INTERNATIONAL STANDARD

ISO 14064-3

Redline version
compares Second edition to
First edition

Greenhouse gases —

Part 3: Specification with guidance for the verification and validation of greenhouse gas statements

Gaz à effet de serre —

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

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Text example 1 — Text has been added (in green)

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1.x ... — If there are changes in a clause/subclause, the corresponding clause/subclause number is highlighted in yellow in the Table of contents

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Foreword

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~~International Standards are~~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 documents should be noted. This document was drafted in accordance with the ~~rules given in~~editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

~~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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

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.

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~~ISO 14064-3~~This document was prepared by Technical Committee ISO/TC 207, *Environmental management*, Subcommittee SC 7, *Greenhouse gas management and related activities*.

~~ISO 14064 consists of the following parts~~This second edition cancels and replaces the first edition (ISO 14064-3:2006~~, under the general title~~), which has been technically revised. The main changes compared with the ~~*Greenhouse gases:*~~previous edition are as follows.

— The structure of the document has been changed so that verification and validation are discussed in sequence (see Clauses 6 and 7) rather than in parallel, because the processes of verification and validation are significantly different.

— The definitions of verification and validation and other key terms have been changed (see Clause 3).

— ~~Part 1: Specification with guidance at~~A new section on validation has been added (see Clause 7~~the organization level for quantification and reporting of greenhouse gas emissions and removals~~). It applies to future estimates of emissions, removals, emission reductions and removal enhancements. The purpose of validation is to provide assurance on the assumptions, limitations and methods used to develop a GHG statement.

— ~~Part 2: Specification with guidance at the project level~~A new Annex A~~for quantification, monitoring and reporting of greenhouse gas emission reductions or removal enhancements~~ has been added that defines requirements for verifiers to follow when undertaking engagements at a limited level of assurance.

— A new Annex B has been added on considerations for verification.

— A new Annex C has been added on a new process called agreed-upon procedures (AUP), which allows for a selection of verification activities to be performed and reported upon. No opinion is expressed on the result of an AUP engagement as the intended user(s) are responsible for interpreting the information reported on by the verifier.

— ~~Part 3: Specification with~~A new Annex D~~guidance for the validation and verification of greenhouse gas assertions~~ has been added that provides guidance on how verifiers and validators can provide statements on engagements that are mixed.

— Requirements and guidance on the use of levels of assurance have been added.

A list of all parts in the ISO 14064 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.

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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.~~

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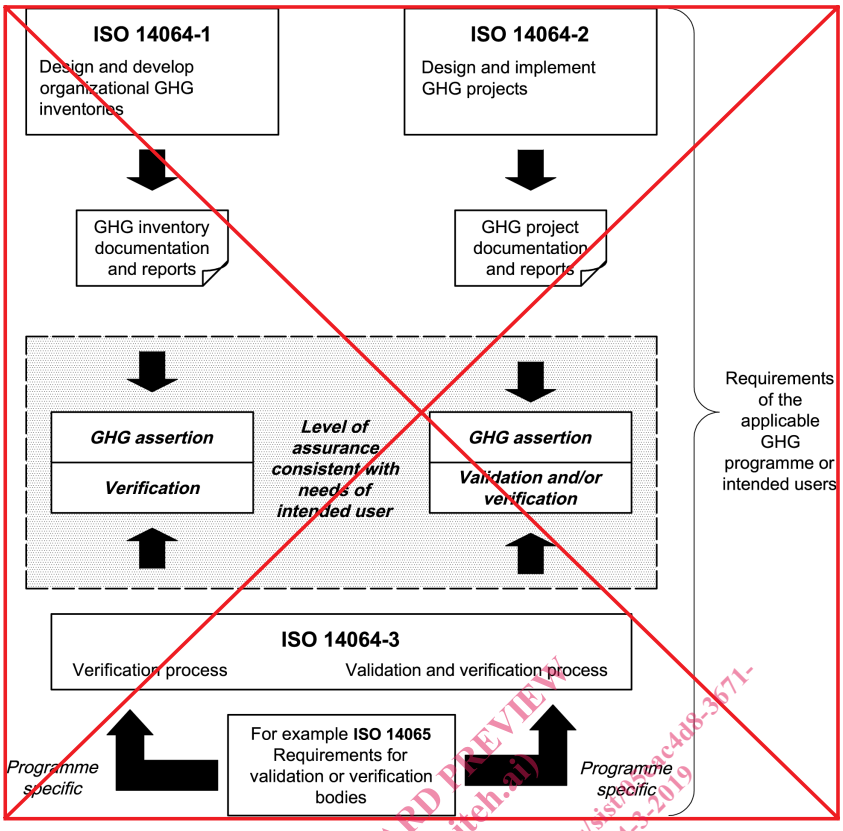

Figure 1 — Relationship between the parts of ISO 14064

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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:

— 1st, 2nd and 3rd 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,

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— 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.

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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.

0.1 Background

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

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

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

GHG initiatives on mitigation rely on the quantification, monitoring, reporting and verification of GHG emissions and/or removals.

