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**Greenhouse gases —**

**Part 3:**

**Specification with guidance for the  
validation and verification of greenhouse  
gas assertions**

*Gaz à effet de serre —*

*Partie 3: Spécifications et lignes directrices pour la validation et la  
vérification des déclarations des gaz à effet de serre*



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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.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 14064-3 was prepared by Technical Committee ISO/TC 207, *Environmental management*.

ISO 14064 consists of the following parts, under the general title *Greenhouse gases*:

- *Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals*
- *Part 2: Specification with guidance at the project level for quantification, monitoring and reporting of greenhouse gas emission reductions or removal enhancements*
- *Part 3: Specification with guidance for the validation and verification of greenhouse gas assertions*

## Introduction

**0.1** Climate change has been identified as one of the greatest challenges facing nations, governments, business and citizens over future decades. Climate change has implications for both human and natural systems and could lead to significant changes in resource use, production and economic activity. In response, international, regional, national, and local initiatives are being developed and implemented to limit greenhouse gas (GHG) concentrations in the Earth's atmosphere. Such GHG initiatives rely on the quantification, monitoring, reporting and verification of GHG emissions and/or removals.

ISO 14064-1 details principles and requirements for designing, developing, managing and reporting organization- or company-level GHG inventories. It includes requirements for determining GHG emission boundaries, quantifying an organization's GHG emissions and removals and identifying specific company 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.

ISO 14064-2 focuses on GHG projects or project-based activities specifically designed to reduce GHG emissions or increase GHG removals. It includes principles and requirements for determining project baseline scenarios and for monitoring, quantifying and reporting project performance relative to the baseline scenario and provides the basis for GHG projects to be validated and verified.

This part of ISO 14064 details principles and requirements for verifying GHG inventories and validating or verifying GHG projects. It describes the process for GHG-related validation or verification and specifies components such as validation or verification planning, assessment procedures and the evaluation of organization or project GHG assertions. This part of ISO 14064 can be used by organizations or independent parties to validate or verify GHG assertions.

Figure 1 displays the relationships between the three parts of ISO 14064.

**0.2** ISO 14064 is expected to benefit organizations, governments, project proponents and stakeholders worldwide by providing clarity and consistency for quantifying, monitoring, reporting and validating or verifying GHG inventories or projects. Specifically, use of ISO 14064 could

- enhance the environmental integrity of GHG quantification,
- enhance the credibility, consistency and transparency of GHG quantification, monitoring and reporting, including GHG project emission reductions and removal enhancements
- facilitate the development and implementation of an organization's GHG management strategies and plans;
- facilitate the development and implementation of GHG projects,
- facilitate the ability to track performance and progress in the reduction of GHG emissions and/or increase in GHG removals, and
- facilitate the crediting and trade of GHG emission reductions or removal enhancements.

Users of ISO 14064 could find benefit from some of the following applications:

- a) corporate risk management: for example, the identification and management of risks and opportunities;
- b) voluntary initiatives: for example, participation in voluntary GHG registry or reporting initiatives;
- c) GHG markets: for example, the buying and selling of GHG allowances or credits;
- d) regulatory/government reporting: for example, credit for early action, negotiated agreements or national reporting programmes.

