COURSE OVERVIEW HE2071
ISO 14064-1:2018 for GHG Emission Quantification

Course Title
ISO 14064-1:2018 for GHG Emission Quantification

Course Date/Venue
August 04-08, 2025/Al Reem 2 Meeting Room, Grand Millennium Al Wahda Hotel, Abu Dhabi, UAE

Course Reference
HE2071

Course Duration/Credits
Five days/3.0 CEUs/30 PDHs

Course Description

This practical and highly-interactive course includes real-life case studies and exercises where participants will be engaged in a series of interactive small groups and class workshops.

This course is designed to provide participants with a detailed and up-to-date overview of ISO 14064-1:2018 for GHG Emission Quantification. It covers the climate change context and GHG fundamentals, international agreements and protocols, structure of ISO 14064-1:2018 and key GHG principles in ISO 14064-1; the GHGs covered by ISO 14064-1 including GHG accounting and reporting concepts, organizational boundaries and operational boundaries; the GHG sources and sinks and GHG inventory design and developments, quantification methodologies and base year setting and recalculation; the data collection strategy, emission factors and conversion factors and calculation tools and techniques; and the data quality management, managing uncertainty, documentation and record keeping.

During this interactive course, participants will learn the required content of records, reporting formats, public disclosure versus internal reporting and legal and stakeholder requirements; the third-party verification, internal review and improvement and GHG performance indicators; the GHG reduction projects and offsets, types of reduction initiatives, criteria for offset eligibility, additionality and permanence and integration into inventory; communicating GHG information, sector-specific GHG practices, managing scope 3 emissions and integrating with management systems; and the emerging trends in GHG accounting covering science-based targets, Net zero commitments, digital tools and AI in GHG management and blockchain for GHG tracking.

Course Objectives

Upon the successful completion of this course, each participant will be able to:-

- Apply and gain an in-depth knowledge on ISO 14064-1:2018 for GHG emission quantification
- Discuss the climate change context and GHG fundamentals, international agreements and protocols, structure of ISO 14064-1:2018 and key GHG principles in ISO 14064-1
- Recognize GHGs covered by ISO 14064-1 including GHG accounting and reporting concepts, organizational boundaries and operational boundaries
- Identify GHG sources and sinks and carryout GHG inventory design and developments, quantification methodologies and base year setting and recalculation
- Apply data collection strategy, emission factors and conversion factors and calculation tools and techniques
- Carryout data quality management, managing uncertainty, documentation and record keeping
- Discuss the required content of records, reporting formats, public disclosure versus internal reporting and legal and stakeholder requirements
- Apply third-party verification, internal review and improvement and GHG performance indicators
- Identify the GHG reduction projects and offsets, types of reduction initiatives, criteria for offset eligibility, additionality and permanence and integration into inventory
- Communicate GHG information, apply sector-specific GHG practices, manage scope 3 emissions and integrate with management systems
- Discuss the emerging trends in GHG accounting covering science-based targets, Net zero commitments, digital tools and AI in GHG management and blockchain for GHG tracking

Exclusive Smart Training Kit - H-STK®

*Participants of this course will receive the exclusive "Haward Smart Training Kit" (**H-STK®**). The **H-STK®** consists of a comprehensive set of technical content which includes **electronic version** of the course materials conveniently saved in a **Tablet PC**.*

Who Should Attend

This course provides an overview of all significant aspects and considerations of ISO 14064-1:2018 for GHG emission quantification for environmental engineers, sustainability managers, climate change officers, HSE managers and coordinators, energy managers, corporate social responsibility (CSR) professionals, auditors (internal and external) involved in environmental reporting, consultants in environmental management and GHG accounting, quality and environmental management system (EMS) practitioners, regulatory compliance officers. project managers involved in carbon footprint and sustainability projects and other technical staff.

Course Certificate(s)

Internationally recognized certificates will be issued to all participants of the course who completed a minimum of 80% of the total tuition hours.

Certificate Accreditations

Haward's certificates are accredited by the following international accreditation organizations: -

- British Accreditation Council (BAC)

  Haward Technology is accredited by the **British Accreditation Council** for **Independent Further and Higher Education** as an **International Centre**. Haward's certificates are internationally recognized and accredited by the British Accreditation Council (BAC). BAC is the British accrediting body responsible for setting standards within independent further and higher education sector in the UK and overseas. As a BAC-accredited international centre, Haward Technology meets all of the international higher education criteria and standards set by BAC.