The ISO 14060 family of standards provides clarity and consistency for quantifying, monitoring, reporting and validating or verifying GHG emissions and removals to support sustainable development through a low-carbon economy and to benefit organizations, project proponents and interested parties worldwide. Specifically, the use of the ISO 14060 family of standards:

— enhances the environmental integrity of GHG quantification;

— enhances the credibility, consistency and transparency of GHG quantification, monitoring, reporting, verification and validation;

— facilitates the development and implementation of GHG management strategies and plans;

— facilitates the development and implementation of mitigation actions through emission reductions or removal enhancements;

— facilitates the ability to track performance and progress in the reduction of GHG emissions and/or increase in GHG removals.

Applications of the ISO 14060 family of standards include:

— corporate decisions, such as identifying emission reduction opportunities and increasing profitability by reducing energy consumption;

— carbon risk management, such as the identification and management of risks and opportunities;

— voluntary initiatives, such as participation in voluntary GHG registries 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.

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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 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 details principles and requirements for determining baselines, and monitoring, quantifying and reporting of project emissions. It focuses on GHG projects or project-based activities specifically designed to reduce GHG emissions and/or enhance GHG removals. It provides the basis for GHG projects to be verified and validated.

This document details requirements for verifying GHG statements related to GHG inventories, GHG projects, and carbon footprints of products. It describes the process for verification or validation, including verification or validation 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

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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 carbon footprint of products. The aim of ISO 14067 is 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/TR 14069 assists users in the application of ISO 14064-1, providing guidelines and examples for improving transparency in the quantification of emissions and their reporting. It does not provide additional guidance to ISO 14064-1.

Figure 1 illustrates the relationship among the ISO 14060 family of GHG standards.

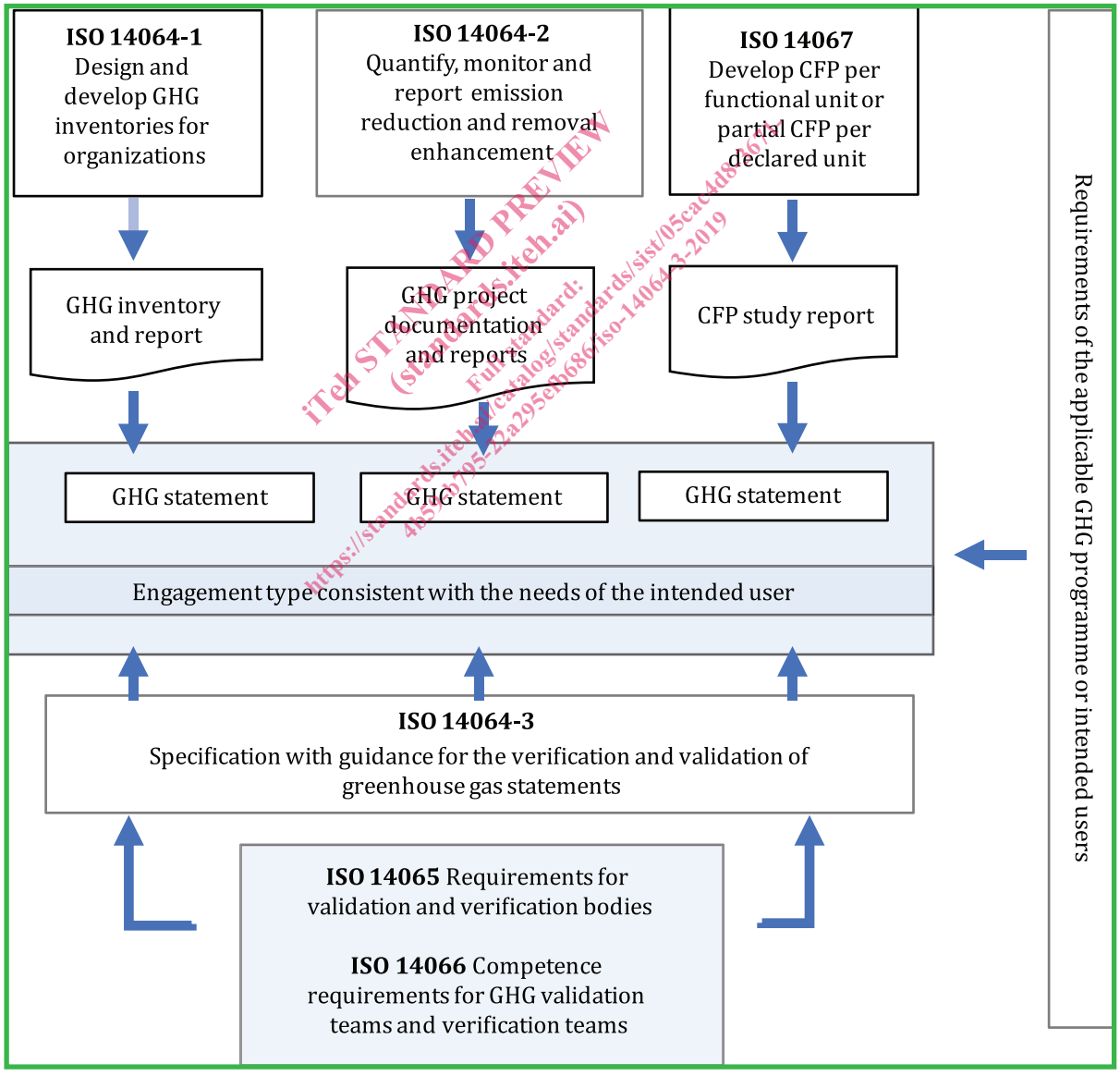

Figure 1 — Relationship among the ISO 14060 family of GHG standards

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0.2 Approach of this document

