



## COURSE OVERVIEW HE2225

### Carbon Measurement, Footprinting & Management

#### Course Title

Carbon Measurement, Footprinting & Management

#### Course Date/Venue

August 17-21, 2026/Glasshouse Meeting Room,  
Grand Millennium Al Wahda Hotel, Abu Dhabi,  
UAE

#### Course Reference

HE2225

#### Course Duration/Credits

Five days/2.75 CEUs/27.5 PDHs



#### Course Description



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

This course provides participants with the knowledge and practical skills required to measure, quantify, report, verify and manage greenhouse gas (GHG) emissions and carbon footprints across oil & gas operations. The course covers international carbon accounting methodologies, GHG protocol, ISO 14064, ISO 14067, life cycle assessment (LCA), carbon management systems, emissions reduction strategies, decarbonization technologies, carbon markets, ESG reporting and net zero implementation.



The course is tailored to company's sustainability strategy, operational decarbonization objectives and climate commitments including carbon intensity reduction, methane management, energy efficiency, CCUs and digital carbon monitoring.



Further, the course will also discuss the climate change and carbon management fundamentals including greenhouse gas (GHG) emission; the international climate policies and standards, carbon footprinting and carbon accounting principles; the sustainability, decarbonization strategy, emission source identification and activity data collection; and the emission factors, carbon footprint calculation methods, carbon accounting software and digital tools.

During this interactive course, participants will learn the ISO 14064 greenhouse gas management, ISO 14067 carbon footprint of products, life cycle assessment (LCA) and carbon reporting frameworks; the verification and assurance, carbon performance indicators, energy efficiency and emissions reduction; the methane emissions management and carbon capture, utilization and storage (CCUs); the renewable energy and low-carbon technologies, carbon offset & carbon markets and decarbonization roadmap development; the corporate carbon management systems and risk and opportunity assessment; and the net zero strategy development and digital carbon management and analytics.

### **Course Objectives/Outcomes & Benefits for the Participants**

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

- Apply and gain an in-depth knowledge on carbon measurement, footprinting and management
- Discuss climate change and carbon management fundamentals including greenhouse gas (GHG) emissions
- Review international climate policies and standards as well as explain carbon footprinting and carbon accounting principles
- Carryout sustainability and decarbonization strategy, emission source identification and activity data collection
- Identify emission factors, carbon footprint calculation methods, carbon accounting software and digital tools
- Apply ISO 14064 greenhouse gas management and discuss ISO 14067 carbon footprint of products, life cycle assessment (LCA) and carbon reporting frameworks
- Carryout verification and assurance, carbon performance indicators, energy efficiency and emissions reduction
- Employ methane emissions management and discuss carbon capture, utilization and storage (CCUs)
- Interpret renewable energy and low-carbon technologies as well as carbon offset & carbon markets and decarbonization roadmap development
- Recognize corporate carbon management systems and apply risk and opportunity assessment
- Carryout net zero strategy development and digital carbon management and analytics

### **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 carbon measurement, footprinting and management for finance and strategy professionals (ESG investment, carbon pricing, corporate strategy), operations and asset managers (upstream, midstream, downstream), government and regulatory stakeholders, sustainability and ESG professionals, carbon management and climate strategy teams, compliance, audit and risk management teams, energy efficiency and process engineers, environmental engineers and specialists, HSE (health, safety and environment) professionals, maintenance and facility engineers, SCADA/instrumentation engineers, digital transformation and data analytics teams, consultant and advisors in sustainability, energy or decarbonization.

### **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.

### **Learning Design & Customization**

This course can be customized to the exact requirements of clients. Haward Technology is so proud of our huge capabilities in tailoring our courses to the training needs of our valued clients.

### **Accommodation**

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



### **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 **2.75 CEUs** (Continuing Education Units) or **27.5 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.



