



An Introduction to: ISO 14064-1

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NQA specialises in Certification and Verification in high technology and engineering sectors.

nqa



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TOP 3 IN THE UK

ISO 9001, ISO 14001,
ISO 45001, ISO 27001, ISO 14064-1,
PAS 2060 / ISO 14068-1, PAS 2080

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Sustainability Assurance Manager



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Carbon & Sustainability Services Director





NEVER STOP IMPROVING

OVERVIEW OF NQA'S ESG SERVICES

Our ESG Solutions:

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CLIMATE
ACTION



ENVIRONMENTAL

13. Climate Action

- PAS 2060 / ISO14068-1 Verification (Carbon Neutrality)
- ISO 14064-1 Verification (GHG Quantification and Reporting)
- PAS 2080 Certification (Carbon Management in Buildings and Infrastructure)
- ISO 14001 - Environmental
- ISO 50001 - Energy
- EcoCampus
- ISO 20121 – Sustainable Events

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GOOD HEALTH
AND WELL-BEING



SOCIAL

3. Good Health and Wellbeing

- ISO 45001 – H&S
- ISO 45003 – Mental Health
- ISO 44001 – Collaborative Working
- ISO 37001 – Anti-bribery
- ISO 26000 – Social Responsibility

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INDUSTRY, INNOVATION
AND INFRASTRUCTURE



GOVERNANCE

9. Industry, Innovation and Infrastructure

- ISO 9001 – Quality
- ISO 22301 – BCMS
- ISO 27001 / 27701 / 27017 / 27018 – Info Sec
- ISO 55001 – Asset Management
- ISO 44001 – Collaborative Working
- ISO 41001 – Facilities Management
- Industry specifics
 - Aerospace
 - Medical
 - Food
- SSIP

LEARNING OBJECTIVES

1. Gain an overview of the basic principles and concepts of ISO 14064-1
2. Gain an overview of the basic structure, content and purpose of ISO 14064-1
3. Understand how ISO 14064-1 helps to support environmental and sustainability ambitions

BS EN ISO 14064-1:2019



BSI Standards Publication

Greenhouse gases

Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals

CONTEXT AND INTRODUCTION

ISO 14064-1 – specification with guidance at the organisation level for quantification and reporting of greenhouse gas emissions and removals (ISO 14064-1:2019)

- First published in 2006 and the latest revision was in 2019
- Provides a framework for quantifying (not calculating) and reporting GHG emissions and removals
- Intended to be used at organisational level
- Includes optional GHG mitigation framework
- Allows for external, third party, Verification via Verification Bodies such as NQA
- Exists as part of a suite of standards.



BSI Standards Publication

Greenhouse gases

Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals

CONTEXT AND INTRODUCTION

ISO 14064:

- A series of three standards which provide a complementary set of frameworks to quantify, monitor, report and verify their GHG Emissions:
 - ISO 14064-1:2019 specifies principles and requirements at the **organisation** level for quantification and reporting of GHG emissions and removals. It includes requirements for the design, development, management, reporting and verification of an organisation's GHG inventory
 - ISO 14064-2:2019 specifies principles and requirements and provides guidance at the **project** level for quantification, monitoring, reporting and verification / validation of activities intended to cause GHG emission reductions or removal enhancements.
 - ISO 14064-3:2019 specifies principles and requirements and provides guidance for those **conducting or managing the validation and/or verification** of GHG assertions. It provides the framework for organisation such as NQA to Verify / Validate GHG information and claims carried out in accordance with ISO 14064-1 or ISO 14064-2.

The suite of standards is in response to the need for a standardised approach to quantifying, reporting and verifying GHG emissions.....why?