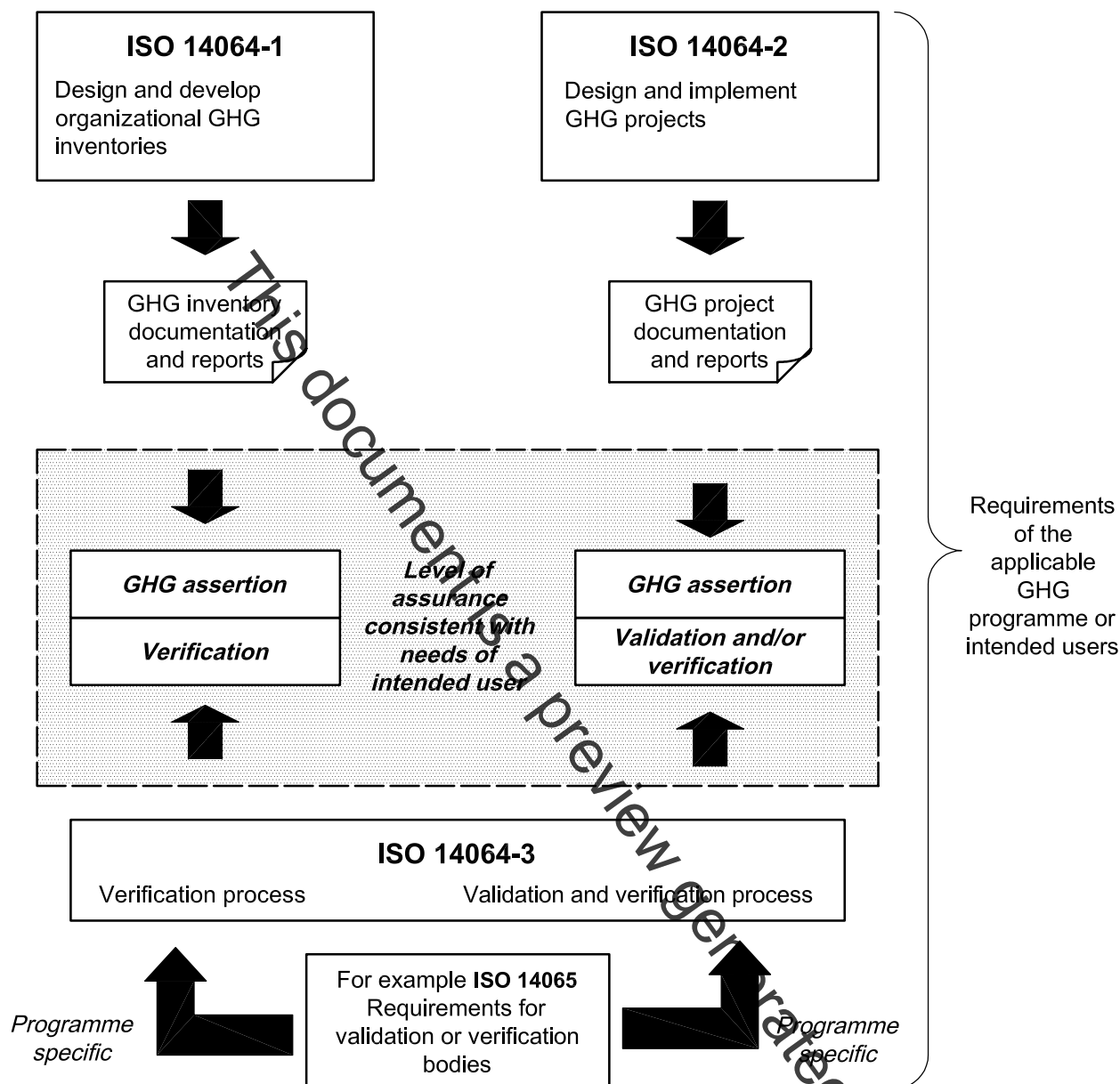


Figure 1 — Relationship between the parts of ISO 14064

**0.3** This part of ISO 14064 provides principles, requirements and guidance for those conducting GHG information validation and verification. It is intended to be useful to a broad range of potential users, including:

- 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> party GHG validators and verifiers;
- organizations and individuals involved in developing and commissioning GHG projects;
- organizations conducting internal audits of their GHG information;
- organizations involved in GHG validator or verifier training;
- voluntary and mandatory GHG programme administrators;
- investor, finance and insurance communities;
- regulators and those involved in the accreditation and conformity assessment of emissions trading and emission or removal offset programs.

**0.4** The requirements of this part of ISO 14064 describe a process for providing assurance to intended users that an organization's or project's GHG assertions are complete, accurate, consistent, transparent and without material discrepancies. The processes of validation and verification are similar; however, there are differences in the emphasis of the activities. The process can be applied in two ways: internal and external. Internal applications can use this part of ISO 14064 as a guideline, whereas external applications can use it as a set of requirements.