### 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. Peter Christian** is an **International Expert** in **Safety, Health, Environmental and Quality** with over **30 years** of practical and industrial experience in **NEBOSH International General Certificate in Occupational Health & Safety, CSR & Sustainability Principles, Sustainability & Environmental Awareness, Carbon Measurement & Management, Lifting & Rigging Equipment HAZOP, HAZWOPER, HAZMAT, HAZCOM, PHA (Process Hazard Analysis), FMEA, HAZID, ISO 14001, OHSAS 18001, ISO 9001, Process Safety Management (PSM), Safety, Health, Environmental & Quality Management (SHEQ), Behavioral Safety Management, Industrial Hygiene, Human Factors Engineering, Risk Assessment, Fire Fighting, Rope Rescue Operations, Emergency Response within process industries.** He is currently the **President of NKWE** and spearheads the companies major projects and business ventures, where he specializes in the areas of **SHEQ solutions, ISO, Quality Control and OSHA systems.** Previously, he has had much on-hand experience in the initiation and management of projects (technical as well organizational development) including involvement in **design of process plants; the commissioning & decommissioning of process plants; the operational and financial responsibility for large process operations; risk management; operational and maintenance management, crisis and emergency management, accident investigation, risk assessment, hazard identification and emergency preparedness & response (oil spillage and gas explosions).**

Much earlier in his career, Mr. Christian was a **HAZOP Team Leader** for numerous **HAZOP** studies and he has further managed the **Health, Safety & Environmental and Quality** requirements of a large process company. This included responsibilities as an auditor for compliance against **SHEQ standards, ISO standards** and the **Fatal Risk Control Protocols.** He then facilitated the development and implementation of the above standards as a group and at site level as part of the SHEQ council. Moreover, he established, trained and led a Rope rescue team and a high level emergency care clinic and ambulance service for many years. He still abseils recreationally and leads adventure groups during abseiling activities and serves as a rescue team member for mountain and water emergencies.

During his career life, Mr. Christian has gained his practical and field experience through his various significant positions as the **Plant Manager, Project Metallurgist, Metallurgist, HSE Team Leader, SHEC Superintendent, Mentor, Instructor/Trainer, Acting Technical Manager, Process Plant Superintendent, Acting Project Leader, Acting Plant Superintendent, Appointed Health & Safety & Environmental Superintendent, Production Technician, Acting Senior Shiftsman, Foreman and Learner – Official Extraction Metallurgy** from various companies such as the **NKWE Consulting, SAMANCOR, Middleburg Mine Services (Pty) Ltd., Koomfontein Mines, Emelo Mine Services, Gencor Group and South African Defence Force.**

Mr. Christian has a **Postgraduate Studies in Advanced Executive Programme** and a **National Higher Diploma (NHD) & a National Diploma in Extraction Metallurgy.** He is also a **Certified/Registered Tutor in NEBOSH International General Certificate, Certified Auditor in OHSAS 18001, ISO 14001 & ISO 9001, a Certified Instructor/Trainer, a Certified Internal Verifier/Assessor/Trainer by the Institute of Leadership & Management (ILM), a Six Sigma Black Belt Coach** and holds a Certificate in Facilitate Learning Using a Variety of Given Methodologies **NQF Level 5 (EDTP-SETA)** as a **Certified Facilitator.** He has further delivered innumerable courses, trainings, workshops and conferences globally.

