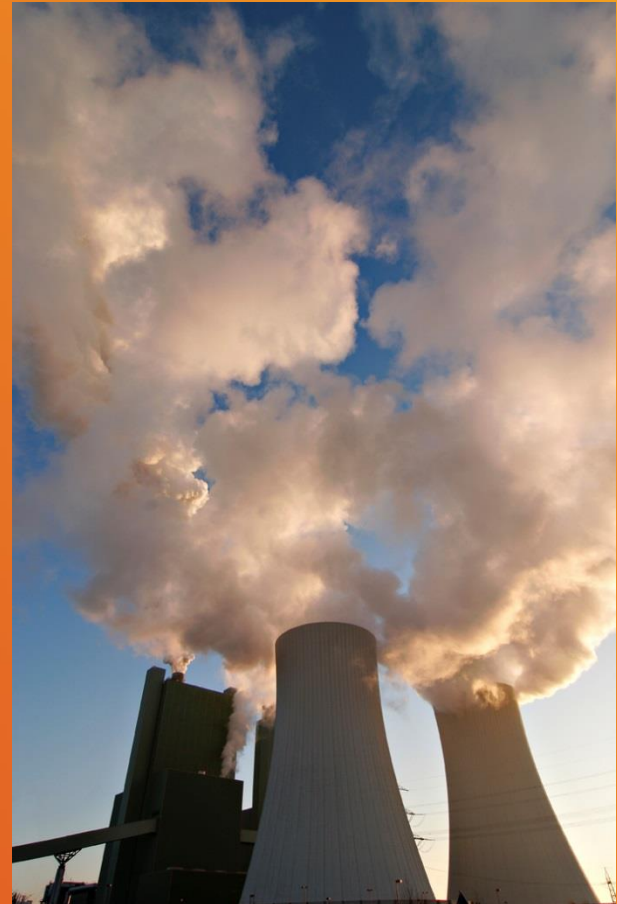


Greenhouse Gas Validation and Verification in Canada

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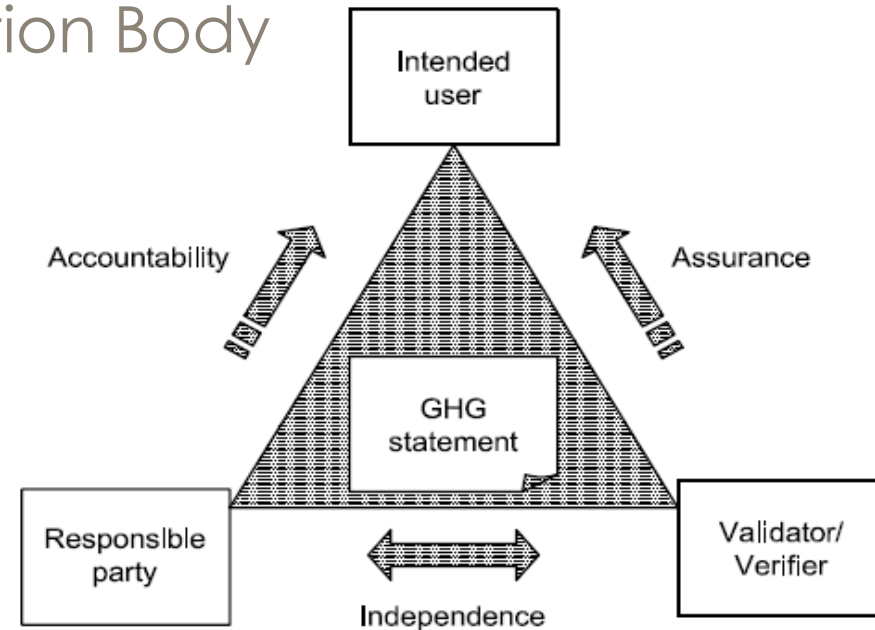
September 2015

What is Verification?