- The International Accreditors for Continuing Education and Training (IACET - USA)

  Haward Technology is an Authorized Training Provider by the International Accreditors for Continuing Education and Training (IACET), 2201 Cooperative Way, Suite 600, Herndon, VA 20171, USA. In obtaining this authority, Haward Technology has demonstrated that it complies with the **ANSI/IACET 2018-1 Standard** which is widely recognized as the standard of good practice internationally. As a result of our Authorized Provider membership status, Haward Technology is authorized to offer IACET CEUs for its programs that qualify under the **ANSI/IACET 2018-1 Standard**.

  Haward Technology's courses meet the professional certification and continuing education requirements for participants seeking **Continuing Education Units** (CEUs) in accordance with the rules & regulations of the International Accreditors for Continuing Education & Training (IACET). IACET is an international authority that evaluates programs according to strict, research-based criteria and guidelines. The CEU is an internationally accepted uniform unit of measurement in qualified courses of continuing education.

  Haward Technology Middle East will award **3.0 CEUs** (Continuing Education Units) or **30 PDHs** (Professional Development Hours) for participants who completed the total tuition hours of this program. One CEU is equivalent to ten Professional Development Hours (PDHs) or ten contact hours of the participation in and completion of Haward Technology programs. A permanent record of a participant's involvement and awarding of CEU will be maintained by Haward Technology. Haward Technology will provide a copy of the participant's CEU and PDH Transcript of Records upon request.

Accommodation

Accommodation is not included in the course fees. However, any accommodation required can be arranged at the time of booking.

Course Instructor (s)

This course will be conducted by the following instructor(s). However, we have the right to change the course instructor(s) prior to the course date and inform participants accordingly:

Mr. Kyle Bester is a **Senior HSE Consultant** with extensive years of practical experience within the **Oil & Gas**, **Power & Water Utilities** and other **Energy** sectors. His expertise includes Sustainability and Green Building, **Greenhouse Gas** (**GHG**) **Reporting**, Validation and Audit, **Green House Gas** (**GHG**) Management, Basics of Organizational Greenhouse Gas (**GHG**) Accounting, **Safe Driving Skills**, **Defensive Driving**, Awareness **Driving** Safety Program, Basic Safe **Driving** Techniques, Human Factors in **Driving** Simulation, Process Safety Management (**PSM**), **Hazardous Materials & Chemicals** Handling, **Pollution Control**, **Environment, Health & Safety** Management, **Process Risk** Analysis, Effective Tool Box Talks, Construction Sites Safety, **HSSE Management** System, **HSSE Audit & Inspection**, **HSEQ Procedures**, **Authorized Gas** Testing, **Confined Space Entry & Rescue**, **Risk** Management, **Quantitative & Qualitative Risk** Assessment, **Working at Height**, **Firefighting** Techniques, **Fire** & **Gas** Detection System, **Fire Fighter & Fire** Rescue, **Fire Risk** Assessment, **HSE Industrial Practices**, **Manual Handling**, **Rigging Safety Rules**, **Machinery & Hydraulic Lifting Equipment**, **Warehouse Incidents & Accidents Reporting**, **Incident & Accident Investigation**, **Emergency Planning**, **Emergency Response & Crisis** Management Operations, **Working at Heights**, **Waste Management** Monitoring, **Root Cause Analysis**, Hazard & Risk Assessment, Task Risk Assessment (**TRA**), **Incident Command**, Job Safety Analysis (**JSA**), **Green House Gas** Accounting, Behavioral Based Safety (**BBS**), **Fall Protection** and **Work Permit & First Aid**, **Lifting Equipment**, Handling **Hazardous Chemicals**, Spill Containment, **Fire** Protection, **Fire** Precautions, **Incidents & Accidents** Reporting, **HSEQ** Audits & Inspection, **HAZOP & HAZID**, **HAZMAT & HAZCOM** Storage & Disposal, As Low as Reasonably Practicable (**ALARP**), **Process Improvement**, Process Hazard Analysis (**PHA**). Further, he is also well-versed in **Water Reservoir**, **Water Tanks**, **Water Pumping** Station, **Water Distribution** System, **Water Network** System, **Water Pipes & Fittings**, **Water Hydraulic** Modelling, **Water Storage Reservoir**, **Reservoirs & Pumping** Stations Design & Operation, **Pumping** Systems, Interconnecting **Pipelines Water Network** System Design, Pump Houses & Booster Pumping Stations, **Potable Water Transmission**, **Water Distribution Network**, Districts Meters Areas (DMAs), **Water Supply & Desalination Plants** Rehabilitation, **Water Reservoirs & Pumping Stations**. He is currently the **Part Owner & Manager** of Extreme Water SA wherein he manages, re-designed and commissioned a water and wastewater treatment plants.

