HONG KONG QUALITY ASSURANCE AGENCY
香 港 品 質 保 證 局

How to Support Enterprise's Improvement and Growth

18th December, 2017

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Agenda

- About HKQAA
- The Trends of Environmental Management
- Highlights of ISO 50001 Energy Management System
- Highlight of ISO 14064 Greenhouse gases

About HKQAA

- A non-profit independent Conformity Assessment Body (CAB), incorporated by Hong Kong Government Industry Department in 1989 as a company limited by guarantee
- A leading CAB in Hong Kong that providing 9,000+ mandays services per year
- With over 6,000 system certificates spanning over various industries & accounted as a market leader in HK
- Headquarter in HK, with offices in Guangzhou, Shanghai, Xi'An and with representatives in UK
- Operation complies with IAF (International Accreditation Forum) Guidance and CNCA (Certification and Accreditation Administration of the People's Republic of China) in China

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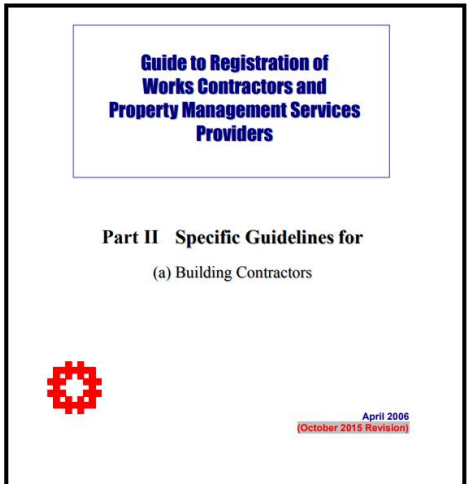
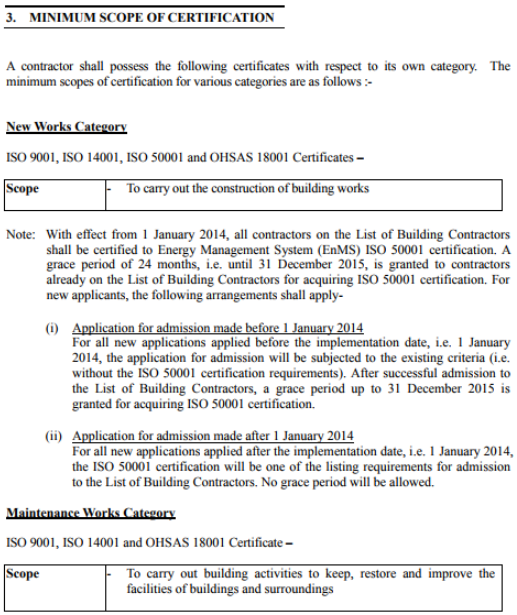
The Trends of Environmental Management

- **CEDD (Civil Engineering and Development Department)**
  - Production and Supply of Concrete **(QSPSC™)**
  - Off-site Prefabrication Yard (Steel Bar)
- **Hong Kong Concrete Institute**
  - Production and Supply of Tile Adhesive **(QSPS-TA)**
  - Production and Supply of Aggregates for Concrete **(QSPS-AC)**
- **Labour Department**
  - The Factories and Industrial Undertakings (Safety Management) Regulations **(F&IU(SM)R)**

The Trends of Environmental Management

- **Hong Kong Housing Authority**
  - **Registration of Works Contractors and Services Providers** shall operate recognized quality, environmental and safety management systems and shall be certified as a firm of “assessed capability” to the current edition of **ISO 9001**, **ISO 14001**, **OHSAS 18001 and ISO 50001** by a certification body.
  - Disclosure of Corporate Social Responsibility (**CSR**) in tender questionnaires.





