ISO 14064 : New International Standards for Greenhouse Gas Quantification, Reporting and Verification

United Nations Climate Change Conference Side Event
December 5, 2005

ISO in Brief

- ISO - the International Organization for Standardization – was established in 1947 and is based in Geneva, Switzerland;
- ISO – a non-governmental organization – is a federation of the national standards bodies of 149 countries (one per country) and 500+ international/regional liaison members;
- ISO is comprised of 3,000+ technical groups that develop standards with the broadest possible base of stakeholder groups;
- ISO develops standards by transparent, consensus-based procedures based on national input;
- ISO meetings attract some 50,000 experts a year;
- ISO has published over 15,000 international standards;
- ISO standards are designed to be implemented world-wide.

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ISO GHG Standards

Scope	Standard
Organizations	Greenhouse gases - Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals **(ISO 14064-1)**.
Projects	Greenhouse gases - Part 2: Specification with guidance at the project level for quantification, monitoring and reporting of greenhouse gas emission reductions and removal enhancements **(ISO 14064-2)**.
Validation and Verification	Greenhouse gases - Part 3: Specification with guidance for the validation and verification of greenhouse gas assertions **(ISO 14064-3)**.
Accreditation	Greenhouse gases - Specification for greenhouse gas validation and verification bodies for use in accreditation and other forms of recognition **(ISO 14065)**.

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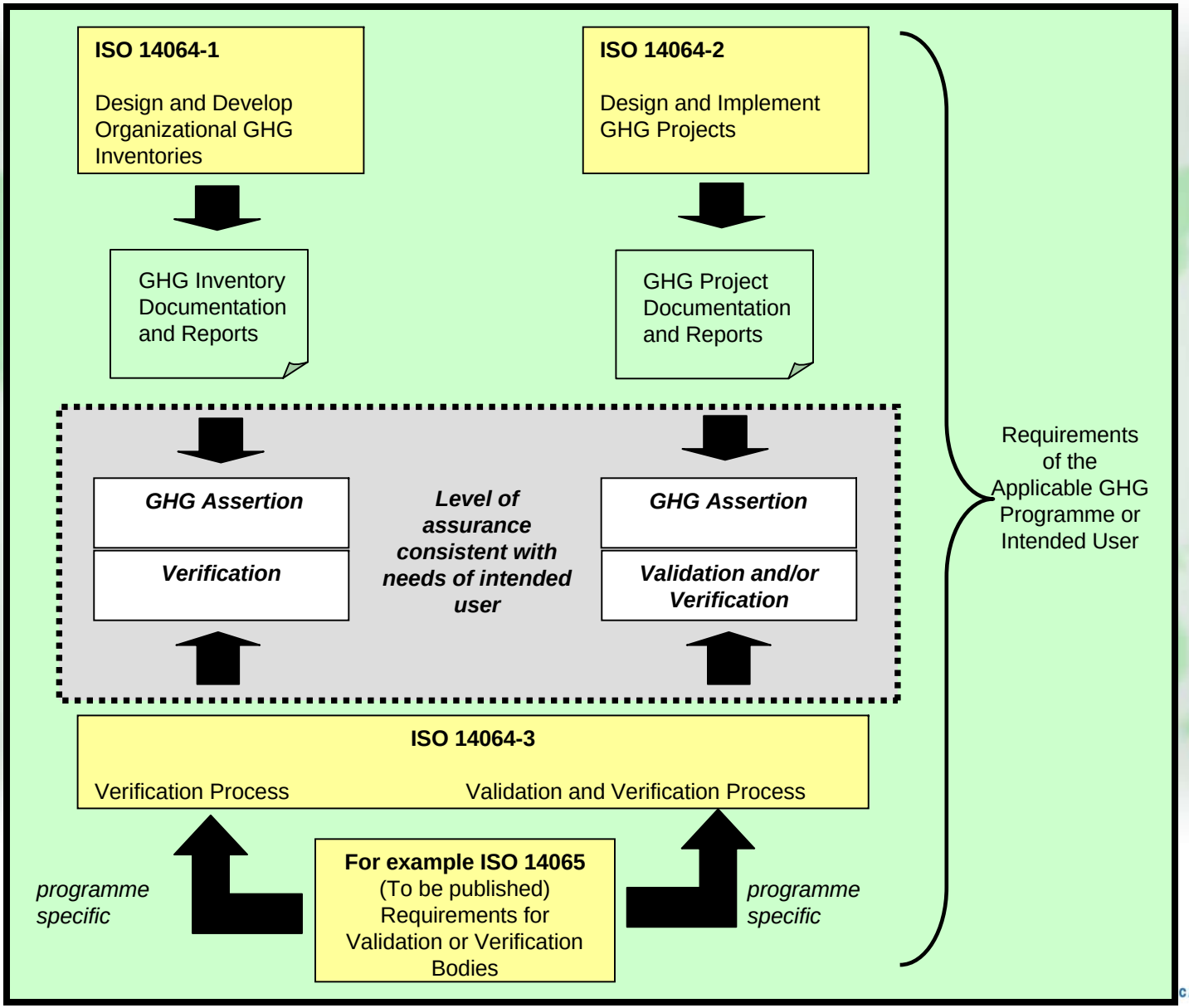
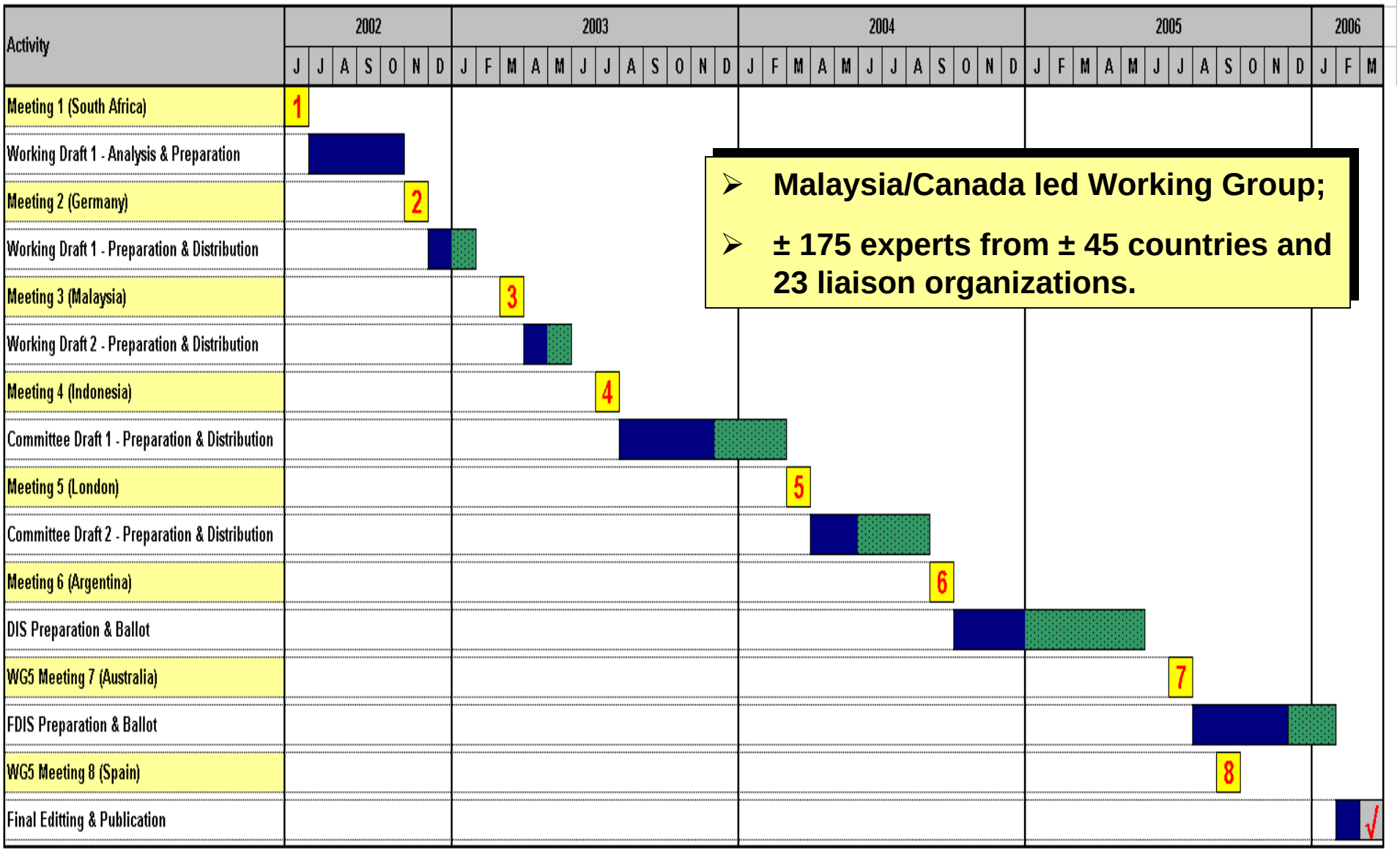
Relationships among the Parts of ISO 14064



