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# Climate change management — Transition to net zero —

## Part 1: Carbon neutrality

*Gestion du changement climatique — Transition vers le zéro émission  
nette —*

*Partie 1: Neutralité carbone*



Reference number  
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## Contents

	Page
<b>Foreword</b> .....	<b>v</b>
<b>Introduction</b> .....	<b>vi</b>
<b>1 Scope</b> .....	<b>1</b>
<b>2 Normative references</b> .....	<b>1</b>
<b>3 Terms, definitions and abbreviated terms</b> .....	<b>1</b>
3.1 Terms related to carbon neutrality.....	2
3.2 Terms related to greenhouse gases.....	3
3.3 Terms related to offsetting and carbon credits.....	5
3.4 Terms related to the entity seeking carbon neutrality.....	6
3.5 Abbreviated terms.....	8
<b>4 Principles</b> .....	<b>8</b>
4.1 General.....	8
4.2 Transparency.....	9
4.3 Conservativeness.....	9
4.4 Hierarchy approach.....	9
4.5 Supporting transition.....	9
4.6 Ambition.....	9
4.7 Urgency.....	9
4.8 Science-based approach.....	9
4.9 Avoiding adverse impacts.....	9
4.10 Accountability.....	10
4.11 Value chain and life cycle approach.....	10
<b>5 Approach</b> .....	<b>10</b>
5.1 Framework.....	10
5.2 Carbon neutrality management hierarchy.....	11
5.3 Carbon neutrality pathway.....	11
5.4 Documented information.....	12
<b>6 Commitment to carbon neutrality</b> .....	<b>12</b>
<b>7 Selection of the subject and its boundary</b> .....	<b>13</b>
7.1 General.....	13
7.2 Documented information.....	14
<b>8 Quantification of greenhouse gas (GHG) emissions and GHG removals</b> .....	<b>14</b>
8.1 Quantification.....	14
8.2 Documented information.....	14
<b>9 Carbon neutrality management plan</b> .....	<b>15</b>
9.1 Content of carbon neutrality management plan.....	15
9.2 Ambition.....	15
9.3 Evaluation and revision of the carbon neutrality management plan.....	16
9.4 Documented information.....	16
<b>10 Greenhouse gas (GHG) emission reductions and GHG removal enhancements</b> .....	<b>16</b>
10.1 Greenhouse gas (GHG) emission reductions.....	16
10.2 Greenhouse gas (GHG) removal enhancements.....	17
10.3 Documented information.....	17
<b>11 Offsetting the carbon footprint</b> .....	<b>18</b>
11.1 General.....	18
11.2 Criteria for carbon credits.....	18
11.3 Criteria for carbon crediting programmes.....	19
11.4 Documented information.....	20
<b>12 Carbon neutrality report</b> .....	<b>20</b>

This is a preview of ISO 14068-1:2023. [Click here to purchase the full version from the ANSI store.](#)

<b>13</b>	<b>Carbon neutrality claims</b> .....	<b>21</b>
<b>Annex A</b> (informative)	<b>Carbon neutrality pathway</b> .....	<b>23</b>
<b>Annex B</b> (normative)	<b>Additional requirements for specific cases</b> .....	<b>25</b>
<b>Annex C</b> (informative)	<b>Comparison between International Standards on quantification and GHG Protocol Accounting and Reporting Standards</b> .....	<b>30</b>
<b>Annex D</b> (informative)	<b>Ambition</b> .....	<b>41</b>
<b>Bibliography</b> .....		<b>43</b>

This is a preview of ISO 14068-1:2023. [Click here to purchase the full version from the ANSI store.](#)

## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives)).

ISO draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). ISO takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, ISO had not received notice of (a) patent(s) which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at [www.iso.org/patents](http://www.iso.org/patents). ISO shall not be held responsible for identifying any or all such patent rights.

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee ISO/TC 207, *Environmental management, Subcommittee SC 7, Greenhouse gas and climate change management and related activities*.

A list of all parts in the ISO 14068 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at [www.iso.org/members.html](http://www.iso.org/members.html).

## Introduction

### 0.1 Climate change and the ISO 14060 family of standards

Climate change arising from anthropogenic activity has been identified as one of the greatest challenges facing the world and will continue to affect businesses and citizens over future decades.

Climate change has implications for both human and natural systems and can lead to significant impacts on resource availability, economic activity, biodiversity and human well-being. In response, international, regional, national and local initiatives are being developed and implemented by public and private sectors to mitigate climate change by reducing greenhouse gases (GHGs) in the Earth's atmosphere as well as to facilitate adaptation to climate change.

There is a need for effective and transformative responses to the urgent threat of climate change on the basis of the best available scientific knowledge. ISO develops documents that support the transformation of scientific knowledge into tools that will help address climate change.

Climate change mitigation initiatives rely on the quantification, monitoring, reporting, validation and verification of GHG emissions and removals.

