

AMERICAN NATIONAL STANDARD

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

AMERICAN SOCIETY FOR QUALITY
P.O. BOX 3005
MILWAUKEE, WI 53201-3005

AMERICAN NATIONAL STANDARD

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

Approved as an American National Standard by:
American Society for Quality

August 16, 2006

American National Standards: An American National Standard implies a consensus of those substantially concerned with its scope and provisions. An American National Standard is intended as a guide to aid the manufacturer, the consumer, and the general public. The existence of an American National Standard does not in any respect preclude anyone, whether he or she has approved the standard or not, from manufacturing, purchasing, or using products, processes, or procedures not conforming to the standard. American National Standards are subject to periodic review and users are cautioned to obtain the latest edition.

Caution Notice: This American National Standard may be revised or withdrawn at any time. The procedures of the American National Standards Institute require that action be taken to reaffirm, revise, or withdraw this standard no later than five years from the date of publication. Purchasers of American National Standards may receive current information on all standards by calling or writing the American National Standards Institute.

© 2006 by ASQ

Copyright Protection Notice for the ANSI/ISO/ASQ E14064-1:2006(E) Standard.

This standard is subject to copyright claims of ISO, ANSI, and ASQ. Not for resale. No part of this publication may be reproduced in any form, including an electronic retrieval system, without the prior written permission of ASQ. All requests pertaining to the ANSI/ISO/ASQ E14064-1:2006(E) Standard should be submitted to ASQ.

Note: As used in this document, the term "International Standard" refers to the American National Standard adoption of this and other International Standards.

ASQ will consider requests for change and information on the submittal of such requests regarding this Standard. All requests should be in writing to the attention of the Standards administrator at the address below.

ASQ Mission: The American Society for Quality advances individual and organizational performance excellence worldwide by providing opportunities for learning, quality improvement, and knowledge exchange.

Published by:



Quality Press
600 N. Plankinton Avenue
Milwaukee, Wisconsin 53203
Call toll free 800-248-1946
Fax 414-272-1734
www.asq.org
<http://qualitypress.asq.org>
<http://standardsgroup.asq.org>
E-mail: authors@asq.org

Also available from ASQ Quality Press:

*ANSI/ASQ E4-2004: Quality systems for environmental data and technology programs—
Requirements with guidance for use*
ANSI/ASQ

*ANSI/ISO/ASQ QE19011S-2004: Guidelines for quality and/or environmental management
systems auditing*
ANSI/ISO/ASQ

Effective Implementation of ISO 14001
Marilyn Block

*Clean, Green and Read All Over: Ten Rules for Effective Corporate Environmental and
Sustainability Reporting*
J. Emil Morhardt

*ISO 14015:2001 Environmental Management: Environmental assessment of sites and
organizations (EASO)*
ISO

The Management System Auditor's Handbook
Joe Kausek

To request a complimentary catalog of ASQ Quality Press publications, call 800-248-1946,
or visit our Web site at <http://qualitypress.asq.org>.

(This page is intentionally left blank.)

Contents

Page

1	Scope	1
2	Terms and definitions	1
3	Principles	6
3.1	General	6
3.2	Relevance	6
3.3	Completeness	6
3.4	Consistency	6
3.5	Accuracy	6
3.6	Transparency	6
4	GHG inventory design and development	6
4.1	Organizational boundaries	6
4.2	Operational boundaries	7
4.3	Quantification of GHG emissions and removals	8
5	GHG inventory components	10
5.1	GHG emissions and removals	10
5.2	Organizational activities to reduce GHG emissions or increase GHG removals	10
5.3	Base-year GHG inventory	11
5.4	Assessing and reducing uncertainty	12
6	GHG inventory quality management	12
6.1	GHG information management	12
6.2	Document retention and record keeping	12
7	Reporting of GHG	13
7.1	General	13
7.2	Planning the GHG report	13
7.3	GHG report content	13
8	Organization's role in verification activities	14
8.1	General	14
8.2	Preparing for verification	14
8.3	Verification management	15
Annex A (informative)	Consolidating facility-level data to the organization level	17
Annex B (informative)	Examples of other indirect greenhouse gas emissions	18
Annex C (informative)	Greenhouse gas global warming potentials	19
Bibliography		20

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 14064-1 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.

This part of ISO 14064 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 for 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.

ISO 14064-3 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. ISO 14064-3 can be used by organizations or independent parties to validate or verify GHG assertions.