This document details requirements for verifying GHG statements related to GHG inventories, GHG projects and carbon footprints of products. It describes verification activities that can enable a verifier to issue an opinion on GHG statements regarding emissions that are attributed to any organization, project or normalized unit (e.g. product). The data and information that are subject to verification are historical in nature.

This document also details requirements for validating the assumptions, limitations and methods that support a statement about the outcome of future activities. Validation differs from verification because its subject is data and information that are prospective and generally based on past performance. This document recognizes the different process requirements that apply to the validation of assumptions and methods.

This document can be used by first-, second- and third-party GHG verifiers and validators. It is regime neutral, meaning that it can be used for verifying and validating GHG statements regardless of the criteria used to develop those statements.

This document provides requirements and guidance for those persons performing verification and validation of GHG data and information. It is intended to be useful to a broad range of potential users, including:

— first-, second- and third-party GHG verifiers and validators;

— organizations and individuals involved in developing and commissioning GHG projects;

— organizations conducting internal audits of their GHG data and information;

— organizations involved in GHG verifier or validator 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 programmes.

Figure 2 explains the application of verification, validation and AUP.

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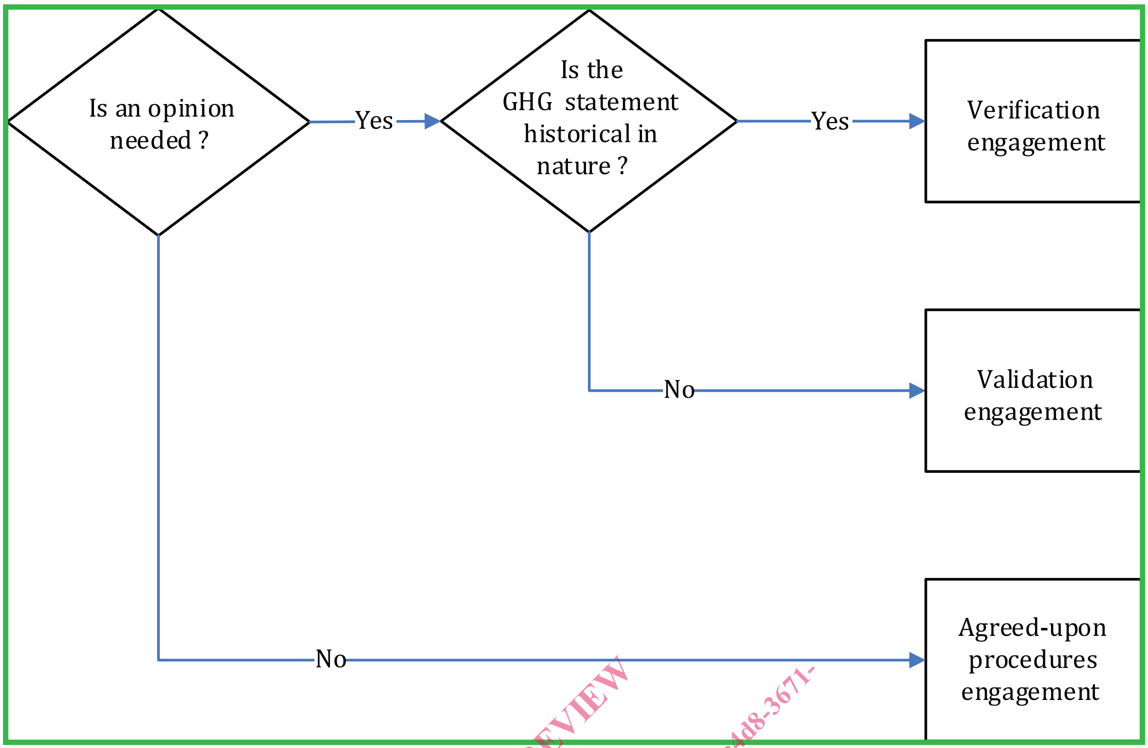

Figure 2 — Decision process for engagement type

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In this document, validation is described as a specific type of engagement that assesses the assumptions, limitations and methods that generate hypothetical or projected data and information, i.e. estimates of the outcomes of future events.

0.3 Significance of the terms "explain" and "justify" in this document

Some clauses require users of this document to explain and justify the use of certain approaches or decisions taken.

Explanation generally includes:

a) how approaches were used or decisions taken;

b) why approaches were chosen or decisions made.

Justification has two more criteria:

c) explain why alternative approaches were not chosen;

d) provide supporting data or analysis.

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