The ISO 14060 family of standards benefits organizations, GHG project proponents and stakeholders worldwide by providing clarity and consistency for quantifying, monitoring, reporting, validating and verifying GHG emissions and removals and carbon neutrality. Specifically, the use of the ISO 14060 family of standards:

- enhances the credibility and transparency of GHG quantification, monitoring, reporting, validation and verification;
- facilitates the development and implementation of GHG management strategies and plans;
- facilitates the development and implementation of mitigation actions that provide GHG emission reductions or GHG removal enhancements;
- facilitates the ability to track performance and progress in the reduction of either GHG emissions or the increase in GHG removals, or both;
- supports sustainable development and the actions needed to achieve a low-carbon economy.

Applications of the ISO 14060 family of standards include:

- corporate decisions, such as identifying GHG emission reduction opportunities and increasing profitability by reducing energy consumption;
- risk management, such as the identification and management of climate risks and opportunities;
- voluntary initiatives, such as participation in voluntary GHG programmes or sustainability reporting initiatives;
- GHG markets, such as the buying and selling of GHG allowances or credits;
- regulatory/government GHG programmes, such as credit for early action, agreements or national and local reporting initiatives.

The following summarizes each of the documents in the ISO 14060 family of standards:

- ISO 14064-1 details principles and requirements for designing, developing, managing and reporting organization-level GHG inventories. It includes requirements for determining GHG emission and removal boundaries, quantifying an organization's GHG emissions and removals, and identifying specific organizational actions or activities aimed at improving GHG management. It also includes requirements and guidance on inventory quality management, reporting, internal auditing and the organization's responsibilities in verification activities.

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- ISO 14064-2 details principles and requirements for determining baseline scenarios and for the monitoring, quantifying and reporting of project emissions and removals. It focuses on GHG projects or project-based activities specifically designed to reduce either GHG emissions or enhance GHG removals, or both. It provides the basis for GHG projects to be validated and verified.
- ISO 14064-3 details requirements for verifying GHG statements related to GHG inventories, GHG projects and carbon footprints of products. It describes the process for validation or verification, including validation or verification planning, assessment procedures, and the evaluation of organizational, project and product GHG statements.
- ISO 14065 defines requirements for bodies that validate and verify GHG statements. Its requirements cover impartiality, competence, communication, validation and verification processes, appeals, complaints, and the management system of validation and verification bodies. It can be used as a basis for accreditation and other forms of recognition in relation to the impartiality, competence, and consistency of validation and verification bodies.
- ISO 14066 specifies competence requirements for validation teams and verification teams. It includes principles and specifies competence requirements based on the tasks that validation teams or verification teams must be able to perform.
- ISO 14067 defines the principles, requirements and guidelines for the quantification of the carbon footprint of products (e.g. goods or services, including buildings and events). It describes the process to quantify GHG emissions associated with the life cycle stages of a product, beginning with resource extraction and raw material sourcing and extending through the production, use and end-of-life stages of the product.
- ISO/TS 14064-4<sup>1)</sup> assists users in the application of ISO 14064-1, providing guidelines and examples for improving transparency in the quantification of emissions and their reporting.

## 0.2 ISO 14068-1 (this document) — Carbon neutrality

This document is designed to build upon existing International Standards addressing GHG quantification, reporting, validation and verification, such as ISO 14064-1, ISO 14064-3 and ISO 14067. [Figure 1](#) illustrates the relationship with documents within the ISO 14060 family of GHG standards as well as some related International Standards on environmental labels and declarations.

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1) Under preparation. Stage at the time of publication: ISO/CD TS 14064-4:2023.