### **Course Program**

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

#### **Day 1: Monday, 17<sup>th</sup> of August 2026**

|             |                                                                                                                                                                                                     |
|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0800 – 0830 | Registration & Coffee                                                                                                                                                                               |
| 0830 – 0845 | Welcome & Introduction                                                                                                                                                                              |
| 0845 – 0900 | <b>PRE-TEST</b>                                                                                                                                                                                     |
| 0900 – 0930 | <b>Climate Change &amp; Carbon Management Fundamentals</b><br>Climate Change Science & Greenhouse Effect • Global Warming Drivers • Carbon Cycle Fundamentals • Climate Risks for the Energy Sector |
| 0930 – 0945 | Break                                                                                                                                                                                               |
| 0945 – 1030 | <b>Greenhouse Gas (GHG) Emissions</b><br>Kyoto Protocol Gases • CO <sub>2</sub> Equivalent (CO <sub>2e</sub> ) • Scope 1, Scope 2 & Scope 3 Emissions • Major Emission Sources in Oil & Gas         |
| 1030 – 1100 | <b>International Climate Policies &amp; Standards</b><br>Paris Agreement • UAE Net Zero Strategy • GHG Protocol Standards • ISO 14064 Overview                                                      |
| 1100 – 1200 | <b>Introduction to Carbon Footprinting</b><br>Organizational Carbon Footprint • Product Carbon Footprint • Operational Boundaries • Emission Boundary Selection                                     |
| 1200 – 1215 | Break                                                                                                                                                                                               |
| 1215 – 1300 | <b>Carbon Accounting Principles</b><br>Relevance • Completeness • Consistency • Transparency & Accuracy                                                                                             |
| 1300 – 1350 | <b>ADNOC Sustainability &amp; Decarbonization Strategy</b><br>ADNOC Net Zero Roadmap • Carbon Intensity Reduction Initiatives • Energy Efficiency Programs • CCUS & Methane Reduction Initiatives   |
| 1350 – 1400 | <b>Recap</b><br>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             |
| 1400        | Lunch & End of Day One                                                                                                                                                                              |

#### **Day 2: Tuesday, 18<sup>th</sup> of August 2026**

|             |                                                                                                                                                             |
|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0800 – 0930 | <b>Emission Source Identification</b><br>Direct Emission Sources • Indirect Emission Sources • Fugitive Emissions • Mobile & Stationary Sources             |
| 0930 – 0945 | Break                                                                                                                                                       |
| 0945 – 1030 | <b>Activity Data Collection</b><br>Fuel Consumption • Electricity Usage • Production Data • Operational Process Data                                        |
| 1030 – 1100 | <b>Emission Factors</b><br>IPCC Emission Factors • National Emission Factors • Industry-Specific Factors • Custom Emission Factors                          |
| 1100 – 1200 | <b>Carbon Footprint Calculation Methods</b><br>Calculation Approaches • Mass Balance Methods • Engineering Calculations • Direct Measurement Methods        |
| 1200 – 1215 | Break                                                                                                                                                       |
| 1215 – 1300 | <b>Carbon Accounting Software &amp; Digital Tools</b><br>Carbon Management Software • Automated Monitoring Systems • Data Integration • Dashboard Reporting |

|             |                                                                                                                                                                                         |
|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1300 – 1350 | <b>Practical Carbon Footprint Calculation Workshop</b><br>Facility Emissions Calculation • Scope Classification • Carbon Inventory Preparation • Results Interpretation                 |
| 1350 – 1400 | <b>Recap</b><br>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 |
| 1400        | Lunch & End of Day Two                                                                                                                                                                  |

**Day 3: Wednesday, 19<sup>th</sup> of August 2026**

|             |                                                                                                                                                                                         |
|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0800 – 0930 | <b>ISO 14064 Greenhouse Gas Management</b><br>Organizational Requirements • Inventory Development • Verification Requirements • Documentation                                           |
| 0930 – 0945 | Break                                                                                                                                                                                   |
| 0945 – 1030 | <b>ISO 14067 Carbon Footprint of Products</b><br>Product Lifecycle Boundaries • Carbon Labeling • Product Footprint Calculation • Reporting Principles                                  |
| 1030 – 1100 | <b>Life Cycle Assessment (LCA)</b><br>Goal & Scope Definition • Inventory Analysis • Impact Assessment • Interpretation of Results                                                      |
| 1100 – 1200 | <b>Carbon Reporting Frameworks</b><br>ESG Reporting • GRI Standards • CDP Reporting • Sustainability Reporting                                                                          |
| 1200 – 1215 | Break                                                                                                                                                                                   |
| 1215 – 1300 | <b>Verification &amp; Assurance</b><br>Internal Verification • Third-Party Verification • Data Quality Assurance • Audit Preparation                                                    |
| 1300 – 1350 | <b>Carbon Performance Indicators</b><br>Carbon Intensity KPIs • Emissions Benchmarking • Performance Dashboards • Continuous Monitoring                                                 |
| 1350 – 1400 | <b>Recap</b><br>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 |
| 1400        | Lunch & End of Day Three                                                                                                                                                                |

