

Training Outline



Sustainability Standards Training Series

Certified GHG Accounting & Reporting Expert (ISO 14064-1)

Training Program Overview

This Certified GHG Accounting & Reporting training is a comprehensive 3-day program designed to equip participants with essential knowledge and practical skills in quantifying and reporting greenhouse gas (GHG) emissions in accordance with ISO 14064-1:2018. The course incorporates best practices and frameworks from the GHG Protocol and utilizes emission factor databases such as the IPCC and DEFRA to guide accurate and credible GHG inventories. This training prepares individuals to contribute effectively to sustainability reporting, carbon footprint management, and corporate climate strategies.

Course Objective

- 1) Understand the structure and requirements of ISO 14064-1:2018.
- 2) Compare ISO 14064-1 with the GHG Protocol standards and scopes.
- 3) Define organizational and reporting boundaries for GHG inventory.
- 4) Identify direct and indirect GHG emissions across operations.
- 5) Apply appropriate quantification methods using primary and secondary data.
- 6) Use IPCC and DEFRA emission factors for calculating CO₂e emissions.
- 7) Develop quality management procedures for GHG data and reporting.
- 8) Prepare GHG reports and understand verification principles under ISO 14064-3.

Target Participant

This course is ideal for environmental managers, sustainability officers, ESG professionals, internal auditors, consultants, and individuals responsible for carbon footprint reporting, GHG inventory development, or sustainability disclosure within organizations of any sector.

Certification

This training program is certified by Exemplar Global, ensuring adherence to international training and competence standards. Participants who complete the training and pass the final assessment will receive a certificate of completion recognized under Exemplar Global certification criteria

Course Outline (3 days)

Module 1: Introduction to GHG Accounting & Climate Frameworks

- Climate change, carbon cycle & GHG impact
- What is GHG Accounting & why it matters
- Global frameworks (UNFCCC, Paris Agreement, SBTi, CDP, TCFD)
- Introduction to GHG Protocol and ISO 14064 family
- Three types of GHG Accounting: Entity, Project, Product
- Professional Careers in Line with ISO 14064 Series and Related Standards
- Overview of IPCC Emission Factor Database

Module 2: GHG Protocol: Structure, Standards & Methodology

- Corporate Standard, Scope 1–2–3
- Product Life Cycle & Scope 3 Standard
- Reporting and accounting principles (Relevance, Accuracy, etc.)
- Emission categorization and boundaries (Organizational & Reporting)
- Scope-based methodology (location-based vs. market-based)
- GHG Protocol's value chain approach

Module 3: ISO 14064 Standards (Parts 1, 2 & 3)

- ISO 14064-1:2018 (Organizational-level) – structure and clauses
- ISO 14064-2:2019 – project-based GHG mitigation and removals
- ISO 14064-3:2019 – validation & verification of GHG statements
- Roles of ISO 14065 and ISO 14066 (Verifier and accreditation)
- GHG reporting flow and cross-part interaction

Module 4: GHG Emission Types, Categories, and Boundaries

- Direct vs Indirect emissions
- ISO 14064-1 Categories 1 to 6
- Scope 1–3 comparison with GHG Protocol
- Biogenic vs. non-biogenic emissions
- Anthropogenic vs. non-anthropogenic sources
- Setting organizational and reporting boundaries (Operational, Financial, Equity share)

Module 5: GHG Quantification Methodologies

- Identifying GHG sources and sinks
- Quantification models: mass balance, measurement, estimation
- Activity data types: primary, secondary, site-specific
- IPCC emission factors, GWP values, and time horizon
- GHG emissions calculation formula (Activity Data × EF × GWP)
- Case study: Fuel combustion and emission calculation

Module 6: GHG Inventory Management & Quality Control

- GHG inventory development workflow
- GHG information systems & record keeping
- Materiality and uncertainty assessment
- Managing quality with ISO 14064-1 Clause 8
- Base year inventory & review processes
- Managing emission factors, assumptions, and changes

