COURSE OVERVIEW TM0345
Environment Benchmarking

Course Title
Environment Benchmarking

Course Date/Venue
May 11-15, 2026/TBA Meeting Room, Holiday Inn Express Beijing Lize Business District, China

Course Reference
TM0345

Course Duration/Credits
Five days/3.0 CEUs/30 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 is designed to provide participants with a detailed and up-to-date overview of Environment Benchmarking. It covers the advanced concepts of environmental benchmarking and global environmental benchmarking frameworks; the strategic role of benchmarking in organizations, environmental KPIs and metrics design and data governance for benchmarking; the benchmarking maturity models, advanced benchmarking methodologies and environmental data analytics; and the normalization and index development, lifecycle-based benchmarking and digital tools and technologies.

Further, the course will also discuss the Carryout statistical techniques for benchmarking, industry environmental performance indicators and best-in-class environmental practices; the regulatory benchmarking, carbon management benchmarking, water and waste benchmarking and environmental risk benchmarking; and the benchmarking programs and illustrate gap analysis performance diagnosis and improvement strategy development.

During this interactive course, participants will learn the environmental management systems (EMS) and financial and economic evaluation, change management and leadership; the ESG and sustainability benchmarking, digital transformation in benchmarking and scenario analysis and future benchmarking; and the benchmarking for net-zero and decarbonization, evaluating reporting and communication of benchmarking results.

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 environment benchmarking
- Discuss the advanced concepts of environmental benchmarking and global environmental benchmarking frameworks
- Identify the strategic role of benchmarking in organizations, environmental KPIs and metrics design and data governance for benchmarking
- Describe benchmarking maturity models, advanced benchmarking methodologies and environmental data analytics
- Apply normalization and index development, lifecycle-based benchmarking and digital tools and technologies
- Carryout statistical techniques for benchmarking, industry environmental performance indicators and best-in-class environmental practices
- Apply regulatory benchmarking, carbon management benchmarking, water and waste benchmarking and environmental risk benchmarking
- Design benchmarking programs and illustrate gap analysis, performance diagnosis and improvement strategy development
- Integrate with environmental management systems (EMS) and apply financial and economic evaluation, change management and leadership
- Employ ESG and sustainability benchmarking, digital transformation in benchmarking and scenario analysis and future benchmarking
- Apply benchmarking for net-zero and decarbonization as well as evaluate reporting and communication of benchmarking results

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 environment benchmarking for environmental engineers, environmental managers, sustainability / ESG professionals, HSE (health, safety and environment) officers, project control and project management personnel, senior managers (operations, projects, strategy), environmental consultants, compliance and regulatory officers, quality and continuous improvement professionals, data analysts / performance measurement specialists, facility / plant managers, benchmarking, performance or business improvement specialists 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.

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:

Dr. John Petrus, PhD, MSc, BSc, is a **Senior Management Consultant** with over **30 years** of **onshore & offshore** experience within the **Oil & Gas**, **Refinery** and **Petroleum** industries. His wide experience covers in the areas of **Advanced Analytics** in Oil & Gas, **Business Intelligence Data Analytics**, Audit Analytics & Computer-Assisted Audit Techniques (**CAATs**), **Basic Database** Concepts & Data Formats, **Data Analysis** Cycle & Best Practices, **Data Importing & Integrity** Verification, **Advanced Analytics Tools** in **Auditing**, Leveraging **AI & Machine Learning** in **Audits**, **Data Mining Techniques** for Auditors, **Data Analytics** for Managerial Decision Making, **Business Process Analysis**, Mapping & Modeling, **Research Methods & Analysis**, **Statistical Data Needs Analysis**, Oil & Gas Industry **Business Environment & Competitive Intelligence Gathering & Analysis**, Petroleum **Economics & Risk Analysis**, Certified **Data Analysis**, **Risk Management** & SWIFT Analysis, Best Practices Management System (**BPMS**), **GIS System** Management, **Database** Management, Strategic Planning, Best Practices and Workflow, **Quality** Management, **Project** Management and **Risk Assessment** & Uncertainty Evaluation. Further, he is also well-versed in **seismic interpretation**, **mapping** & **reservoir modelling tools** like **Petrel** software, **LandMark**, **Seisworks**, **Geoframe**, **Zmap** and has extensive knowledge in MSDos, Unix, **AutoCAD**, MAP, Overlay, Quicksurf, 3DStudio, **Esri ArcGIS**, Visual Lisp, Fortran-77 and Clipper. Moreover, he is a world **expert** in **analysis** and **modelling** of **fractured prospects** and **reservoirs** and a **specialist** and **developer** of **fracture modelling software tools** such as FPDM, FMX and DMX Protocols.