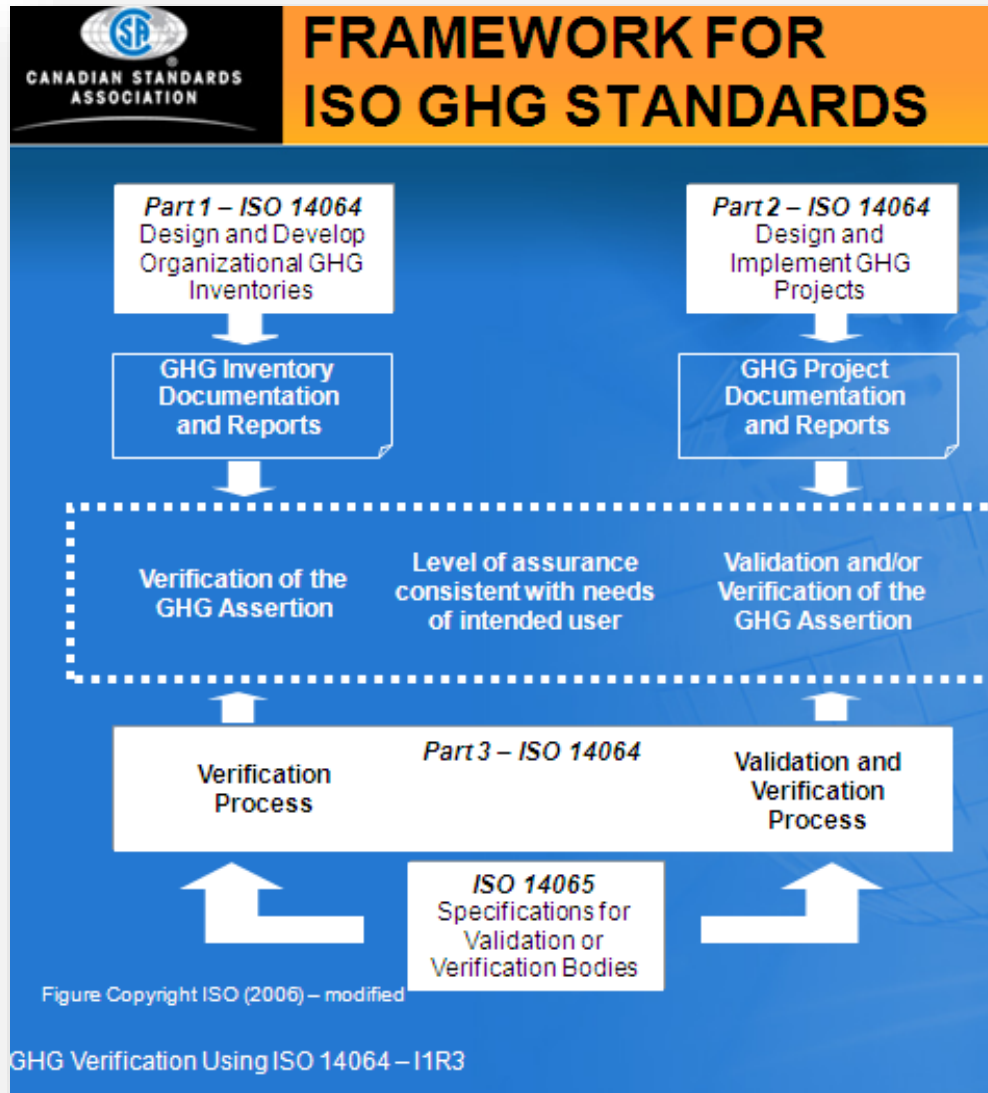
- Verification - systematic, independent and documented process for evaluation of a GHG assertion against agreed verification criteria (ISO 14064-3)
- Validation - same only for proposed Projects to reduce GHG emissions
- Goal: to determine whether organization's GHG assertion is:
 1. Materially correct
 2. Fair representation of their GHG emissions
- We provide a level of assurance based on our verification findings.

Verification Process

- Facility prepares the GHG inventory for verification
- Facility completes internal quality assurance (internal verification)
- Verifications are generally performed by an Independent Verification Body (3rd party)
- Most GHG Programs require accreditation



GHG Verification Standards



ISO 14065

- International Standard
- ISO 14064 provides requirements for organizations or persons to quantify and verify/validate GHG emissions
- ISO 14065 specifies *accreditation requirements* for organizations that verify/validate resulting GHG emission assertions or claims
- Accredited organizations include:
 - Engineering and Environmental Consulting
 - Accounting and Financial Auditing
 - Business Consulting

Verification Team Skill Set

Auditing

- Auditing of GHG data and information
- Design of sampling plans in accordance with Level of Assurance
- Performance of data risk analysis
- Identification of discrepancies
- Materiality of discrepancies

Science/Engineering

- Specific GHG activity & technology expertise
- ID and selection of sources, sinks and reservoirs
- Familiarity with measurement, metering technologies
- Situations which may impact materiality

General Knowledge of the GHG Program Eligibility

- Implementation across jurisdictions
- Verification guidelines

Key Requirements of ISO 14065

- **Impartiality** - Commitment to Impartiality, Avoidance of Conflicts of Interest, Oversight of Impartiality
- **Competency Requirements** - Determine, demonstrate and document appropriate competencies
- **Development of Process** - Pre-engagement, approach, validation/verification, VV statement
- **Communications** (of process and responsibilities) and **Records Management**
- **Appeals and Complaints Management Process**
- **Management System** - audits, corrective/preventative actions, management review

