storage · Leaks from agricultural processes · Wate degradation e.g. methane emissions
	LULUCF – Land Use, Land Use Change and Forestry	· All GHG's from living biomass to organic matter in soils
Scope 2 "Indirect emissions from procured energy"	**Emissions from procured electricity**	· Electricity consumption within a warehouse and office space · Electricity consumption within an electric vehicle
	Emissions from procured energy e.g. steam	· Consumption of waste heat and steam from a processing plant being used in a greenhouse to grow plants
Scope 3 "Indirect emissions from upstream in the supply chain"	**3.1 Purchased goods and services**	· Purchasing of raw materials, consumables, tools, packaging materials, office supplies, professional services and more
	3.2 Capital goods	· Purchase of durable/ retainable items that are not consumed annually such as: machinery and vehicles
	3.3 Fuel and energy-related activities (not included in Scope 1 or 2)	· Emissions resulting from the extraction, production, and transportation of fossil fuels and energy sources. Also known as 'Well-to-tank' emissions. When electricity is transmitted, some of this energy is lost through 'Transmission and Distribution' (T&D) losses which is also reported within S-3.3.

Scope	Sub-scope	Examples
	3.4 Upstream transportation and distribution	· Vehicle related emissions from supplier deliveries to site including by road, air or ship.
	3.5 Waste generated in operations	· Emissions associated to activities of 3rd parties used to correctly disposed of various waste streams such as: general waste, mixed recycling, food waste and construction waste.
	3.6 Business travel	· Emissions from business travel undertaken by a company's employees, using vehicles not owned or controlled by the company E.g. planes, taxis, hire cars, etc.
	3.7 Employee commuting	· Emissions from employees travelling between their homes and their place of work, using transportation methods such as cars, public transport, etc.
	3.8 Upstream leased assets	· Emissions from assets that a company leases from another entity E.g. leased office spaces or manufacturing facilities
Scope 3 "Indirect emissions from downstream in the supply chain"	**3.9 Downstream transportation and distribution**	· Emissions from third party couriers used to ship products from an organisation to a customer. This does not include vehicles owned or operated by the business itself.
	3.10 Processing of sold products	· Emissions generated when a company's sold products are further processed or transformed by other entities.
	3.11 Use of sold products	· Emissions generated during the use phase of a product sold by a company. Specifically, it encompasses the energy consumed while operating the product. E.g. Electricity consumed by a washing machine during its operating lifetime
	3.12 End of life treatment of sold products	· Emissions generated from the disposal and recycling of a company's sold products after they are used by consumers. E.g. emissions from the decomposition of food waste packaging in a landfill or the energy used in a recycling plant after consumer disposal.
	3.13 Downstream leased assets	· Emissions from the operation of assets that a company owns but leases to other entities. E.g. operating emissions from the rental of plant hire equipment to a construction company
	3.14 Franchises	· Emissions from the operation of franchises. All emissions from a franchise restaurant including fuel use, transport, waste generation, etc.
	3.15 Investments	· Emissions from an organisation's investments, such as debt, equity, and project finance

Materiality

The significance of a particular GHG emission or removal in the context of an organisation's overall emissions. A 5% materiality threshold in a Greenhouse Gas (GHG) inventory means that errors or omissions in the reported emissions data are considered material (significant) if they exceed 5% of the total inventory for the part of the organisation being verified. The level of materiality chosen will also impact the level of sampling required by the verification team.

Uncertainty

Uncertainty refers to the lack of certainty or predictability regarding the accuracy of measurements and estimates. In GHG quantification, uncertainty refers to the reliability of emissions data which can ultimately affect the total reported emissions figure.

Reporting Boundary

The scope of an organisation's activities and emissions included in its GHG accounting. This is where the inclusion and exclusion of all GHG scopes must be clearly defined as well as which sites and activities have been included or excluded.

GHG Project

A project that aims to reduce GHG emissions or enhance GHG removals from the atmosphere.