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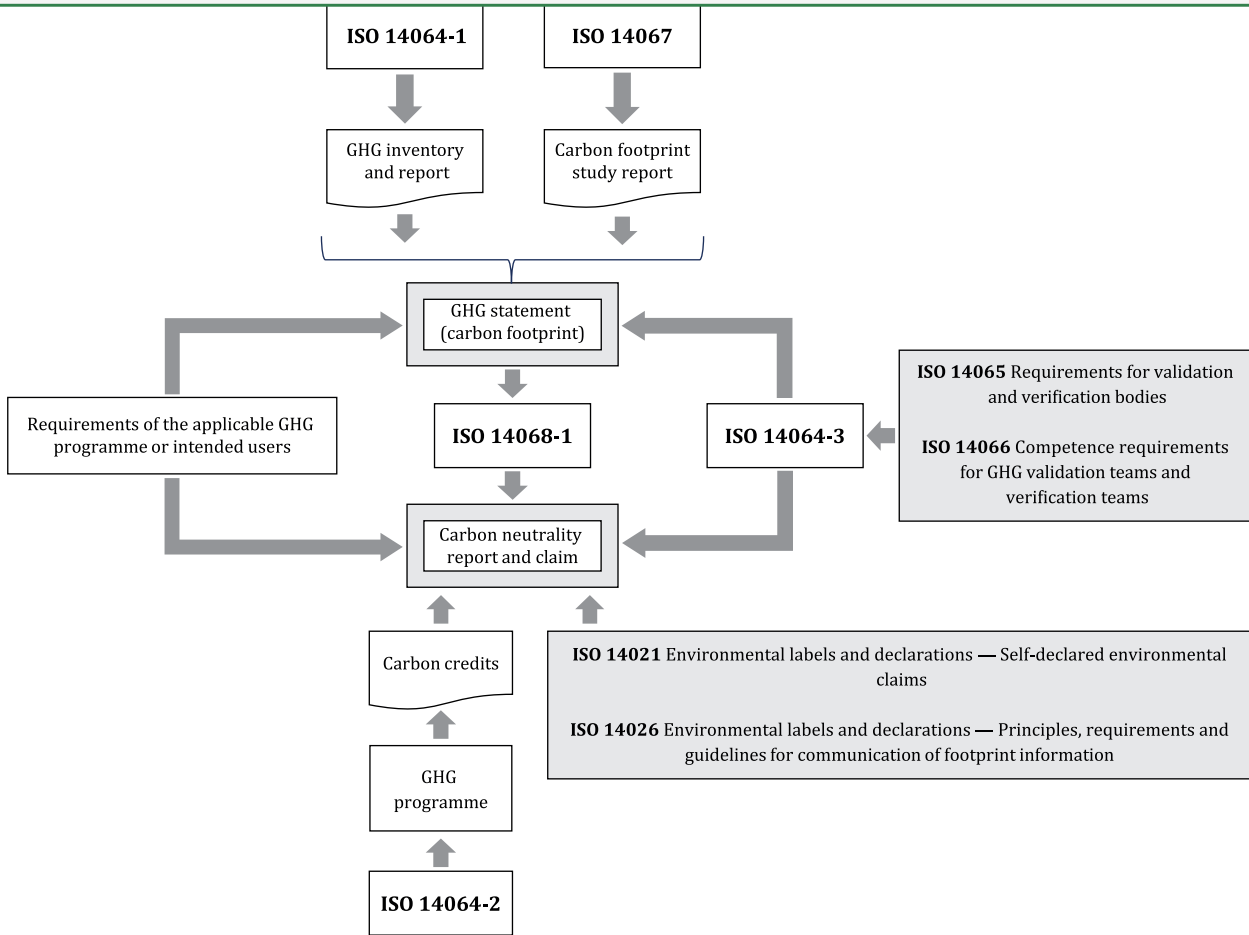


Figure 1 — ISO 14068-1 (this document) in relation to other International Standards

This document provides a standardized approach to achieving and demonstrating carbon neutrality. It is applicable to subjects, i.e. organizations and products (e.g. goods and services, including events and buildings).

The hierarchy approach presented in this document prioritizes actions to reduce the direct and indirect GHG emissions and enhance GHG removals of the subject, with offsetting used only for the carbon footprint remaining after these actions.

Avoided GHG emissions, for example by the use of goods or services, are not addressed in this document but they also have a role to play in the strategy of organizations to support the global objective of carbon neutrality. Avoided GHG emissions reflect the efforts of organizations to provide low-carbon products or solutions.

The quantification, monitoring and reporting related to GHG projects undertaken with the primary purpose of creating GHG emission reductions or GHG removal enhancements are also outside the scope of this document.

Achievement of carbon neutrality by organizations and products entails actions that reduce GHG emissions and enhance GHG removals, and thus can help support countries to fulfil their nationally determined contributions (NDCs) and to meet the goals of the Paris Agreement.<sup>[14]</sup>

### 0.3 Carbon neutrality and net zero GHG emissions

Carbon neutrality (as defined in this document) and net zero GHG emissions are related concepts. At a global scale, these terms are defined by the Intergovernmental Panel on Climate Change (IPCC)<sup>2)</sup> as

2) The IPCC is the United Nations body for assessing the science related to climate change. <https://www.ipcc.ch/>

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being equivalent, both referring to the condition in which anthropogenic GHG emissions are balanced by anthropogenic GHG removals over a specified period. In this document, this condition is referred to as “global net zero GHG emissions”.

At sub-global scale, carbon neutrality is generally used for organizations and products, and achieving carbon neutrality commonly involves offsetting to counterbalance the carbon footprint of the subject. In this document, carbon neutrality is considered as a pathway of continual improvement along which the carbon footprint of the subject is reduced by implementing emissions reduction and removal enhancement activities, and therefore the need for offsetting decreases over time.

At sub-global scale, net zero GHG emissions is generally applied to territories (e.g. a country, a municipality) and to organizations, but not to products. Net zero GHG emissions is defined and assessed differently in different contexts. For organizations, net zero GHG emissions is commonly considered as the condition in which emissions have been reduced such that only residual emissions remain, and offsetting is restricted to removal credits only.

With respect to territories, assessment of net zero GHG emissions considers the emissions and removals under direct control or jurisdiction of the territory, and offsetting is sometimes excluded.

This document does not address requirements or recommendations for net zero GHG emissions at either the global or a sub-global scale.

#### **0.4 General**

In this document, the following verbal forms are used:

- “shall” indicates a requirement;
- “should” indicates a recommendation;
- “may” indicates a permission;
- “can” indicates a possibility or a capability.