CONTEXT AND INTRODUCTION

The drivers for industry to quantify, report and manage their GHG Emissions can be summarised as follows:

- Improved competitive advantage
- Regulatory compliance
- Reduced risks, including through supply chains
- Environmental improvement and long-term business sustainability



ISO 14064-1 is internationally recognised and is at the top of the hierarchy for recognised GHG reporting

CONTEXT AND INTRODUCTION

Improved Competitive Advantage:

- Many large organisations are actively encouraging / requiring their supply chains to quantify and report on GHG emissions, often through tenders and questionnaires. This could be due to their internal commitments and the need for supply chain information for their own GHG data
- GHG reporting is becoming and will continue to be a major factor in contract awards, for example PPN 06/21 and PAS 2080



Regulatory Compliance:

- The UK's drive towards net zero has and will continue to result in a more challenging regulatory environment for companies, for example:
 - Energy Savings and Opportunities Scheme (ESOS) Regs 2014
 - Streamlined Energy and Carbon Reporting (SECR)
 - UK Emissions Trading Scheme (UK ETS)
 - Climate Change Agreements (CCA)
 - Corporate Sustainability Reporting Directive (CSRD) - EU



CONTEXT AND INTRODUCTION

Reduced Risks (including through supply chains):

- Examples where GHG reporting impacts upon risk management include:
 - Financial investments / investors
 - Insurers
 - Avoidance of negative publicity /reputational risks: Greenwashing

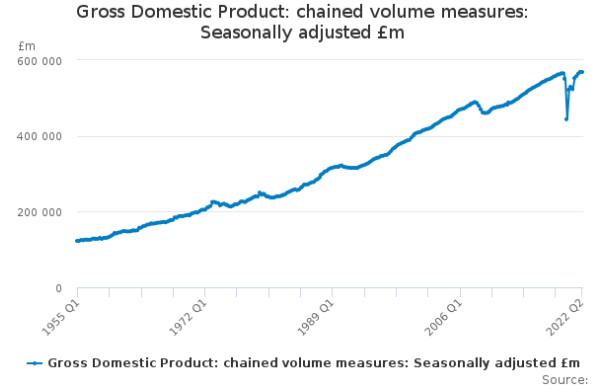
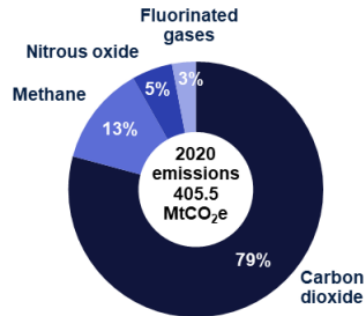
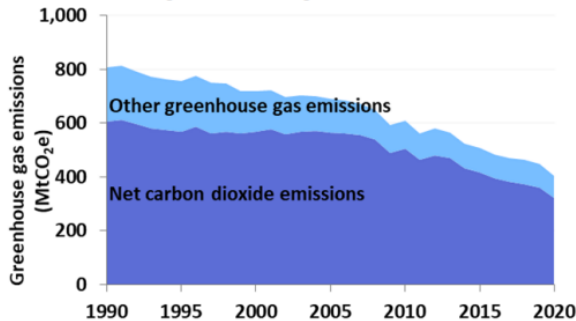


CONTEXT AND INTRODUCTION

Environmental Improvement and Long-Term Business Sustainability:

- These drivers will only increase, through supply chain pressures, increased consumer awareness, investor considerations, Government regulations, and of course the increased frequency of climate related emergencies
- It is possible to reduce carbon and remain competitive
- The UK has already reduced its GHG emissions by 42% between 1990 and 2017, whilst growing the economy by two thirds

UK territorial greenhouse gas emissions, 1990-2020



THE STRUCTURE, CONTENT AND PURPOSE OF ISO 14064-1

Structure

1. Scope
 2. Normative references
 3. Terms and definitions
 4. Principles
 5. GHG inventory boundaries
 6. Quantification of GHG emissions and removals
 7. Mitigation activities
 8. GHG inventory quality management
 9. GHG reporting
 10. Organisation's role in verification activities
-

CLAUSES 1 – 3

1. Scope

Covers the intended outcome and the boundaries within which the standard applies

2. Normative References

There are no normative references in this document

3. Terms and definitions

Terms and definitions given in ISO 14064-1, including those relating to GHGs, GHG Inventories, Verifications, and others