During his career life, Dr. Petrus held significant positions and dedication as the **Executive Director**, **Senior Geoscience Advisor**, **Exploration Manager**, **Project Manager**, **Manager**, **Chief Geologist**, **Chief** of **Exploration**, **Chief** of **Geoscience**, **Senior Geosciences Engineer**, **Senior Explorationist**, **Senior Geologist**, **Geologist**, **Senior Geoscientist**, **Geomodeller**, **Geoscientist**, **CPR Editor**, **Resources Auditor**, **Project Leader**, **Technical Leader**, **Team Leader**, **Scientific Researcher** and **Senior Instructor/Trainer** from various international companies and universities such as the Dragon Oil Holding Plc., ENOC, MENA, ENI Group of Companies, Ocre Geoscience Services (OGS), Burren RPL, Ministry of Oil-Iraq, Eni Corporate University, Standford University, European Universities, European Research Institutes, NorskHydro Oil Company, Oil E&P Companies, just to name a few.

Dr. Petrus has a **PhD** in **Geology** and **Tectonophysics** and **Master's** and **Bachelor's** degree in **Earth Sciences** from the **Utrecht University**, **The Netherlands**. Further, he is a **Certified Instructor/Trainer**, a **Certified Trainer/Assessor/Internal Verifier** by the **Institute of Leadership & Management** (**ILM**), a Secretary and Treasurer of Board of Directors of Multicultural Centre, Association Steunfonds SSH/SSR and Founding Member of Sfera Association. He has further published several scientific publications, journals, research papers and books and delivered numerous trainings, workshops, courses, seminars and conferences internationally.

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.

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.

Accommodation

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

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, 11th of May 2026***

0730 – 0800	*Registration & Coffee*
0800 – 0815	*Welcome & Introduction*
0815 – 0830	***PRE-TEST***
0830 – 0930	***Advanced Concepts of Environmental Benchmarking*** *Evolution from Compliance to Performance Benchmarking • Types: Internal, Competitive, Functional & Strategic Benchmarking • Role in Corporate Sustainability & ESG Frameworks • Benchmarking versus Performance Measurement versus Auditing*
0930 – 0945	*Break*
0945 – 1030	***Global Environmental Benchmarking Frameworks*** *ISO 14031 Environmental Performance Evaluation • GRI Standards & ESG Disclosure Metrics • World Bank & IFC Environmental Benchmarks • Industry-Specific Benchmarks (Oil & Gas, Petrochemicals)*
1030 – 1130	***Strategic Role of Benchmarking in Organizations*** *Aligning benchmarking with corporate strategy • Benchmarking as a decision-support tool • Linking KPIs to business value creation • Integration with risk management frameworks*

1130 – 1215	***Environmental KPIs and Metrics Design*** *Leading versus lagging indicators • Intensity-based versus absolute metrics • Normalization Techniques (Production, Energy, Revenue) • Data Reliability and Validation Challenges*
1215 – 1230	*Break*
1230 – 1330	***Data Governance for Benchmarking*** *Data Collection Systems & Digital Platforms • Data Quality Assurance & Verification • Handling Missing or Inconsistent Data • Cybersecurity & Data Integrity Risks*
1330 – 1420	***Benchmarking Maturity Models*** *Environmental Management Maturity Stages • Gap Analysis Methodologies • Identifying Benchmarking Readiness • Continuous Improvement Cycles (PDCA, DMAIC)*
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, 12th of May 2026***