ISO 14064 Development



- **Malaysia/Canada led Working Group;**
- **± 175 experts from ± 45 countries and 23 liaison organizations.**

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ISO 14064 Objectives

- Develop flexible, regime-neutral tools for use in voluntary or regulatory GHG schemes;
- Promote and harmonize best practice;
- Support the environmental integrity of GHG assertions;
- Assist organizations to manage GHG-related opportunities and risks; and
- Support the development of GHG programmes and markets.

Side Event Agenda

INTRODUCTION & CLOSING

Kevin Boehmer, Canadian Standards Association

ISO 14064 – PROCESS AND PURPOSE *13:05 to 13:35*

Daniel Gagnier, Chair ISO TC207 & Senior Vice-President, Alcan Inc.;

Chan Kook Weng, Convenor ISO TC207 WG5 & Senior Research Fellow, Malaysian Palm Oil Board;

Laurent Corbier, Director, Energy and Climate, World Business Council for Sustainable Development;

Liana Bratasida, Assistant Minister, Ministry of Environment, Indonesia & CDM EB Alternate;

Brian Dawson, Climate Change and CDM Adviser, United Nations Development Programme;

Jonathan Pershing, Program Director, Climate and Energy Program, World Resources Institute.

ISO 14064 – REQUIREMENTS AND APPLICATION *13:35 to 14:55*

Chan Kook Weng to Moderate:

Thomas Baumann, Det Norske Veritas;

Tod Delaney, First Environment;

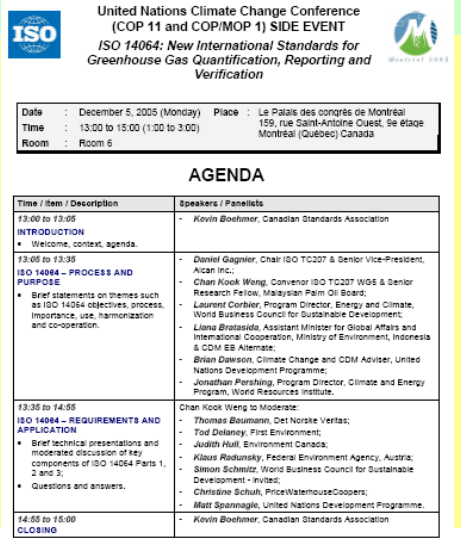
Judith Hull, Environment Canada;

Klaus Radunsky, Federal Environment Agency, Austria;

Simon Schmitz, World Business Council for Sustainable Development - invited;

Christine Schuh, PriceWaterhouseCoopers;

Matt Spannagle, United Nations Development Programme.



United Nations Climate Change Conference
(COP 11 and COP/MOP 1) SIDE EVENT

ISO 14064: New International Standards for Greenhouse Gas Quantification, Reporting and Verification

Date	: December 5, 2005 (Monday)	Place	: Le Palais des congrès de Montréal 159, rue Saint-Antoine Ouest, 9e étage Montréal (Québec) Canada
Time	: 13:00 to 15:00 (1:00 to 3:00)		
Room	: Room 6		

AGENDA

Time / Item / Description	Speakers / Panelists
13:00 to 13:05 INTRODUCTION • Welcome, context, agenda.	- *Kevin Boehmer*, Canadian Standards Association
13:05 to 13:35 ISO 14064 – PROCESS AND PURPOSE • Brief statements on themes such as ISO 14064 objectives, process, importance, use, harmonization and co-operation.	- *Daniel Gagnier*, Chair ISO TC207 & Senior Vice-President, Alcan Inc.; - *Chan Kook Weng*, Convenor ISO TC207 WG5 & Senior Research Fellow, Malaysian Palm Oil Board; - *Laurent Corbier*, Program Director, Energy and Climate, World Business Council for Sustainable Development; - *Liana Bratasida*, Assistant Minister for Global Affairs and International Cooperation, Ministry of Environment, Indonesia & CDM EB Alternate; - *Brian Dawson*, Climate Change and CDM Adviser, United Nations Development Programme; - *Jonathan Pershing*, Program Director, Climate and Energy Program, World Resources Institute.
13:35 to 14:55 ISO 14064 – REQUIREMENTS AND APPLICATION • Brief technical presentations and moderated discussion of key components of ISO 14064 Parts 1, 2 and 3; • Questions and answers.	Chan Kook Weng to Moderate: - *Thomas Baumann*, Det Norske Veritas; - *Tod Delaney*, First Environment; - *Judith Hull*, Environment Canada; - *Klaus Radunsky*, Federal Environment Agency, Austria; - *Simon Schmitz*, World Business Council for Sustainable Development - invited; - *Christine Schuh*, PriceWaterhouseCoopers; - *Matt Spannagle*, United Nations Development Programme.
14:55 to 15:00 CLOSING	- *Kevin Boehmer*, Canadian Standards Association

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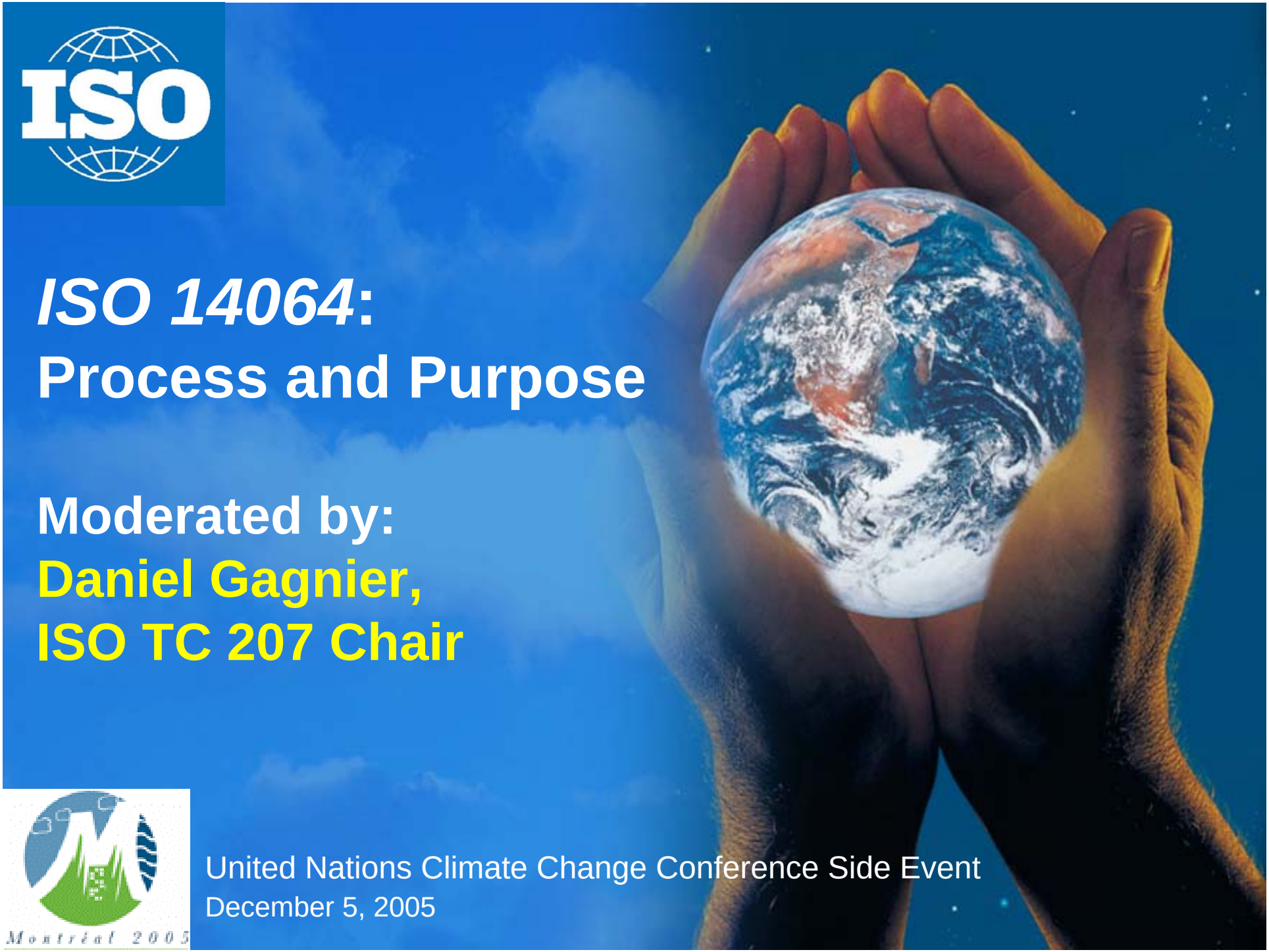