CLAUSE 4 – PRINCIPLES

CLAUSE 4 – PRINCIPLES

Along with the subclause on general guidance, there are 5 other subclauses in this section which are the core underlying principles to be applied:

Clause 4.1 – General

Clause 4.2 – Relevance: Selection of the GHG sources, GHG sinks, GHG reservoirs, data and methodologies *appropriate to the needs* of the intended user

Clause 4.3 – Completeness: Include *all relevant* GHG emissions and removals

Clause 4.4 – Consistency: Enable *meaningful comparisons* in GHG-related information

Clause 4.5 – Accuracy: Reduce bias and uncertainties as far as is practical

Clause 4.6 – Transparency: Disclose sufficient and appropriate GHG-related information to allow intended users to make decisions with reasonable confidence.

CLAUSE 5 – GHG INVENTORY BOUNDARIES

CLAUSE 5 – GHG INVENTORY BOUNDARIES

Essence

This section of the standard sets out what is being looked at and to what extent – this is critical to you and to the reader / user of the information.

This includes what boundaries there are to consider when quantifying the carbon footprint, and what boundaries to consider when it comes to reporting this information.

- Organisational boundaries: for example, which company, which facilities, which sites, which activities, etc
 - Reporting boundaries: for example, which emissions (and removals), which GHGs:
 - Direct emissions: ‘GHG emission from GHG sources owned or controlled by the organization’
 - Indirect emissions: ‘GHG emission that is a consequence of an organization’s operations and activities, but that arises from GHG sources that are not owned or controlled by the organization’
-

CLAUSE 5 – GHG INVENTORY BOUNDARIES

Emissions must be converted into tonnes of CO₂e – this includes all GHG emissions as applicable (CO₂, CH₄, N₂O, NF₃, SF₆ and other appropriate GHG groups, e.g. HFCs).

A process must be in place when determining which *indirect* emission sources are *significant* to the business:

- Evaluating significance might include the scale of the emissions, the level of influence you have, the level of accuracy of associated data
- Significant *indirect* emissions should be included
- If you choose to exclude any significant *indirect* emissions, that must be justified.

**Check out Annex H of the standard for more guidance
on how to identify indirect emissions.**

CLAUSE 5 – GHG INVENTORY BOUNDARIES

The standard lists the different categories for your emissions to fall in to:

- a) Direct GHG emissions and removals – think Scope 1
- b) Indirect GHG emissions from imported energy – think Scope 2
- c) Indirect GHG emissions from transportation – think Scope 3
- d) Indirect GHG emissions from products used by organisation – think Scope 3
- e) Indirect GHG emissions associated with the use of products from the organisation – think Scope 3
- f) Indirect GHG emissions from other sources – think Scope 3.

From here you will then need to subcategorise. For example, under section d (indirect GHG emissions from products used by organisation) this could include purchased goods.

Many organisations will use the definitions, categories and sub-categories established in the GHG Protocol to achieve this, ie:

- Scope 1 (direct emissions)
 - Scope 2 (energy related indirect emissions) and
 - Scope 3 (indirect emissions, organised under 15 subcategories)
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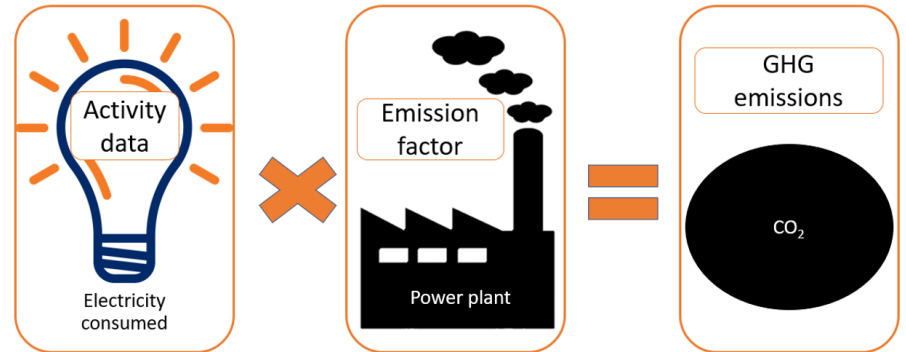
CLAUSE 6 – QUANTIFICATION OF GHG EMISSIONS AND REMOVALS

CLAUSE 6 – QUANTIFICATION OF GHG EMISSIONS AND REMOVALS

Essence

This clause of the standard is substantial and critical as it works through the actual quantification process to establish the carbon (tonnes CO₂e) footprint.