Baseline period

A specific time frame used as a reference point to measure changes in emissions. It represents the level of GHG emissions an organisation or country had before implementing any mitigation actions or projects. This is usually stated as a single year, many businesses choose to align with either calendar or financial reporting years.

Project Baseline

The starting point or reference point for measuring the impact of a GHG project.

ISO 14068
Terminology

Carbon Neutrality
Achieved when an organisation's net GHG emissions are reduced to zero, typically by reducing emissions as much as possible and offsetting remaining emissions. Carbon neutrality claims through ISO14068 can only be achieved through a robust and ethical hierarchy approach.

Hierarchy Approach
A systematic approach to reducing organisational greenhouse gas emissions through: firstly elimination or avoidance, then reduction or substitution methods, then finally and as a last resort compensation methods such as offsetting.

Offsetting
Reducing emissions by investing in projects that reduce GHG emissions elsewhere, such as renewable energy or carbon sequestration. In ISO14068, an organisation cannot achieve carbon neutrality merely by offsetting all emissions.

Climate Change Management
The process of managing GHG emissions to mitigate the effects of climate change.

Demonstrating Carbon Neutrality
Providing evidence that an organisation has achieved and maintained carbon neutrality, typically through verification and reporting.

Carbon Neutrality Claim
A carbon neutrality claim signifies that an organisation or activity has achieved a balance between emitting greenhouse gases and absorbing or removing them from the atmosphere. This balance is often achieved through a combination of reducing emissions and offsetting those emissions by purchasing carbon credits. Carbon neutrality claims regarding ISO14068 must be substantiated by a robust hierarchy approach and not just the use of offsetting schemes.

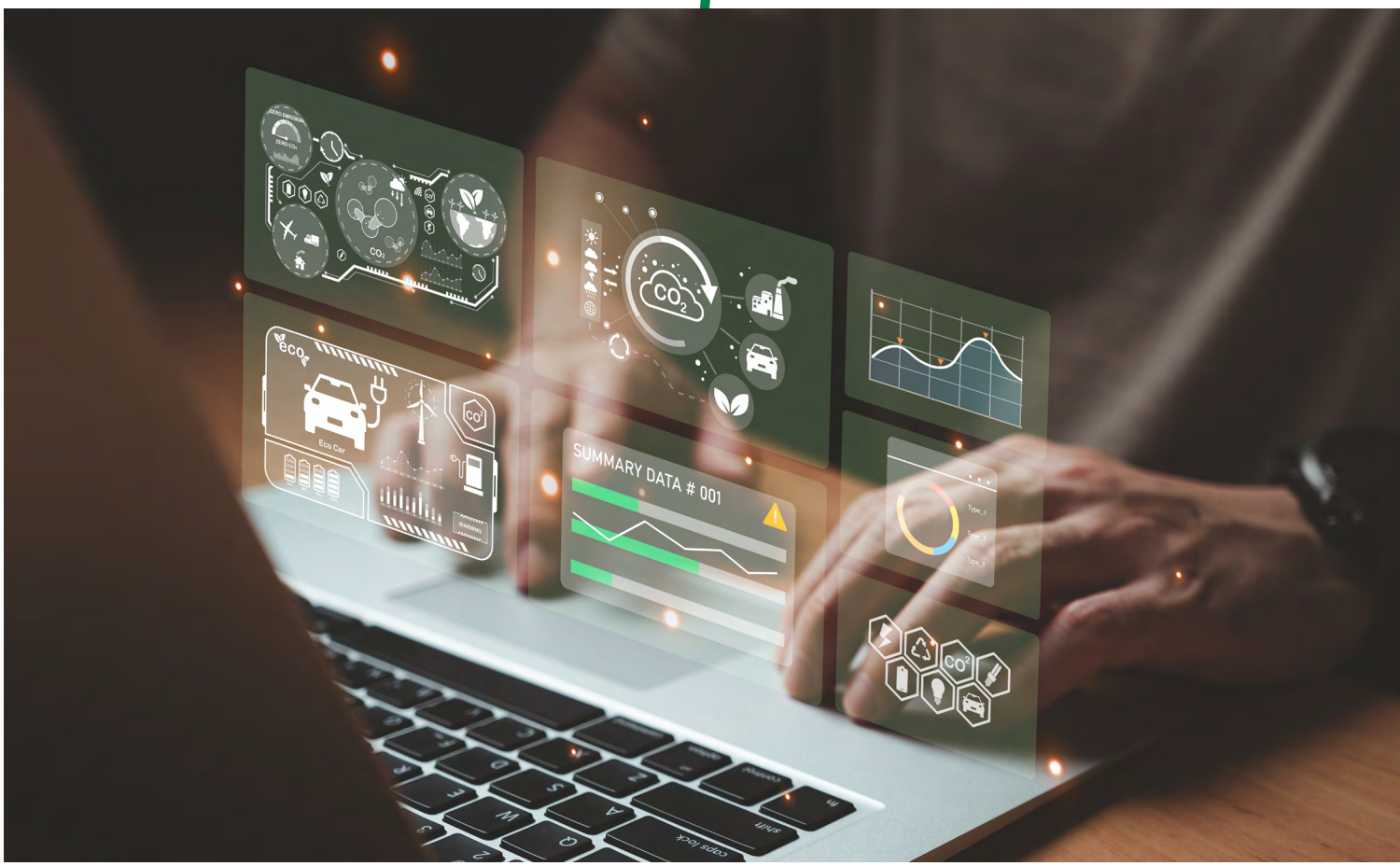
Carbon Neutrality Report
An organisation's strategy and progress towards achieving carbon neutrality, often by balancing carbon emissions with carbon reduction, removal and offsetting. These reports detail a company's carbon footprint, reduction strategies, and offsetting efforts, ensuring transparency and accountability in their journey towards carbon neutrality. There are specific requirements for a CNR in line with ISO14068.