ISO 14064:
Process and Purpose

Moderated by:
Daniel Gagnier,
ISO TC 207 Chair

United Nations Climate Change Conference Side Event
December 5, 2005

ISO 14064: Requirements and Application

Moderated by:
Chan Kook Weng,
ISO TC 207 WG5 Convenor

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ISO 14064-1: Quantification and Reporting at the Organizational Level

Matt Spannagle, UNDP

United Nations Climate Change Conference Side Event
December 5, 2005

Overview of Presentation

- **General**
  - Objectives of 14064-1
  - Scope of 14064-1
  - Principles of development
- **Within the 14064-1 Standard**
  - Principles
    - Intended users
  - Requirements
    - General
    - Organisational and Operational Boundaries
    - Quantification
    - Inventory components
    - Inventory quality
    - Reporting
    - Verification
- **Potential Applicability**

Objectives

- Provide a template for use in the market to provide clarity and consistency between users and their stakeholders.
- Provide requirements for quantification and reporting of GHGs to:
  - Enhance the credibility, consistency, and transparency of GHG quantification, monitoring and reporting and hence enhance environmental integrity;
  - Facilitate organization GHG management strategies:
    - Corporate risk management;
    - Identifying mitigation opportunities.
  - Facilitate tracking of performance and progress in the reduction of GHGs to:
    - Enable target setting and goals;
    - Assist participation in voluntary initiatives (eg GHG registries or reporting programs;
    - Preparation and/or participation in GHG markets.

Scope

"…principles and requirements at the organisation level for quantification and reporting of GHG emissions and removals…"

- Multinational companies to small consultancies, local NGOs etc.

- With numerous emerging national and regional programs, interaction of ISO with GHG Programmes is critical.

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.

– GHG program requirements add to, but do NOT supplant, ISO requirements;
– a GHG program only diminishes ISO requirements in circumstances where meeting ISO requirements would result in a breach of regulations/laws (ie, likelihood of crime).

Principles of Development

- Part 1 built on standardising existing knowledge and approaches:
  - GHG Protocol;
  - several national/regional programs.
- Explicit goal was ‘harmonisation’ with GHG Protocol.
- ISO used the GHG Protocol as a primary seed document.
- Key authors of ISO were also WRI/WBCSD staff or GHGP Revision Working Group members.

Principles of ISO14064-1

Principles guide the application of requirements.

No Surprises

Relevance

- Select GHG sources…data and methodologies appropriate to the needs of the intended user.

Completeness

- Include all relevant GHG emissions and removals.

Consistency

- Enable meaningful comparisons in GHG-related information.

Accuracy

- Reduce bias and uncertainties as far as practical.

Transparency

- Disclose sufficient & appropriate … information to allow intended users to make decisions with reasonable confidence.

Principles – Intended Users

- Individual or organization **identified by those reporting** GHG-related information that relies on that information to make decisions:
  - client (eg, – organisation requesting verification);
  - internal (eg, company board of directors);
  - GHG program administrators or regulators;
  - financial community, shareholders;
  - other affected stakeholders (eg, local communities, government departments, NGOs & the general public).
- These users will have different expectations (eg, Board might not need the same accuracy as regulators).
- Having the reporter nominate the intended user, enables them to 'calibrate' principles appropriately.
- Ties in with materiality and verification.

Requirements

- Aims to be very clear as to what is required:
  - Contains mostly requirements -> ‘Shall’ – 41 (~ 50%);
  - Significant number of recommendations -> ‘Should’ – 30 (~35%);
  - Small number of options -> ‘May’ – 13 (15%).
- Thus – very prescriptive – simplifies verification.

- Explain & Justify:

➢ Some clauses require users to explain - documentation of:
  - How approaches were used or decisions taken;
  - Why approaches were chosen or decisions made.

➢ Some clauses require justification – documentation of:
  - How & why decisions taken (same as for ‘explain’);
  - Why alternative approaches were not chosen.

Organisational & Operational Boundaries

Organisational

- 'Building block' approach:
  - source – facility – organisation.
- Control or Equity share:
  - reference to GHG Protocol for guidance.