This in turn will form the GHG Inventory to justify and evidence the process.



CLAUSE 6 – QUANTIFICATION OF GHG EMISSIONS AND REMOVALS

Clause 6.1 – Identification of GHG sources and sinks: The organisation shall identify and document all relevant GHG sources and sinks included in its reporting boundaries, and shall include all relevant GHGs

Clause 6.2 – Selection of quantification approach: The organisation shall select and use suitable quantification methodologies

Clause 6.3 – Calculation of GHG emissions and removals: The organisation shall calculate GHG emissions and removals in accordance with the quantification approach selected

Clause 6.4 – Base year GHG inventory: The organisation shall establish a historical base year for GHG emissions and removals for comparative purposes

DESNZ UK GOVERNMENT ENVIRONMENTAL REPORTING GUIDELINES AND GHG PROTOCOL

This is where other supporting documentation and information may come into use such as the UK Government's DESNZ GHG Conversion Factors and the GHG Protocol:

- 1) <https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2023>
 - 2) <https://ghgprotocol.org/sites/default/files/standards/ghg-protocol-revised.pdf>
 - 3) https://ghgprotocol.org/sites/default/files/standards/Scope3_Calculation_Guidance_0.pdf
-

CLAUSE 7 – MITIGATION ACTIVITIES

CLAUSE 7 – MITIGATION ACTIVITIES

Essence

Clause 7 is centred around mitigating / reducing the carbon footprint and the means of achieving this. The standard suggests criteria a business 'may' comply with, however, to get the most from the efforts made in the quantification process, this is commonly adopted and encouraged.

Note that the use of carbon offsets, if applicable, must be reported separately from the reduction initiatives.



CLAUSE 8 - GHG INVENTORY QUALITY MANAGEMENT

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ESSENCE

This section ensures that the data and evidence relating to the GHG Inventory is managed in a controlled manner and retained accordingly.



CLAUSE 8 – GHG INVENTORY QUALITY MANAGEMENT

Clause 8.1 – GHG information management: Requires *documented* GHG Information Management Procedures to be put in place to manage the control of information.

Key considerations which must be documented:

- Identification and review of the responsibility and authority of those responsible for GHG inventory development
- Identification, implementation and review of appropriate training for members of the inventory development team
- Identification and review of organisational boundaries
- Identification and review of GHG sources and sinks
- Selection and review of quantification approaches
- Review of the application of quantification approaches to ensure consistency across multiple facilities
- Use, maintenance and calibration of measurement equipment (if applicable)
- Development and maintenance of a robust data-collection system
- Regular accuracy checks
- Periodic internal audits and technical reviews
- Periodic review of opportunities to improve information management processes.

CLAUSE 8 – GHG INVENTORY QUALITY MANAGEMENT

Clause 8.2 – Document retention and record keeping: As per Clause 8.1 this must be documented, retained and updated as appropriate.

Clause 8.3 – Assessing uncertainty: Requires users to complete an uncertainty assessment to understand any risk with their chosen quantification method, and to determine any uncertainties in the GHG Inventory.

CLAUSE 9: GHG REPORTING

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ESSENCE

This clause is focused around planning, populating and completing a GHG Report relating to your application of the standard.



CLAUSE 9 – GHG REPORTING

Clause 9.1 to 9.3 The organisation *should* prepare a GHG report.

- Provides detail on the preparation and use of a GHG Report
- For users that wish to claim conformance to this standard or undertake verification, a GHG Report is *compulsory*.