Carbon Neutrality Management Plan
A Carbon Neutrality Management Plan (CNMP) is a comprehensive strategy that outlines how an organisation will achieve and maintain carbon neutrality. This plan details the steps needed to minimise greenhouse gas emissions and offset any remaining emissions to achieve a balance where the amount of carbon released is equal to the amount removed from the atmosphere.

Carbon Neutrality Pathway
A carbon neutrality pathway outlines the steps an organisation must take to balance their GHG emissions with carbon removal, achieving a net-zero impact on the climate. This involves a combination of reducing emissions through various means and offsetting residual emissions through carbon sequestration projects or other certified schemes.

ISO 14068 superseding PAS 2060 standard:

ISO14068 is a full international standard, displacing PAS2060 from the 1st of January 2025. ISO14068 focuses on the hierarchy approach: reduce-remove-offset and requires evidence of the first two strategies before offsetting is permitted. ISO14068 mandates the inclusion of five indirect emissions types within GHG inventory reporting unlike existing standards such as PAS 2060 and the GHG protocol. For PAS 2060, carbon neutrality claims can be based entirely on offsets for an entity's first application. For ISO14068 this is not possible, driving forward truly beneficial operational changes. ISO14068 requires inclusion of all scope 3 or value chain emissions within the subject boundary.



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As one of the UK's largest UKAS accredited certification bodies we can audit, certify and train organisations across multiple sectors.

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About Alcumus

Alcumus is a leading provider of software-led risk management solutions providing clients with advice, expertise and support to help them identify and mitigate risks, navigate compliance and keep people safe. It supports both UK and International clients – many of whom are on the FTSE 100 index - with a wide range of risk management services. This includes products across Supply Chain Management, EHSQ Software, UKAS Accredited Certification and HR and H&S support services.

Our people are at the heart of our business, building strong relationships with our clients to understand their needs, minimise risks and navigate compliance through our in-depth knowledge of your sector, regulations and challenges.

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