Risk-Based Approach for GHG Verification

Based on preliminary review of GHG inventory

Review of information systems and controls to identify key reporting risks

- **Inherent** – risk due to complexity of organization / technology
- **Control** – risk due to weakness in management control over inventory
- **Detection** – risk that Verifier will fail to identify a material discrepancy

Consider materiality threshold of reporting program (don't get caught in the weeds)

Focus on facilities, emissions, processes, and controls that pose the greatest potential risk of material discrepancies

- Impossible to check everything
- Level of Assurance is NOT absolute

Materiality and Level of Assurance

Materiality

- A material discrepancy is an error (e.g., from an oversight, omission, or miscalculation) that results in a reported quantity or statement being significantly different from the true value or meaning.
- Information is considered to be material if, by its inclusion or exclusion, it can be seen to influence any decisions or actions taken by the users of it.

Most GHG programs use a 5% materiality threshold.

Level of Assurance

- The degree of confidence required by the intended user in the verification statement. The level of assurance dictates the nature of the verification statement and the level of effort required by the verification body to determine if there are any material errors, omissions or misrepresentations in the GHG assertion. In general, there are two levels of assurance - reasonable and limited. Absolute assurance is not possible.

Why Accreditation?

- A number of GHG Programs are requiring accredited firms
 - British Columbia (Organizational and Pacific Carbon Trust for Projects)
 - Ontario, Quebec
 - The Climate Registry, Climate Action Reserve, American Carbon Registry, CarbonFix
 - Massachusetts Greenhouse Gas Emissions Reporting Program
 - Verified Carbon Standard (formerly Voluntary Carbon Standard)
- Give confidence to parties that rely on GHG assertion or claim (regulators or investors) that the V/VBs providing the declarations are competent to do so, and have systems in place to manage impartiality and to provide the required level of assurance on a consistent basis.

Regulatory Reporting in Canada

Province	Alberta	British Columbia	Ontario	Quebec
Parent (Enabling) Legislation	Climate Change and Emissions Management Act, S.A. 2003, c. C-16.7	Greenhouse Gas Reduction (Cap and Trade) Act, SBC 2008, c.32	Ontario Environmental Protection Act, R.S.O. 1990, c.E.19	Environment Quality Act, Division VI, 2009, c. 33, s.1
Accreditation	None	ISO 14065	ISO 14065	ISO 14065
Level of Assurance	Reasonable	Reasonable	Reasonable	Reasonable
Facility Verified Reporting Threshold (t CO₂e/y)	100,000	25,000	25,000	25,000
Reporting Due Date	March 31 st	May 31 st	June 1 st	June 1 st
Quantitative Materiality Threshold (t CO₂e/y)	5% < 500,000	5%	5%	5%
	2% > 500,000			

Typical Verification Tasks

- Conflict of Interest Assessment (COI)
- Kick-Off Meeting
- Initial Data Request
- Verifier-Initial Desktop Review, Risk Assessment (trends, major sources, data weaknesses)
- Verification Plan/Sampling Plan
- Site Visit
- Follow up Data Request
- Notice submitted to facility – if material discrepancies found
- Resolution of Discrepancies (if required)
- Verification Statement submitted to MOE
- Final Verification Report submitted to facility

Verification Plan

Basis for effective communication between Verifier and Reporter

Includes discussion of:

- Requirements of program under which verification is being conducted (e.g. objectives, materiality threshold, level of assurance)
- Scope and complexity of verification
- Schedule of verification activities
- Verification team members / roles / responsibilities

Reviewed with Reporter prior to initiation of verification activities

Sampling Plan

Outline of risk-based approach to assessment of:

- GHG inventory
- GHG information management systems

Tiered approach to data review

- For multi-facility Reporters
- Level of review based on risk for material discrepancy

Careful selection of sites to visit

- Meet required minimum number based on reporting program protocol
- Visit sites representative of different business groups in the organization
- Visit sites with highest risk for material discrepancy

Findings

Following site visit(s) a draft verification report is issued outlining all discrepancies noted during the verification as well as their status (resolved vs. unresolved), nature (quantitative vs. qualitative) and materiality (material vs. immaterial)

Proponent has the opportunity to resolve any discrepancies noted in the draft verification report

Verifier issues final verification report (pending proponent responses to draft report) and submits any accompanying documentation (e.g., verification statement and regulatory submission forms)

Questions?