Operational

- Requires:
  - Identification of emissions and removals;
  - Quantification of direct emissions;
  - Quantification of indirect emissions (electricity, heat & steam);
  - Separate quantification of biomass emissions.
- Optional:
  - Quantification of other indirect emissions - guidance in Annex.

Consistent with GHG Protocol

Quantification

- Sets out 5 steps for quantification with clear requirements for documentation, explanation and justification:
  1. identification of GHG sources;
  2. selection of quantification methodology;
  3. selection & collection of GHG activity data;
  4. selection **or development** of GHG emission factors;
  5. calculation of GHG emissions.

- Includes clause for exclusions:

  …may exclude from quantification direct or indirect GHG[s]…whose contribution…is not material or whose quantification would not be technically feasible or cost effective. The organization shall explain GHG[s]…excluded from quantification.

  – This is guided by the principles and the needs of the intended users.

Inventory Components

- Documentation (not reporting) requirements to facilitate verification.
- Activities to reduce emissions:
  - Directed actions:
    - actions within boundaries;
    - optional, but IF undertaken they SHALL be reported separately from the inventory (ie – not deducted from inventory).
  - Projects:
    - Actions outside boundaries or purchased offsets;
    - optional, but IF undertaken they SHALL be reported separately from the inventory.
- Base year
    - Required to establish a base year using required criteria;
    - Optional to change base year but IF change, SHALL explain.
- Inventory recalculation
    - Required to establish and apply procedures to account for changes in the organisation (eg, asset sale/purchase).
- Uncertainty
    - Recommended to undertake an uncertainty assessment.

Inventory Quality

- GHG information management procedures:
  - 5 required elements;
  - 11 recommended elements.
- Record keeping:
  - Requires document retention procedures to enable verification.
- Undertaking these requirements will greatly facilitate and lower costs of verification.

Reporting

- Recommends (but does not require) a report based on the needs of the intended users, however:

➢ **IF** an organisation makes a public GHG assertion claiming ISO conformance

➢ **THEN** they shall make available to the public a:

✓ GHG report containing particular elements; **OR**

✓ 3rd party verification statement.

Requirements – If Public Reporting

- Report planning:
  - 8 recommendations.
- Report content:
  - 17 requirements;
  - 11 recommendations.
- Not all of these will be applicable for all users.
- Most of the requirements are simply reporting of earlier clauses, and include clause references for ease of checking requirements, for example: *7.3 e) direct GHG emissions, quantified separately for each GHG in tonnes and CO_2e (4.2.2);*