**Day 4: Thursday, 20<sup>th</sup> of August 2026**

|             |                                                                                                                                               |
|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| 0800 – 0930 | <b>Energy Efficiency &amp; Emissions Reduction</b><br>Process Optimization • Energy Conservation • Waste Heat Recovery • Equipment Efficiency |
| 0930 – 0945 | Break                                                                                                                                         |
| 0945 – 1030 | <b>Methane Emissions Management</b><br>Leak Detection • Quantification Methods • LDAR Programs • Methane Reduction Technologies               |
| 1030 – 1100 | <b>Carbon Capture, Utilization &amp; Storage (CCUS)</b><br>CCUS Principles • Capture Technologies • Storage Options • Industrial Applications |
| 1100 – 1200 | <b>Renewable Energy &amp; Low-Carbon Technologies</b><br>Solar Integration • Hydrogen Technologies • Electrification • Alternative Fuels      |
| 1200 – 1215 | Break                                                                                                                                         |
| 1215 – 1300 | <b>Carbon Offset &amp; Carbon Markets</b><br>Carbon Credits • Voluntary Carbon Markets • Compliance Markets • Offset Project Evaluation       |

|             |                                                                                                                                                                                         |
|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1300 – 1350 | <b>Decarbonization Roadmap Development</b><br>Baseline Establishment • Reduction Targets • Implementation Planning • Performance Monitoring                                             |
| 1350 – 1400 | <b>Recap</b><br>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 |
| 1400        | Lunch & End of Day Four                                                                                                                                                                 |

**Day 5: Friday, 21<sup>st</sup> of August 2026**

|             |                                                                                                                                                                                       |
|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0730 – 0830 | <b>Corporate Carbon Management Systems</b><br>Governance Structure • Roles & Responsibilities • Policy Development • Management Review                                                |
| 0830 – 0930 | <b>Climate Risk &amp; Opportunity Assessment</b><br>Physical Risks • Transition Risks • Financial Implications • Climate Resilience                                                   |
| 0930 – 0945 | Break                                                                                                                                                                                 |
| 0945 – 1030 | <b>Net Zero Strategy Development</b><br>Science-Based Targets • Roadmap Development • Implementation Phases • Performance Measurement                                                 |
| 1030 – 1100 | <b>Digital Carbon Management &amp; Analytics</b><br>IoT Monitoring • Artificial Intelligence Applications • Predictive Analytics • Digital Twins                                      |
| 1100 – 1200 | <b>Practical Case Studies</b><br>ADNOC Decarbonization Initiatives • Oil & Gas Industry Benchmarking • International Best Practices • Lessons Learned                                 |
| 1200 – 1215 | Break                                                                                                                                                                                 |
| 1215 – 1315 | <b>Capstone Workshop &amp; Action Planning</b><br>Develop a Carbon Management Plan • Carbon Footprint Improvement Roadmap • Group Presentations • Instructor Feedback & Course Review |
| 1315 – 1330 | <b>Course Conclusion</b><br>Using this Course Overview, the Instructor(s) will Brief Participants about the Course Topics that were Covered During the Course                         |
| 1330 – 1345 | <b>POST-TEST</b>                                                                                                                                                                      |
| 1345 – 1400 | Presentation of Course Certificates                                                                                                                                                   |
| 1400        | Lunch & End of Course                                                                                                                                                                 |

**Learning Outcomes**

By the end of the course, participants will be able to:

- Understand climate change science and greenhouse gas accounting principles.
- Measure and calculate organizational and product carbon footprints using internationally recognized methodologies
- Apply the GHG Protocol, ISO 14064 and ISO 14067 for carbon accounting and reporting
- Develop accurate greenhouse gas inventories and carbon performance indicators
- Identify emission reduction opportunities through energy efficiency, methane management, electrification and CCUS
- Prepare carbon reports aligned with ESG and sustainability disclosure frameworks



- Develop practical carbon management and Net Zero implementation plans suitable for oil & gas operations
- Support company's decarbonization objectives through robust carbon measurement, reporting and continuous improvement practices

### **Practical Sessions**

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



### **Course Coordinator**

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