The extent of the validation and verification activities depends on

- the level of assurance required,
- needs of the intended user,
- objectives of the validation or verification activities, and
- the validation or verification criteria.

A GHG assertion can be a statement about different aspects of performance, such as the following:

- a) quantification of organizational GHG emissions or removals;
- b) quantification of project GHG emission reductions or removal enhancements;
- c) conformity with the requirements of ISO 14064-1 or ISO 14064-2;
- d) compliance with the principles and requirements of regulatory regimes or GHG programmes;
- e) performance or effectiveness of internal systems and control processes;
- f) performance or effectiveness of operational processes.

Clause 3 describes the principles and fundamentals of validation and verification. These will help the user to appreciate the essential nature of validation and verification and they are a necessary prelude to the requirements in Clause 4 for conducting the validation of GHG projects and the verification of organizations or GHG project assertions. These requirements include the establishment of validation or verification objectives, criteria and scope (including the level of assurance required), coordination of validation or verification activities, development of a validation or verification approach of an organization's or GHG project's GHG information, establishment of appropriate sampling regimes for the validation and verification of GHG information, and the testing of the organization's or GHG project's controls. This clause also provides requirements for the drafting and communication of the validation or verification statement.

The guidance contained in the informative Annex A provides additional information for validation and verification under a range of GHG programmes or conditions. Annex A provides guidance on the validation and verification requirements contained in Clause 4, but does not include mandatory requirements.

**0.5** Some clauses require users of this part of ISO 14064 to explain the use of certain approaches or decisions taken. Explanation will generally include documentation of the following:

- How approaches were used or decisions taken.
- Why approaches were chosen or decisions made.

Some clauses require users of this part of ISO 14064 to justify the use of certain approaches or decisions taken. Justification will generally include documentation of the following:

- How approaches were used or decisions taken.
- Why approaches were chosen or decisions made.
- Why alternative approaches were not chosen.

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## Greenhouse gases —

### Part 3:

## Specification with guidance for the validation and verification of greenhouse gas assertions

### 1 Scope

This part of ISO 14064 specifies principles and requirements and provides guidance for those conducting or managing the validation and/or verification of greenhouse gas (GHG) assertions. It can be applied to organizational or GHG project quantification, including GHG quantification, monitoring and reporting carried out in accordance with ISO 14064-1 or ISO 14064-2.

This part of ISO 14064 specifies requirements for selecting GHG validators/verifiers, establishing the level of assurance, objectives, criteria and scope, determining the validation/verification approach, assessing GHG data, information, information systems and controls, evaluating GHG assertions and preparing validation/verification statements.

ISO 14064 is GHG programme neutral. If a GHG programme is applicable, requirements of that GHG programme are additional to the requirements of ISO 14064.

NOTE If a requirement of ISO 14064 prohibits an organization or GHG project proponent from complying with a requirement of the GHG programme, the requirement of the GHG programme takes precedence.

### 2 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

#### 2.1

##### **greenhouse gas**

##### **GHG**

gaseous constituent of the atmosphere, both natural and anthropogenic that absorbs and emits radiation at specific wavelengths within the spectrum of infrared radiation emitted by the Earth's surface, the atmosphere, and clouds

NOTE GHGs include carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulfur hexafluoride (SF<sub>6</sub>).

#### 2.2

##### **greenhouse gas source**

physical unit or process that releases a GHG into the atmosphere

#### 2.3

##### **greenhouse gas sink**

physical unit or process that removes a GHG from the atmosphere

#### 2.4

##### **greenhouse gas reservoir**

physical unit or component of the biosphere, geosphere or hydrosphere with the capability to store or accumulate a GHG removed from the atmosphere by a **greenhouse gas sink** (2.3) or a GHG captured from a **greenhouse gas source** (2.2)