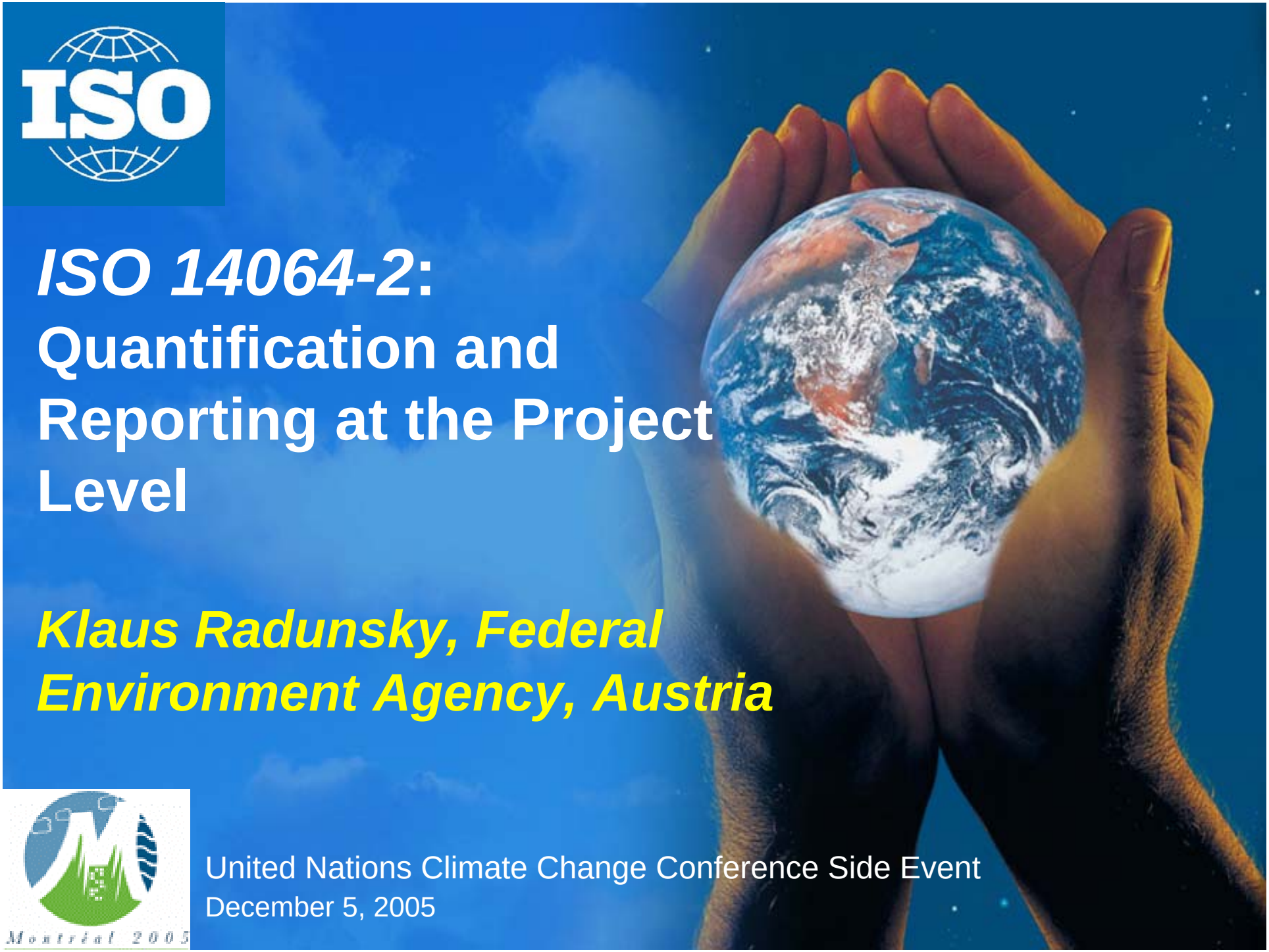
Organisation's Role in Verification

- Aims to assist organisations to use verification appropriately to demonstrate credibility;
- Recommends (not require) to undertake verification consistent with:
  - Needs of intended users;
  - ISO14064-3.
- Written for the organisation whose assertion is being verified, and includes recommendations on:
  - Preparing for verification;
  - Verification management:
    - Verification plan for the organisation;
    - Verification process;
    - Competence of verifiers;
    - Verification statement.

Potential Applicability

- Compatible with current good practice – so where organisational inventories are applicable, 14064-1 is applicable.
- 'Verifiability' should assist in making this useful to more rigorous applications such as regulatory schemes, or voluntary programs involving financial considerations explicitly attached to GHG inventories.

Thank-you! Merci beaucoup!



ISO 14064-2: Quantification and Reporting at the Project Level

Klaus Radunsky, Federal Environment Agency, Austria

United Nations Climate Change Conference Side Event
December 5, 2005

ISO 14064-2: Overview

- Objectives
- Scope
- Principles
- Requirements
- Applicability

ISO 14064-2: Objectives

1. Benefit organizations, governments, project proponents and stakeholders worldwide **by providing clarity, transparency and consistency** for quantifying, monitoring, reporting, validating and verifying GHG emission reductions/removal enhancements from GHG projects.
2. Enhance the **environmental integrity** of GHG quantification

ISO 14064-2: Scope

1. ISO 14064-2 specifies principles and requirements and provides guidance at the project level for quantification, monitoring and reporting of GHG emission reductions or removal enhancements.
2. ISO 14064-2 is GHG programme neutral.

ISO 14064-2: Principles

- Relevance (driven by needs of the user);
- Completeness (all relevant GHG emissions / removals; all relevant information);
- Consistency (enable meaningful comparisons in GHG-related information);
- Accuracy (reduce bias and uncertainties as far as practical);
- Transparency (disclose such GHG-related information to allow for decisions with reasonable confidence); and
- Conservativeness (ensure that GHG emission reductions or removal enhancements are not over-estimated).

ISO 14064-2: General Requirements

- GHG project shall conform to the GHG programme;
- Identify, consider and use good practice guidance (GPG);
- Justify any departure from GPG; and
- Establish, justify and apply criteria and procedures to fulfill requirements where there is no GPG.

ISO 14064-2: Other Requirements

- Describe the project in a GHG project plan
- Identify GHG sources, sinks and reservoirs (SSRs)
  - Controlled by the project proponent
  - Related to or affected by the GHG project
- Identify and justify the baseline scenario and identify its GHG SSRs
- Select relevant GHG SSRs for monitoring or estimation of GHG emissions/removals relevant for the project and the baseline scenario and quantify emissions/removals
- Quantify GHG emission reductions and removal enhancements
- Manage data quality and monitor and document the GHG project
- Validate/verify the GHG project
- Report the GHG project

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ISO 14064-2: Applicability

- CDM/JI projects in the context of the Kyoto Protocol;
- CDM/JI projects in the context of emission trading programmes (e.g. EU-ETS);
- Other GHG-projects in the context of emission trading programmes;
- Facilitate the ability to track performance and progress in the reduction of GHG emissions and/or increase in removals; and
- Benefit GHG markets (e.g. buying and selling credits).

ISO 14064-3: Validation and Verification

Christine Schuh, PricewaterhouseCoopers

United Nations Climate Change Conference Side Event
December 5, 2005

ISO 14064-3: Features

- ISO 14064 – Part 3 – *Greenhouse Gases - Specification with guidance for the validation and verification of greenhouse gas assertions d*escribes the process for GHG-related validation or verification and is:
  - Not mandatory (e.g., you can use Part 1 or Part 2 without using Part 3);
  - Flexible (e.g., you can use Part 3 without using Part 1 or Part 2); and
  - Consistent (e.g., is design to work well with ISO 14064 Part 1 & Part 2).