3. MINIMUM SCOPE OF CERTIFICATION

A contractor shall possess the following certificates with respect to its own category. The minimum scopes of certification for various categories are as follows :-

New Works Category

ISO 9001, ISO 14001, ISO 50001 and OHSAS 18001 Certificates –

Scope	-	To carry out the construction of building works

Note: With effect from 1 January 2014, all contractors on the List of Building Contractors shall be certified to Energy Management System (EnMS) ISO 50001 certification. A grace period of 24 months, i.e. until 31 December 2015, is granted to contractors already on the List of Building Contractors for acquiring ISO 50001 certification. For new applicants, the following arrangements shall apply-

(i) Application for admission made before 1 January 2014
For all new applications applied before the implementation date, i.e. 1 January 2014, the application for admission will be subjected to the existing criteria (i.e. without the ISO 50001 certification requirements). After successful admission to the List of Building Contractors, a grace period up to 31 December 2015 is granted for acquiring ISO 50001 certification.

(ii) Application for admission made after 1 January 2014
For all new applications applied after the implementation date, i.e. 1 January 2014, the ISO 50001 certification will be one of the listing requirements for admission to the List of Building Contractors. No grace period will be allowed.

Maintenance Works Category

ISO 9001, ISO 14001 and OHSAS 18001 Certificate –

Scope	-	To carry out building activities to keep, restore and improve the facilities of buildings and surroundings

Highlights of ISO 50001 Energy Management System

- This International Standard can be used for certification of an organization's EnMS.
- It does not establish absolute requirements for energy performance beyond the commitments in the energy policy of the organization and its obligation to comply with applicable legal requirements and other requirements.

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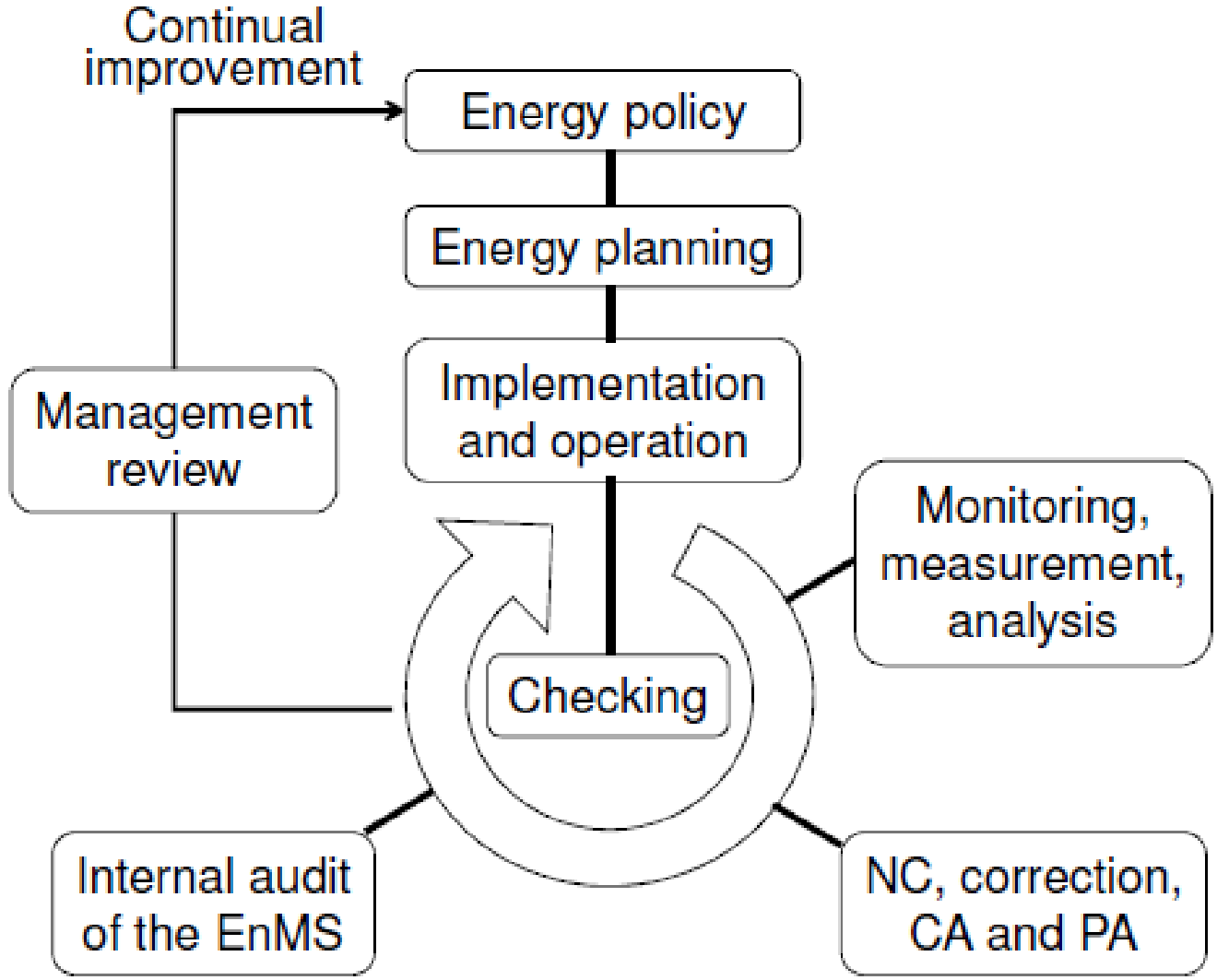
Highlights of ISO 50001 Energy Management System