Module 7: GHG Reporting: Structure, Content & Disclosure

- GHG report content (mandatory, recommended, optional)
- Reporting boundary documentation
- Treatment of biogenic CO₂ in reporting
- Transparency in data, exclusion, assumptions
- Linking to external reporting (CDP, ISSB, TCFD)
- Planning for disclosure: internal and external purposes

Module 8: Preparation for Verification, Validation & ISO 14064-3 Compliance

- Principles of ISO 14064-3: impartiality, fair presentation
- Validation vs. verification process
- Level of assurance: limited vs. reasonable
- Engaging verifiers, documentation trails, audit readiness
- Typical findings, nonconformities & addressing gaps
- Readiness checklist & pre-verification case simulation

Reference

No	Topic	Key Reference
1	Introduction to GHG Accounting and Standards	ISO 14064-1:2018, GHG Protocol, IPCC EF Overview

2	GHG Principles and Terminologies	ISO 14064-1 Clause 4, IPCC Concepts
3	Setting Organizational & Reporting Boundaries	ISO 14064-1 Clause 5; GHG Protocol – Scope Definitions
4	Identifying GHG Sources, Sinks, and Categories	ISO 14064-1 Clause 6; GHG Protocol Scopes 1–3
5	Quantification Approaches and Emission Factors	ISO 14064-1 Clause 6; IPCC Guidelines
6	Emissions Calculation & CO ₂ e Conversion	GWP, activity data, emissions factors
7	Biogenic vs Non-Biogenic Emissions, Land Use Considerations	ISO 14064-1 Annex D; IPCC
8	GHG Inventory Quality Management	ISO 14064-1 Clause 8
9	GHG Reporting Structure and Requirements	ISO 14064-1 Clause 9; GHG Protocol Reporting
10	Introduction to Verification & Assurance	ISO 14064-3 summary
11	Case Studies: GHG Reporting in Practice	Based on sample emissions scenarios
12	Tools and Databases (IPCC EFDB, National EFs, GHG Tools)	IPCC, DEFRA, EPA
13	Practical Exercise: Calculating and Reporting GHG Emissions	Diesel generator scenario, electricity grid emissions
14	Final Assessment + Q&A	Wrap-up & Certification

Special Guidance

- **Emission Factors Reference:** IPCC Emission Factor Database [https://www.ipcc-
nggip.iges.or.jp/EFDB/](https://www.ipcc-nggip.iges.or.jp/EFDB/)
- **Comparative Discussion Points:**
 - ISO 14064-1 vs GHG Protocol: Scope 1, 2, 3 definitions
 - Reporting format differences and overlaps
 - Use of market-based vs location-based accounting

Contact Information

Company Name: OSHISIS Solution PLT

Lot 3715-5, Jalan Abdullah, Kampung Jalan Kebun, Seksyen 30 40460

Shah Alam, Selangor

Email: admin@osh-isis.com,

Tel +6019-279 1152

Website: <http://osh-isis.com>

FB: <https://www.facebook.com/oshisisc>

<https://www.facebook.com/ms2530>

Trainer Profile: <http://osh-isis.com/outline/dmn.pdf>

Why Us

Why OSH-ISIS Shall Be Your Preferred Partner

OSH ISIS provide a professional services motivated to design management system through dynamic platform for industry stakeholders.

More view on our system (click for viewing):



Simplified Management System



Hyperlinked Management System

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OSH-ISIS Provide Solution for:



OSH Training OSH Smart Tool OSH Consultancy OSHE&Q Facilitation

	https://youtu.be/Nk4OVIO_kcUA	e-HIRARC Program. A smart tool for assessing risk and danger at workplace	Sample: http://oshisis.com/hirarc.xlsx
	https://youtu.be/ojkhfwsJv_vE	Integrated Safety Inspection System. An integration program to comply OSH-related laws and OHSAS 18001	Sample: http://oshisis.com/isis.xls
	https://youtu.be/D8Xotr76_cw	An effective management of OSH legal	