ISO 14064-3: Flexibility

- Designed to undertake the process for GHG-related validation or verification in:
  - Different GHG schemes

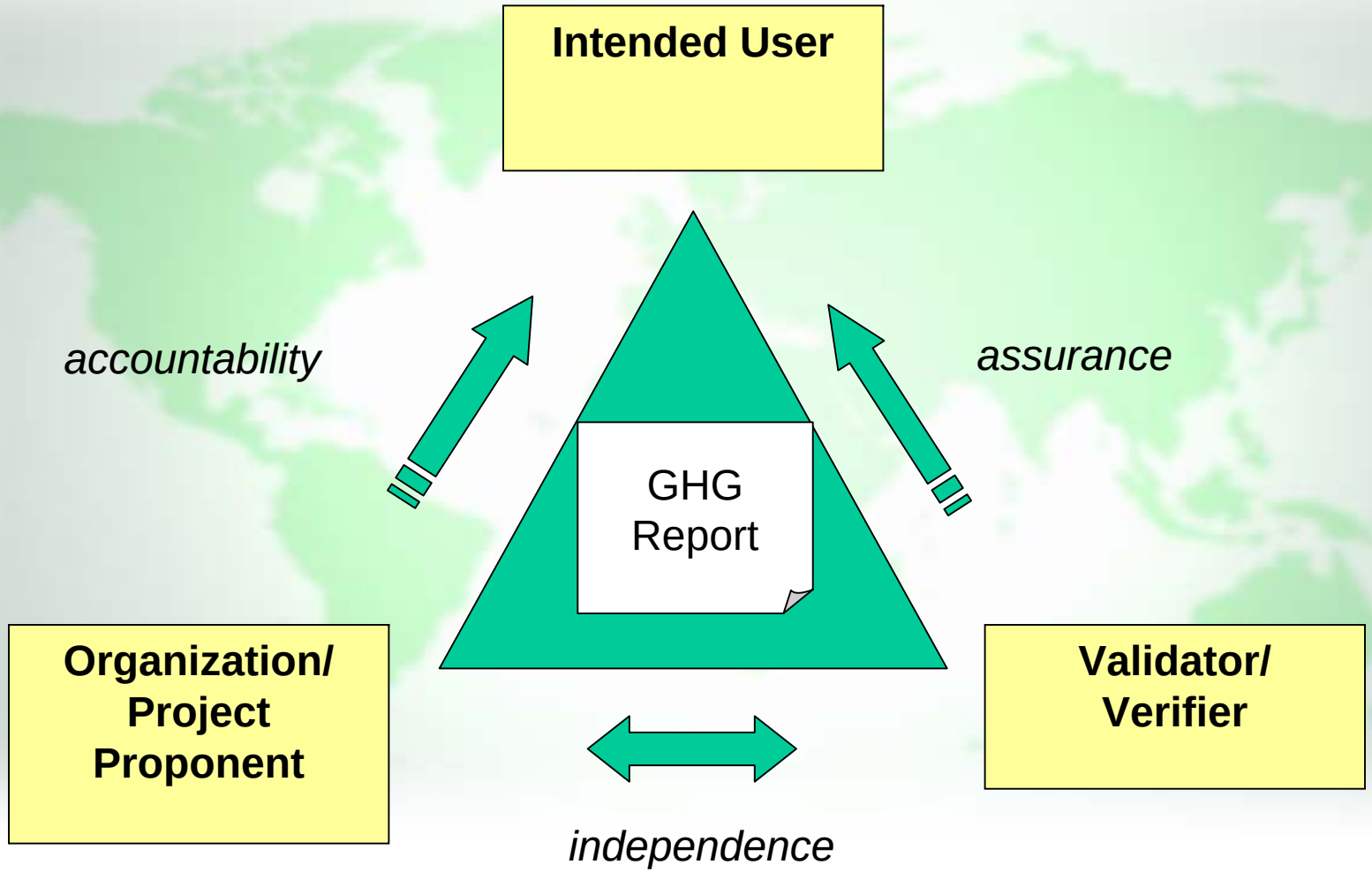
    (e.g., mandatory, voluntary, external, internal);
  - Different types of situations

    (e.g., organizations, projects);
  - Different types of industries

    (e.g., forestry, oil & gas);
  - Different sizes of companies

    (e.g., small, medium, large).

ISO 14064-3: Relationships



ISO 14064-3: Principles

- **Independence**
  - Remain independent of the activity being validated or verified and free from bias and conflict of interest. Maintain objectivity throughout the validation or verification to ensure that the findings and conclusions will be based only on objective evidence generated during the validation or verification.