- This International Standard is based on the common elements of ISO management system standards, ensuring a high level of compatibility notably with ISO 9001 and ISO 14001.
- An organization can choose to integrate this International Standard with other management systems, including those related to quality, the environment and occupational health and safety.

ISO

Model of ISO 50001 : 2011



Highlights of ISO 14064 Greenhouse Gas (GHG)

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Overview of ISO 14064-GHG Standard

- "General process standards" that are GHG policy neutral;
- Can be applied across organization and project types, sizes and sectors;
- Involved a wide range of stakeholders;
- Act as a common "building block" to initiatives or GHG programs;
- Are auditable (ie, validation/verification).
- Have widespread support - USA, EU, Japan, China, Brazil, India, … all approved

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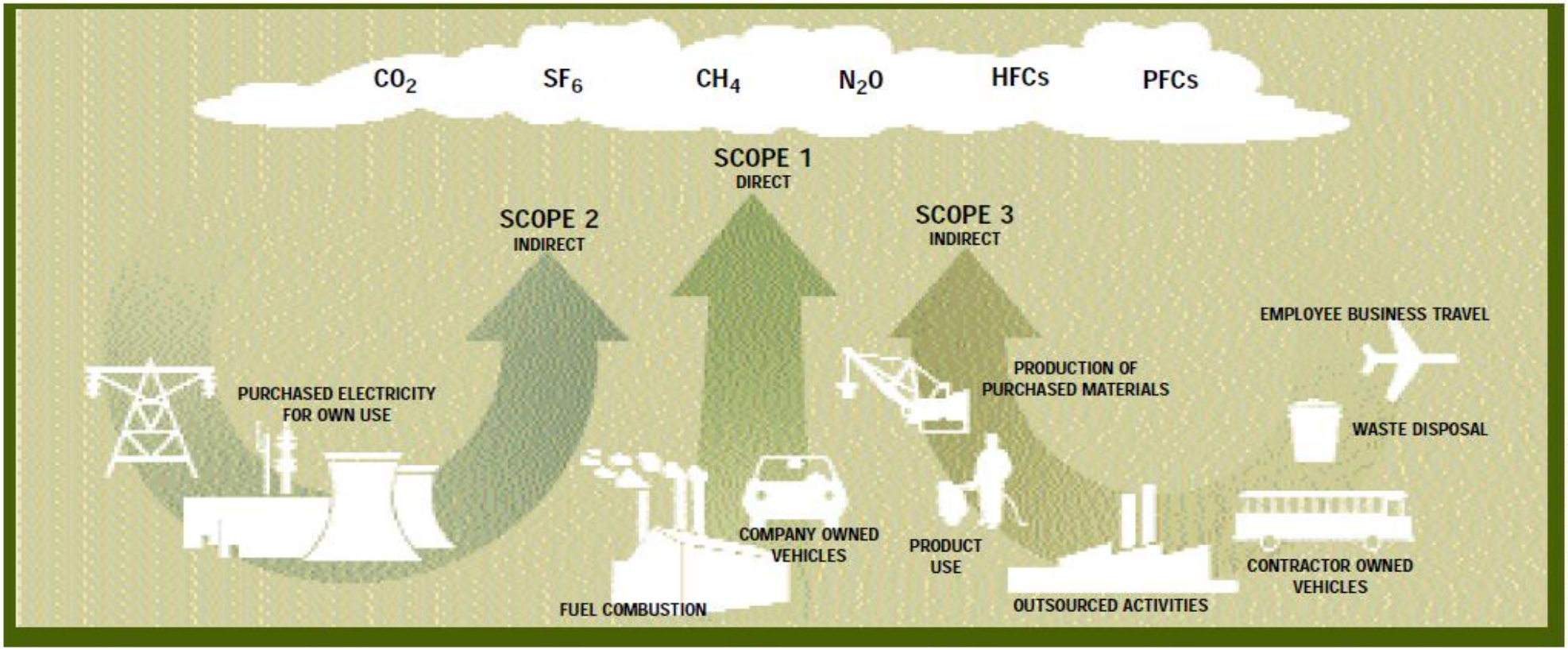
Greenhouse Gas