There is a long list of what may and what shall be included – see Clause 9.3.

CLAUSE 10: ORGANISATION'S ROLE IN VERIFICATION ACTIVITIES

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ESSENCE

This is the final clause of the standard and provides guidance on the options a user has on whether they progress with Verification.



CLAUSE 10 – ORGANISATION’S ROLE IN VERIFICATION ACTIVITIES

Clause 10: Highlights the potential next stage for users who wish to progress to Verification stage:

‘To review GHG emissions and removals information, impartially and objectively, the organisation shall conduct a verification consistent with the needs of the intended user. Principles and requirements are described in ISO 14064-3.

Requirements for verification bodies are described in ISO 14065.

Requirements for the competence of validation teams and verification teams are described in ISO 14066.

This can be achieved by interaction with a body (such as NQA) who comply with ISO 14065 (via UKAS Accreditation), and who provide Verification services in accordance with ISO 14064-3.

Proceeding to Verification adds credibility to the organisation and recognises their achievements.

This in turn can prevent greenwashing and aid in making informed decisions based on accurate data.



FURTHER SUPPORT

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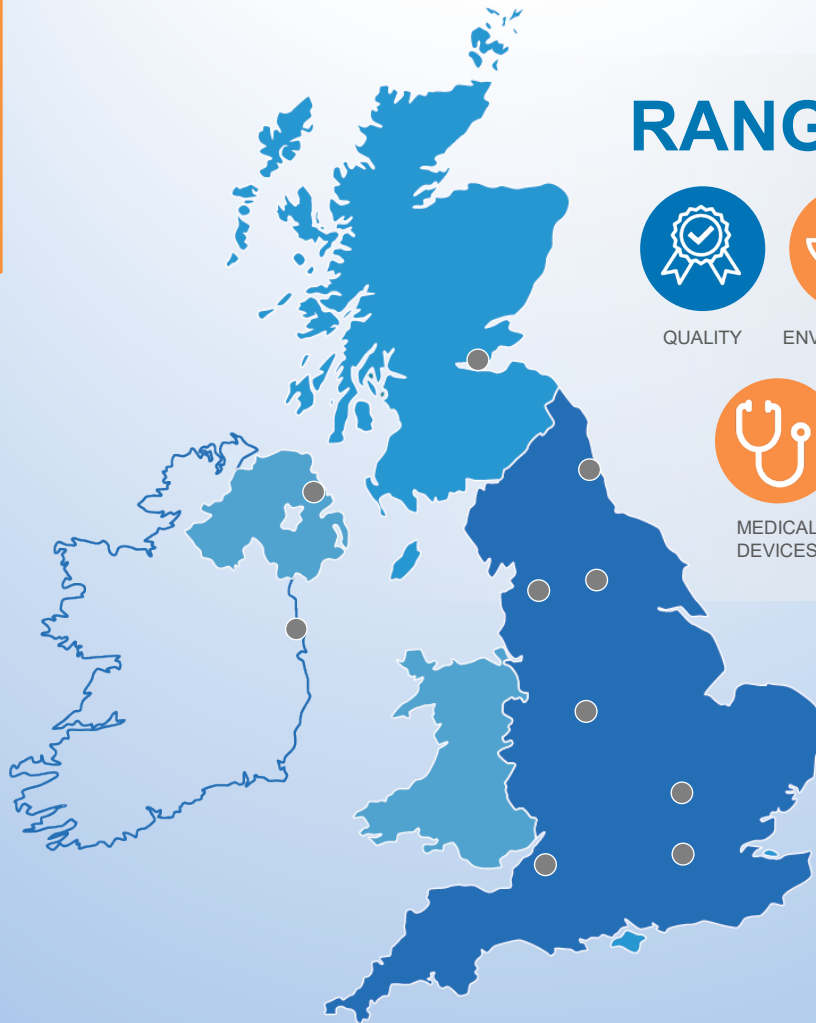
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Q&A
