COURSE OVERVIEW HE0901
Carbon Foot Print and Energy Efficiency

Course Title
Carbon Foot Print and Energy Efficiency

Course Date/Venue
Session 1: July 13-17, 2025/Crowne Meeting Room, Crowne Plaza Al Khobar, KSA
Session 2: November 09-13, 2025/Boardroom 1, Elite Byblos Hotel Al Barsha, Sheikh Zayed Road, Dubai, UAE

Course Reference
HE0901

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 carbon footprint calculation and reporting. It covers the carbon footprints of heat and various combined heat and power schemes including emission factors of common fuels; and the practical application of energy and CO_2 emission indicators along with the detailed energy efficiency trends.

During this interactive course, participants will learn the overall energy efficiency performance, CO_2 emissions from energy combustion, burner management system and BMS design; the industrial system energy use and energy savings potential including motor systems and steam systems; the barriers of industrial system energy efficiency; and the recycling, reuse and energy recovery.

Course Objectives

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

- Apply systematic techniques and procedures on carbon foot print and energy efficiency
- Discuss carbon footprints of heat and various combined heat and power schemes including emission factors of common fuels
- Employ practical application of energy and CO_2 emission indicators along with the detailed energy efficiency trends
- Analyze overall energy efficiency performance, CO_2 emissions from energy combustion, burner management system and BMS design
- Explain industrial system energy use and energy savings potential including motor systems and steam systems
- Illustrate the barriers of industrial system energy efficiency
- Carryout recycling, reuse and energy recovery

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 wider understanding and deeper appreciation of carbon foot print and energy efficiency for engineers, energy managers, consultants and those who require an understanding on energy efficiency and carbon footprint, its complexities and on how an organization could implement energy efficiency solutions. The course is a must for all environmental management members and staff including environmental managers, environmental engineers, environmental officers, HSE professionals and those in charge of minimizing carbon emission to the environment.

Course Fee

US$ 5,500 per Delegate + **VAT**. This rate includes Participants Pack (Folder, Manual, Hand-outs, etc.), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

Accommodation

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

Certificate Accreditations

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**. 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.

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 **35 years** of practical and industrial experience in **NEBOSH** International General Certificate in Occupational Health & **Safety**, **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.

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

0730 – 0800	*Registration & Coffee*
0800 – 0815	*Welcome and Introduction*
0815 – 0830	***PRE-TEST***
0830 – 0915	***Carbon Footprint: What it is & How to Measure it***
0915– 0930	*Break*
0930– 1100	***Carbon Footprints of Heat & Various Combined Heat & Power Schemes***
1100 – 1200	***Emission Factors of Common Fuels***
1200 – 1215	*Break*
1215 – 1420	***Practical Application of Energy & CO_2 Emission Indicators***
1420 – 1430	***Recap***
1430	*Lunch & End of Day One*

Day 2

0730 – 0915	***Energy Efficiency Trends***
0915 – 0930	*Break*
0930 – 1100	***Energy Efficiency Indicators: Objectives & Methodology***
1100 – 1200	***Overall Energy Efficiency Performance*** *Industry*
1200 – 1215	*Break*
1215 – 1420	***Overall Energy Efficiency Performance (cont'd)*** *Transport*
1420 – 1430	***Recap***
1430	*Lunch & End of Day Two*

Day 3

0730 – 0915	***Overall Energy Efficiency Performance (cont'd)*** *Household and Service Sectors*
0915 – 0930	*Break*
0930 – 1100	***CO_2 Emissions from Energy Combustion***
1100 – 1200	***CO_2 Emissions from Energy Combustion (cont'd)***

1200 – 1215	*Break*
1215 – 1420	***Burner Management Systems***
1420 – 1430	***Recap***
1430	*Lunch & End of Day Three*

Day 4

0730 – 0915	***Considerations for BMS Design***
0915 – 0930	*Break*
0930 – 1100	***Industrial System Energy Use & Energy Savings Potential*** *Motor Systems*
1100 – 1200	***Industrial System Energy Use & Energy Savings Potential (cont'd)*** *Steam Systems*
1200 – 1215	*Break*
1215 – 1420	***Barriers to Industrial System Energy Efficiency***
1420 – 1430	***Recap***
1430	*Lunch & End of Day Four*

Day 5

0730 – 0915	***Recycling & Reuse***
0915 – 0930	*Break*
0930 – 1100	***Energy Recovery***
1100 – 1200	***Energy Recovery (cont'd)***
1200 – 1215	*Break*
1215 – 1345	***Life Cycle Improvement Options***
1345 – 1400	***Course Conclusion***
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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