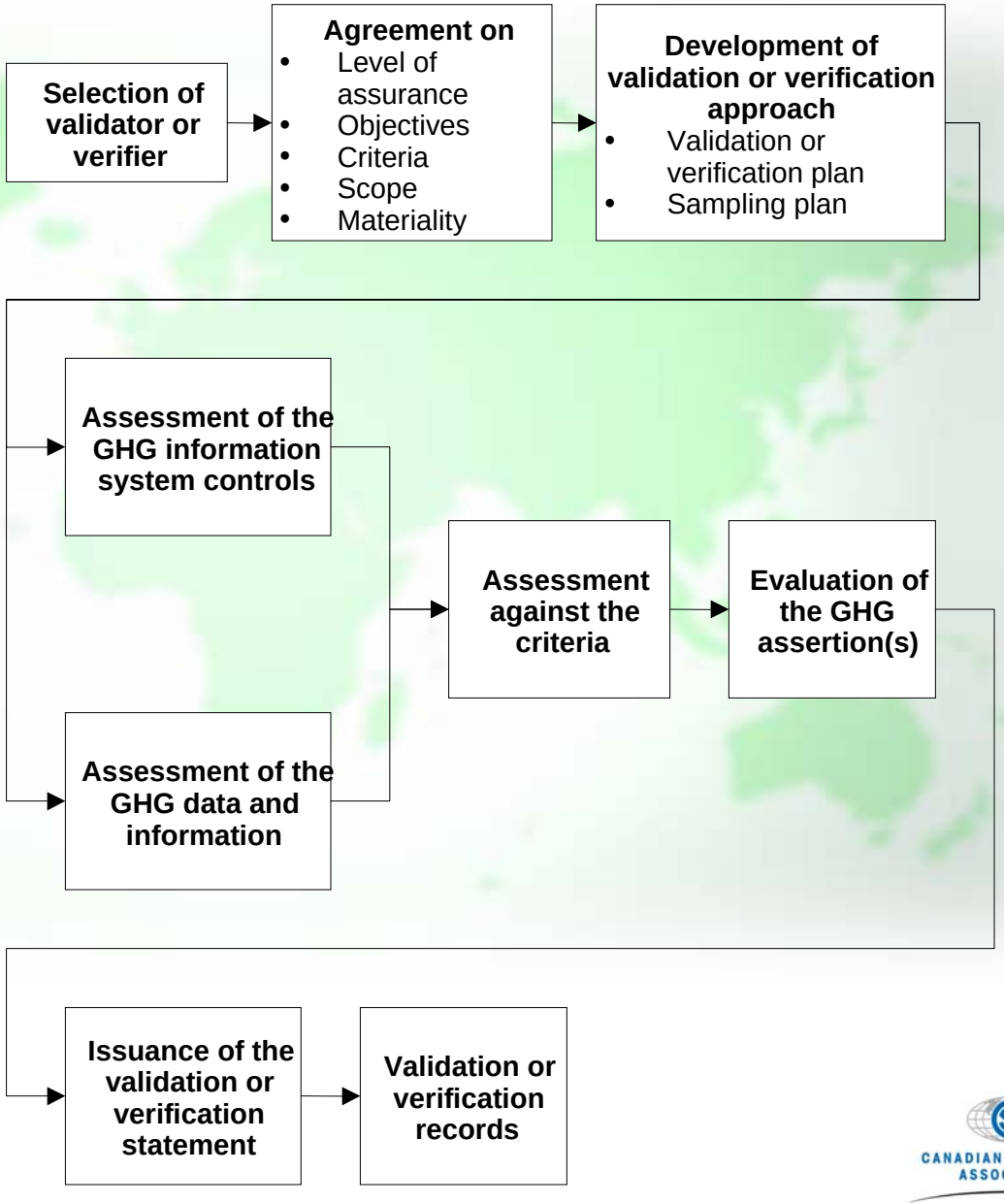
- **Ethical conduct**
  - Demonstrate ethical conduct though trust, integrity, confidentiality and discretion throughout the validation or verification process.

ISO 14064-3: Principles *cont.*

- **Fair presentation**
  - Reflect truthfully and accurately validation or verification activities, findings, conclusions and reports. Report significant obstacles encountered during the validation or verification process and unresolved, diverging opinions among validators or verifiers, the responsible party and the client.

- **Due professional care**
  - Exercise due professional care and judgment in accordance with the importance of the task performed and the confidence placed by clients and intended users. Have the necessary skills and competences to undertake the validation or verification.

ISO 14064-3: Requirements



ISO 14064-3: Benefits

- Enhance the credibility, consistency, and transparency of GHG accounting and reporting;
- Increase investor confidence;
- Facilitate the crediting and trade of GHG emission reductions or removal enhancements;
- Facilitate the development and implementation of organization GHG management strategies and plans;
- Allow entities to track performance and progress in the reduction of GHG emissions and/or increase in GHG removals;
- Assist in the identification of GHG risks or liabilities; and
- Facilitate the development and implementation of GHG projects.

ISO 14064-3: Applicability

- Verification of GHG emissions from organizations;
- Validation of GHG projects; and
- Verification of GHG emissions from projects.

➢ Other types of emissions (VOCs, Mercury);

➢ Other types of releases (Water discharges); and

➢ Other types of consumption (Water intake).

✓ It works well where there is continuous flow of a substance in/out of a boundary (e.g., organization or project).

Use of ISO 14064 in Canada's Offset System

Judith Hull,
Environment Canada

Montréal 2005

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Summary

- Climate change programmes (voluntary, mandatory) have or are being developed in many jurisdictions - there is a need for consistency in GHG quantification, verification and accreditation approaches to reduce duplication, minimize costs and provide for comparability.
- ISO 14064/5 standards:
  - ✓ Are GHG policy neutral;
  - ✓ Can be applied across organization and project types, sizes and sectors;
  - ✓ Satisfy an important market need;
  - ✓ Involve a wide range of stakeholders;
  - ✓ Act as a common “building block” to initiatives or GHG programmes;
  - ✓ Are auditable (ie, validation/verification).

➢ ISO 14064/5 is not a GHG programme or scheme, but discrete GHG quantification, verification and accreditation tools for use by organizations, project proponents or GHG programmes.

ISO GHG Standards Status

Standard	Current Status	Expected Publication
ISO 14064 - Part 1 **Organization quantification**	• Final Draft International Standard • Vote closes Feb. 1/06	➢ March 2006.
ISO 14064 - Part 2 **Project quantification**	• Final Draft International Standard • Vote closes Feb. 1/06	➢ March 2006.
ISO 14064 - Part 3 **Validation and verification**	• Final Draft International Standard • Vote closes Feb. 1/06	➢ March 2006.
ISO 14065 – **Accreditation and recognition**	• Draft International Standard (DIS) to be released Dec/05 or Jan/06.	➢ Late-2006 to early-2007.

ISO 14064 Available From

- In March 2006:
  - ISO On-line Store (www.iso.org);
  - CSA On-line Store (www.csa.ca);
  - Your National Standards Body.

Thank you
Merci beaucoup

For more information:
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Montréal 2005

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