During his career life, Mr. Bester has gained his practical and field experience through his various significant positions and dedication as the **Project Manager**, **Asset Manager**, **Water Engineer**, **Safety Engineer**, **Water Department Supervisor**, **Landscape Designer**, **Analyst**, **Team Leader**, **HSE Advisor**, **Analyst**, **Process Technician** and **Senior Instructor/Trainer** for various international companies, infrastructures, water and wastewater treatment plants from New Zealand, UK, Samoa, Zimbabwe and South Africa, just to name a few.

Mr. Bester holds a **Diploma** in **Wastewater Treatment** and a **National Certificate** in **Wastewater & Water Treatment**. Further, he is a **Certified Instructor/Trainer**, a **Certified Internal Verifier/Assessor/Trainer** by the **Institute of Leadership and Management** (**ILM**), an **Approved Chemical Handler** and has delivered numerous courses, trainings, conferences, seminars and workshops internationally.

Course Fee

US$ 5,500 per Delegate + **VAT**. This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

Training Methodology

All our Courses are including **Hands-on Practical Sessions** using equipment, State-of-the-Art Simulators, Drawings, Case Studies, Videos and Exercises. The courses include the following training methodologies as a percentage of the total tuition hours:-

30% Lectures
20% Practical Workshops & Work Presentations
30% Hands-on Practical Exercises & Case Studies
20% Simulators (Hardware & Software) & Videos

In an unlikely event, the course instructor may modify the above training methodology before or during the course for technical reasons.

Course Program

The following program is planned for this course. However, the course instructor(s) may modify this program before or during the course for technical reasons with no prior notice to participants. Nevertheless, the course objectives will always be met:

Day 1: Monday, 04th of August 2025

0730 – 0800	*Registration & Coffee*
0800 – 0815	*Welcome & Introduction*
0815 – 0830	***PRE-TEST***
0830 – 0930	***Climate Change Context & GHG Fundamentals*** *Drivers of Climate Change • Global Warming Potential (GWP) of Key Gases • Impacts on Ecosystems & Industries • Regulatory & Voluntary Responses*
0930 – 0945	*Break*
0945 – 1030	***International Agreements & Protocols*** *UNFCCC, Kyoto Protocol, Paris Agreement • GHG Protocol versus ISO 14064 Family • Nationally Determined Contributions (NDCs) • Role of International Carbon Markets*
1030 – 1130	***Structure of ISO 14064-1:2018*** *Scope & Purpose • Clause Overview • Organizational versus Project-Level Focus • Intended Users*
1130 – 1215	***Key GHG Principles in ISO 14064-1*** *Relevance & Completeness • Consistency & Transparency • Accuracy & Conservative Estimation • Documentation Integrity*
1215 – 1230	*Break*
1230 – 1330	***GHGs Covered by ISO 14064-1*** *The Seven Gases Under Kyoto Protocol • CO2, CH4, N2O, HFCs, PFCs, SF6, NF3 • Conversion to CO2e • Impacts on Inventory Design*
1330 – 1420	***GHG Accounting & Reporting Concepts*** *Definitions: Emissions, Removals, Reductions • Boundaries (Organizational, Operational) • Control vs Equity Share Approach • Reporting Levels & Frequency*
1420 – 1430	***Recap*** *Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today and Advise Them of the Topics to be Discussed Tomorrow*
1430	*Lunch & End of Day One*

Day 2: Tuesday, 05th of August 2025

0730 – 0830	***Organizational Boundaries*** *Equity Share Model • Financial Control • Operational Control • Hybrid Approaches*
0830 – 0930	***Operational Boundaries*** *Scope 1: Direct Emissions • Scope 2: Energy Indirect Emissions • Scope 3: Other Indirect Emissions • Category Breakdown of Scope 3*
0930 – 0945	*Break*
0945 – 1100	***Identification of GHG Sources & Sinks*** *Combustion Sources • Process Emissions • Fugitive Emissions • Removal Activities*
1100 – 1215	***GHG Inventory Design & Development*** *Inventory Plan Structure • Data Requirements • Methodology Selection • Consistency Over Time*
1215 – 1230	*Break*
1230 – 1330	***Quantification Methodologies*** *Direct Measurement • Calculation Methods (Emission Factors) • Modeling Approaches • Hierarchy of Data Source Preference*
1330 – 1420	***Base Year Setting & Recalculation*** *Establishing Base Year • When Recalculation Is Required • Methodology for Adjustments • Documenting Base Year Data*
1420 – 1430	***Recap*** *Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today and Advise Them of the Topics to be Discussed Tomorrow*
1430	*Lunch & End of Day Two*