- Carbon dioxide (CO2),
- Methane (CH4),
- Nitrous oxide (N2O),
- Hydrofluorocarbons (HFCs),
- Perfluorocarbons (PFCs) and
- Sulfur hexafluoride (SF6).

- All GHG gases will converse into a single unit:
  - CO2 equivalent (CO2e)

FIGURE 3. Overview of scopes and emissions across a value chain



Adopted from NZBCSD, 2002

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Benefit of ISO14064 implementation

- 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

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ISO 14064-Principles

- Relevance
  - Select the GHG sources, GHG sinks, GHG reservoirs, 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 is practical.
- Transparency
  - Disclose sufficient and appropriate GHG-related information to allow intended users to make decisions with reasonable confidence.

The ISO 14064 GHG 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 / Verification	Greenhouse gases - Part 3: Specification with guidance for the *validation and verification* of greenhouse gas assertions (ISO 14064-3).
Accreditation	Greenhouse gases – Requirements for greenhouse gas validation and verification bodies for use in accreditation or other forms of recognition. (ISO14065)
Competence	Greenhouse gases — Competence requirements for greenhouse gas validation teams and verification teams (ISO14066)

Framework for ISO 14064 GHG Standards

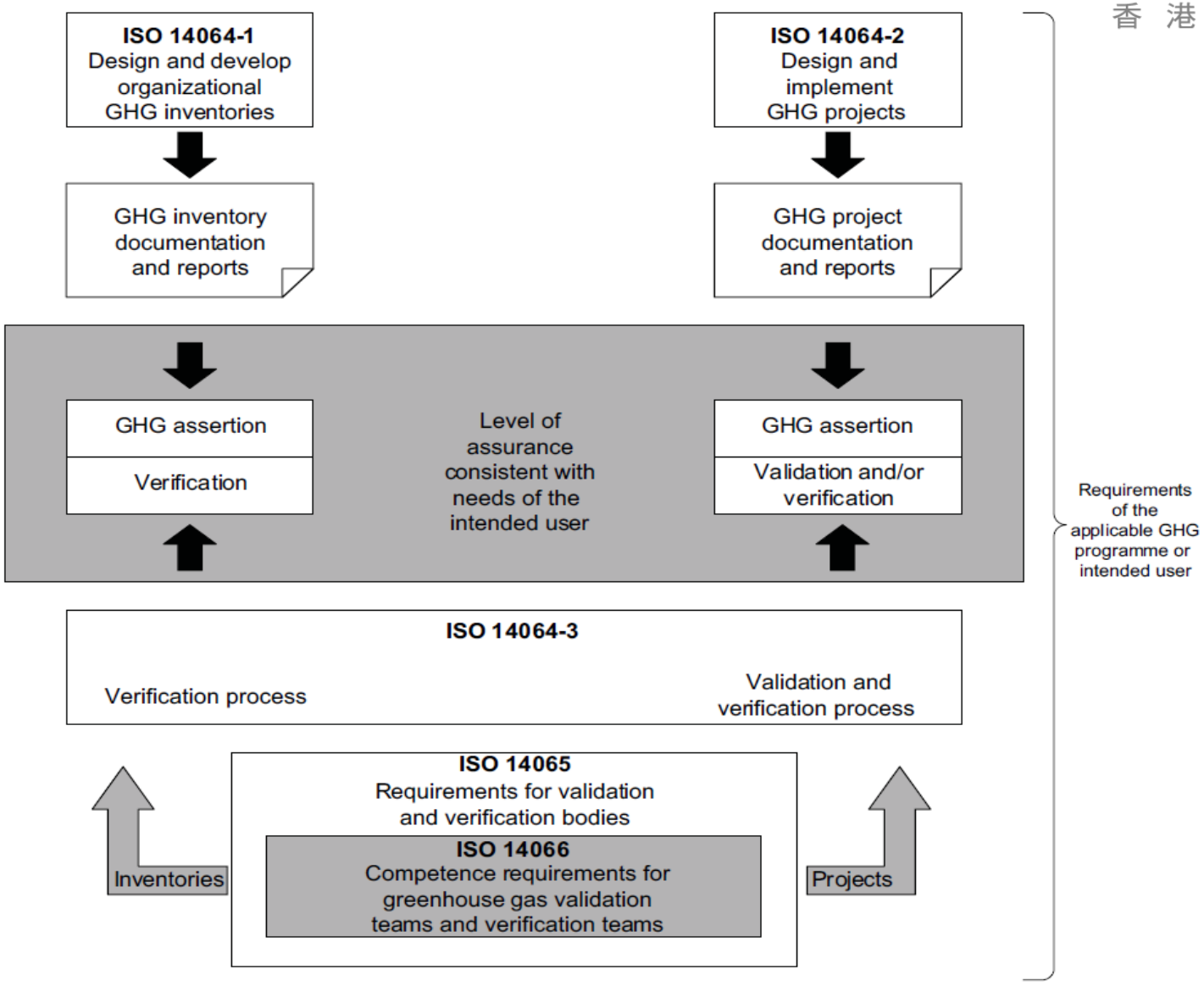

Figure 1 — Framework for using ISO 14066 with ISO 14064-1, ISO 14064-2, ISO 14064-3 and ISO 14065

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Validation and Verification

- Validation:
  - systematic, independent and documented process for the evaluation of a greenhouse gas assertion in a GHG project plan against agreed validation criteria

- Verification:
  - systematic, independent and documented process for the evaluation of a greenhouse gas assertion against agreed verification criteria

The Principles of ISO14064-1

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

