



BSI Standards Publication

**Greenhouse gases —  
Quantification and  
reporting of greenhouse  
gas emissions for  
organizations — Guidance  
for the application of  
ISO 14064-1**

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### National foreword

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**Greenhouse gases — Quantification and reporting of greenhouse gas emissions for organizations — Guidance for the application of ISO 14064-1**

*Gaz à effet de serre — Quantification et rapport des émissions de gaz à effet de serre pour les organisations — Directives d'application de l'ISO 14064-1*



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## 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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

In exceptional circumstances, when a technical committee has collected data of a different kind from that which is normally published as an International Standard ("state of the art", for example), it may decide by a simple majority vote of its participating members to publish a Technical Report. A Technical Report is entirely informative in nature and does not have to be reviewed, unless the data it provides are considered to be no longer valid or useful.

ISO/TR 14069 was prepared by Technical Committee ISO/TC 207, *Environmental management*, Subcommittee SC 7, *Greenhouse gas management and related activities*.

## Introduction

ISO 14064-1 enables organizations around the world to quantify greenhouse gas (GHG) emissions and removals. This Technical Report uses the principles and process from ISO 14064-1 to develop guidance on quantification and reporting of GHG for organizations.

This Technical Report is consistent with the objective of building on existing International Standards and protocols on corporate GHG inventories, and incorporates many of the key concepts and requirements stated in the GHG Protocol by the World Business Council for Sustainable Development/World Resources Institute in References [4] and [5]. Some of these concepts have been adapted to suit this Technical Report. Users of this Technical Report are encouraged to refer to References [4] and [5] for additional guidance on applying the relevant concepts and requirements.

ISO 14064-1 identifies three types of emissions:

- a) direct emissions;
- b) energy indirect emissions (associated with purchases of electricity and heat);
- c) “other indirect emissions”.

Direct emissions correlate to “scope 1”, energy indirect emissions to “scope 2” and other indirect emissions to “scope 3” as defined by the GHG Protocol corporate standard (see Reference [4]).

In tackling climate change, there is a convergence of interests between organizations, national and regional regulators and international negotiators on the need to develop methods of quantifying GHG emissions and providing reliable tools to do so.

This Technical Report is intended to assist users in the application of ISO 14064-1, using guidelines and examples and to provide transparency in the quantification of emissions and their reporting.

This Technical Report enables an organization to do the following:

- enhance the transparency and consistency of reported GHG emissions (direct, energy indirect and other indirect), establish a classification of categories for all emissions, especially the indirect emissions, and recommend this classification for all ISO 14064-1 inventories;
- choose or develop the method of calculating emissions;
- differentiate, whenever necessary, the three main types of organization that are addressed in this Technical Report:
  - a facility or production site (spatially delimited) providing goods (industry) and/or services (tertiary), belonging to a private or public organization;
  - a private or public organization with several facilities/sites and/or subsidiaries, and needing consolidation procedures;
  - local authority that produces both direct and indirect emissions, from both its own operations and services provided within a specific territory: the services provided to a community (roads, cleaning, transport, gardens, etc.) can be delivered directly by the public authority or under mixed forms (outsourced activities, delegations, concession, etc.);
- report GHG emissions and removals, using a simplified format to make the report easier to understand.

This Technical Report is intended to give guidance on the quantification of a GHG emissions inventory within the selected boundaries of an organization. It differs from the process of product carbon footprinting (see ISO 14067), whose primary focus are the emissions from the life cycle of a product.

The objective of this Technical Report is to offer organizations guidance on the quantification and reporting of their GHG inventory, using a process that incorporates the principles of relevance,

completeness, consistency, accuracy and transparency. This kind of GHG inventory is expressed as net global warming potential in carbon dioxide equivalent (CO<sub>2</sub>e).

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# Greenhouse gases — Quantification and reporting of greenhouse gas emissions for organizations — Guidance for the application of ISO 14064-1

## 1 Scope

This Technical Report describes the principles, concepts and methods relating to the quantification and reporting of direct and indirect greenhouse gas (GHG) emissions for an organization. It provides guidance for the application of ISO 14064-1 to greenhouse gas inventories at the organization level, for the quantification and reporting of direct emissions, energy indirect emissions and other indirect emissions.

This Technical Report describes for all organizations, including local authorities, the steps for:

- establishing organizational boundaries, in accordance with either a control approach (financial or operational) or an equity share approach;
- establishing operational boundaries, by identifying direct emissions and energy indirect emissions to be quantified and reported, as well as any other indirect emissions the organization chooses to quantify and report; for each category of emission, guidance is provided on specific boundaries and methodologies for the quantification of GHG emissions and removals;
- GHG reporting: guidance is provided to promote transparency regarding the boundaries, the methodologies used for the quantification of direct and indirect GHG emissions and removals, and the uncertainty of the results.

A table of correspondence between the numbering of ISO 14064-1:2006 and this Technical Report is provided in [Annex A](#).

The examples and case studies presented in this Technical Report are not exclusive and non-exhaustive. The values of the emission or removal factors mentioned in the examples are given for illustrative purposes only. A non-exhaustive list of database references is provided in [Annex B](#).

## 2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 14064-1:2006, *Greenhouse gases — Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals*

## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 14064-1 and the following apply.

### 3.1 Terms relating to greenhouse gases emission

#### 3.1.1

#### **direct greenhouse gas emission**

GHG emission from greenhouse gas sources owned or controlled by the organization

Note 1 to entry: ISO 14064-1 uses the concepts of financial and operational control to establish an organization's operational boundaries.