Figure 1 displays the relationship 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.

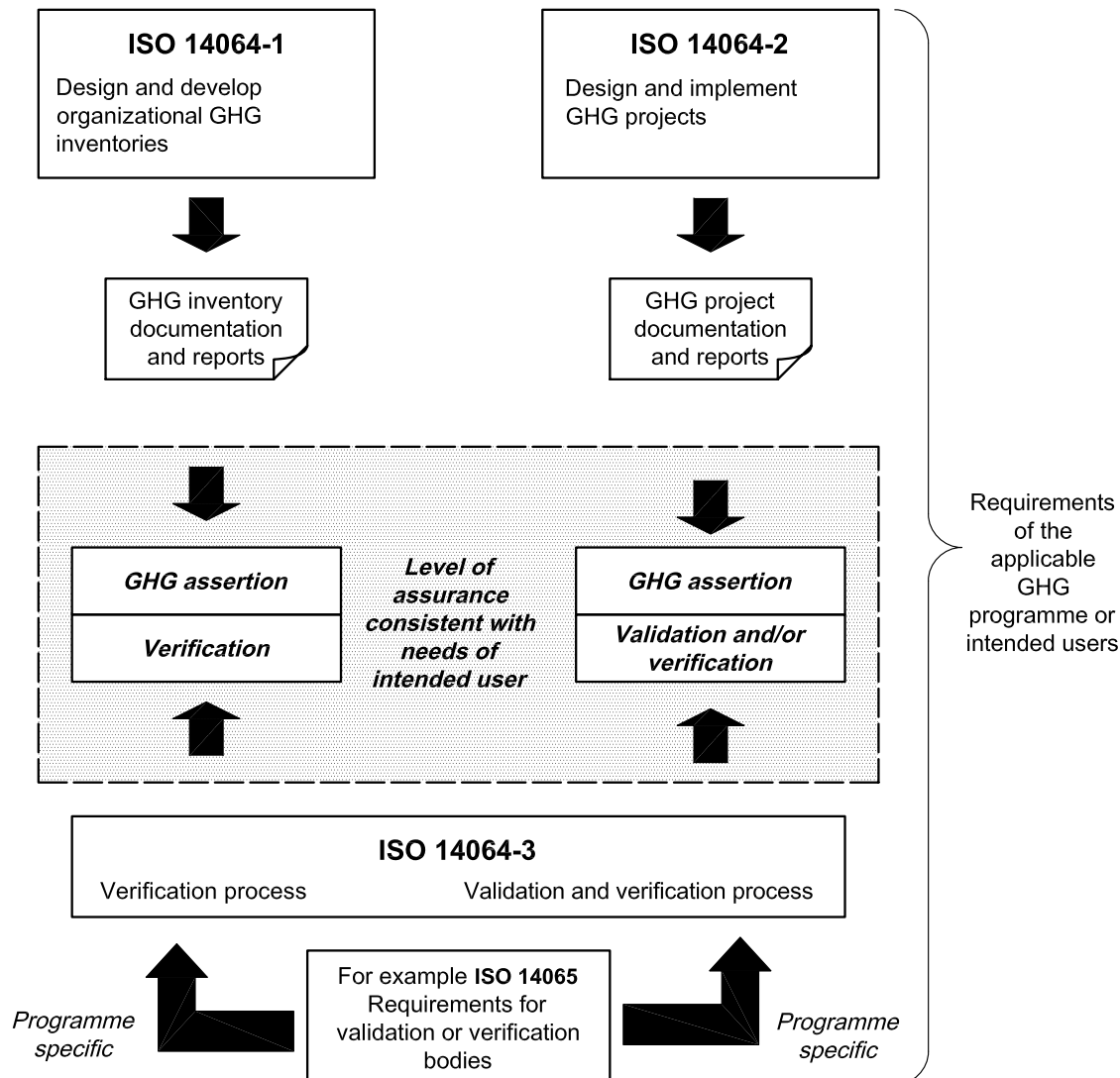


Figure 1 — Relationship between the parts of ISO 14064

0.3 Consistent with the objective of building on existing International Standards and protocols on corporate GHG inventories, this part of ISO 14064 incorporates many key concepts and requirements stated by World Business Council for Sustainable Development/World Resources Institute in Reference [4]. Users of this part of ISO 14064 are encouraged to refer to Reference [4] for additional guidance on applying relevant concepts and requirements.