- **4 GHG inventory design and development**
- **4.1 Organizational boundaries**
- **4.2 Operational boundaries**
- **4.3 Quantification of GHG emissions and removals**
- **5 GHG inventory components**
- **5.1 GHG emissions and removals**
- **5.2 Organizational activities to reduce GHG emissions or increase GHG removals**
- **5.3 Base-year GHG inventory**
- **5.4 Assessing and reducing uncertainty**
- **6 GHG inventory quality management**
- **6.1 GHG information management**
- **6.2 Document retention and record keeping**
- **7 Reporting of GHG**
- **7.1 General**
- **7.2 Planning the GHG report**
- **7.3 GHG report content**
- **8 Organization's role in verification activities**
- **8.1 General**
- **8.2 Preparing for verification**
- **8.3 Verification management**

The Principles of ISO14064-3 Greenhouse gases - Part 3: Specification with guidance for the validation and verification of greenhouse gas assertions

- **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 on objective evidence generated during the validation or verification.
- **Ethical conduct**
  - Demonstrate ethical conduct through trust, integrity, confidentiality and discretion throughout the validation or verification process.
- **Fair presentation**
  - Reflect truthfully and accurately validation or verification activities, findings, conclusions and reports. Report significant obstacles encountered during the validation or verification process, as well as unresolved, diverging opinions among validators or verifiers, the responsible party and the client.

The Principles of ISO14064-3
Greenhouse gases - Part 3: Specification with guidance for the validation and verification of greenhouse gas assertions

- **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.
  - NOTE The principles of independence, ethical conduct, fair presentation and due professional care are derived from ISO 19011 and have been adapted to reflect the context of this part of ISO 14064.

Thank you!

Contact Information

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