Day 3: Wednesday, 06th of August 2025

0730 – 0830	***Data Collection Strategy*** *Identifying Data Sources • Primary vs Secondary Data • Data Management Systems • Data Gaps & Assumptions*
0830 – 0930	***Emission Factors & Conversion Factors*** *Selection Criteria • National vs International Databases • Handling Updates to Factors • Uncertainty Considerations*
0930 – 0945	*Break*
0945 – 1100	***Calculation Tools & Techniques*** *Equations & Parameters • Unit Conversions • Aggregation Methods • Handling Multiple Facilities*
1100 – 1215	***Data Quality Management*** *QA/QC Principles • Verification of Data Sources • Internal Audits of Data • Addressing Anomalies*
1215 – 1230	*Break*
1230 – 1330	***Managing Uncertainty*** *Sources of Uncertainty • Quantifying Uncertainty • Reducing Uncertainty • Reporting Uncertainty Transparently*
1330 – 1420	***Documentation & Record Keeping*** *Required Records • Retention Period • Format & Accessibility • Linking Evidence to Reports*
1420 – 1430	***Recap*** *Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today and Advise Them of the Topics to be Discussed Tomorrow*
1430	*Lunch & End of Day Three*

Day 4:	Thursday, 07th of August 2025
0730 – 0830	***GHG Reporting Requirements*** *Required Content of Reports • Reporting Formats • Public Disclosure versus Internal Reporting • Legal & Stakeholder Requirements*
0830 – 0930	***Third-Party Verification*** *Levels of Assurance • Verification Process • Role of Verifiers • Handling Verification Findings*
0930 – 0945	*Break*
0945 – 1100	***Internal Review & Improvement*** *Conducting Internal Reviews • Identifying Improvement Opportunities • Continuous Improvement Cycle • Learning from Audits*
1100 – 1215	***GHG Performance Indicators*** *Absolute vs Intensity Metrics • Custom KPIs • Linking to Corporate Targets • Benchmarking*
1215 – 1230	*Break*
1230 – 1330	***GHG Reduction Projects & Offsets*** *Types of Reduction Initiatives • Criteria for Offset Eligibility • Additionality & Permanence • Integration into Inventory*
1330 – 1420	***Communication of GHG Information*** *Stakeholder Engagement • Reporting to Regulatory Bodies • Voluntary Disclosure Platforms • Managing Sensitive Information*
1420 – 1430	***Recap*** *Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today and Advise Them of the Topics to be Discussed Tomorrow*
1430	*Lunch & End of Day Four*

Day 5:	Friday, 08th of August 2025
0730 – 0830	***Sector-Specific GHG Practices*** *Energy Sector • Petrochemical Sector • Manufacturing Sector • Transport Sector*
0830 – 0930	***Managing Scope 3 Emissions*** *Value Chain Mapping • Supplier Engagement • Estimating Scope 3 Emissions • Reducing Scope 3 Impacts*
0930 – 0945	*Break*
0945 – 1100	***Integration with Management Systems*** *ISO 14001 Linkage • Aligning with ESG Reporting • GRI & CDP Alignment • Integrated Reporting Models*
1100 – 1215	***Emerging Trends in GHG Accounting*** *Science-Based Targets • Net Zero Commitments • Digital Tools & AI in GHG Management • Blockchain for GHG Tracking*
1215 – 1230	*Break*
1230 – 1300	***Practical GHG Quantification Exercises*** *Develop Inventory for a Sample Company • Base Year Recalculation Practice • Scope 1/2/3 Emissions Quantification • Data Gap Analysis*
1300 - 1345	***Case Studies & Lessons Learned*** *Successful GHG Reporting Examples • Common Pitfalls & Errors • Sector-Specific Challenges • Best Practices for Continuous Improvement*
1345 - 1400	***Course Conclusion*** *Using this Course Overview, the Instructor(s) will Brief Participants about the Cou that were Covered During the Course*
1400 – 1415	***POST-TEST***
1415 – 1430	*Presentation of Course Certificates*
1430	*Lunch & End of Course*

Practical Sessions

This practical and highly-interactive course includes real-life case studies and exercises:-

Course Coordinator

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