0730 – 0830	***Advanced Benchmarking Methodologies*** *Quantitative versus Qualitative Benchmarking • Peer Group Selection Techniques • Statistical Benchmarking Approaches • Multi-Criteria Benchmarking Models*
0830 – 0930	***Environmental Data Analytics*** *Descriptive, Diagnostic, Predictive Analytics • Trend Analysis & Performance Forecasting • Outlier Detection & Anomaly Analysis • Data Visualization for Decision-Making*
0930 – 0945	*Break*
0945 – 1100	***Normalization & Index Development*** *Developing Composite Environmental Indices • Weighting Methodologies (Equal, Expert-Based, AI-Driven) • Handling Variability Across Sites/Operations • Cross-Sector Comparability Challenges*
1100 – 1215	***Lifecycle-Based Benchmarking*** *Life Cycle Assessment (LCA) Integration • Cradle-to-Grave versus Cradle-to-Gate Comparisons • Carbon Footprint Benchmarking • Water & Energy Footprint Analysis*
1215 – 1230	*Break*
1230 – 1330	***Digital Tools & Technologies*** *Environmental Data Management Systems (EDMS) • Use of AI & Machine Learning in Benchmarking • IoT for Real-Time Environmental Monitoring • Benchmarking Dashboards & Reporting Tools*
1330 – 1420	***Statistical Techniques for Benchmarking*** *Regression Analysis for Performance Drivers • Correlation versus Causation in Environmental Data • Benchmarking Using Percentiles & Quartiles • Confidence Intervals & Uncertainty Analysis*
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, 13th of May 2026

0730 – 0830	***Industry Environmental Performance Indicators*** *Emissions Intensity (CO_2, NOx, SOx) • Water Consumption & Discharge Metrics • Energy Efficiency Benchmarks • Waste Generation & Circularity Indicators*
0830 – 0930	***Benchmarking Against Global Leaders*** *Case Studies: Shell, Aramco, ExxonMobil • Best-in-Class Environmental Practices • Lessons Learned from Industry Leaders • Translating Global Benchmarks to Local Context*
0930 – 0945	*Break*
0945 – 1100	***Regulatory Benchmarking*** *Comparing Regional versus International Regulations • Compliance Benchmarking Across Jurisdictions • Environmental Permitting Performance Metrics • Regulatory Risk Benchmarking*
1100 – 1215	***Carbon Management Benchmarking*** *Scope 1, 2 & 3 Emissions Comparison • Net-Zero Strategies Benchmarking • Carbon Pricing & Internal Carbon Cost Models • Decarbonization Pathway Comparisons*
1215 – 1230	*Break*
1230 – 1330	***Water & Waste Benchmarking*** *Zero Liquid Discharge (ZLD) Benchmarking • Water Reuse & Recycling Metrics • Hazardous versus Non-Hazardous Waste Benchmarking • Circular Economy Integration*
1330 – 1420	***Environmental Risk Benchmarking*** *Risk-Based Environmental Performance Indicators • Incident Frequency & Severity Benchmarking • Environmental Liability Assessment • Climate-Related Risk Benchmarking (TCFD)*
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, 14th of May 2026

0730 – 0830	***Designing Benchmarking Programs*** *Step-by-Step Benchmarking Framework • Stakeholder Engagement & Governance • Defining Scope, Boundaries & Objectives • Resource Allocation & Budgeting*
0830 – 0930	***Gap Analysis & Performance Diagnosis*** *Identifying Performance Gaps versus Peers • Root Cause Analysis Techniques (5 Whys, Fishbone) • Prioritization of Improvement Areas • Linking Gaps to Operational Inefficiencies*
0930 – 0945	*Break*
0945 – 1100	***Improvement Strategy Development*** *Setting Realistic & Ambitious Targets • Technology Adoption Strategies • Process Optimization & Innovation • Behavioral & Cultural Change Initiatives*
1100 – 1215	***Integration with Environmental Management Systems (EMS)*** *Embedding Benchmarking into ISO 14001 Systems • Linking Benchmarking to Audits & Reviews • Continuous Improvement Mechanisms • Management Review & Decision-Making*

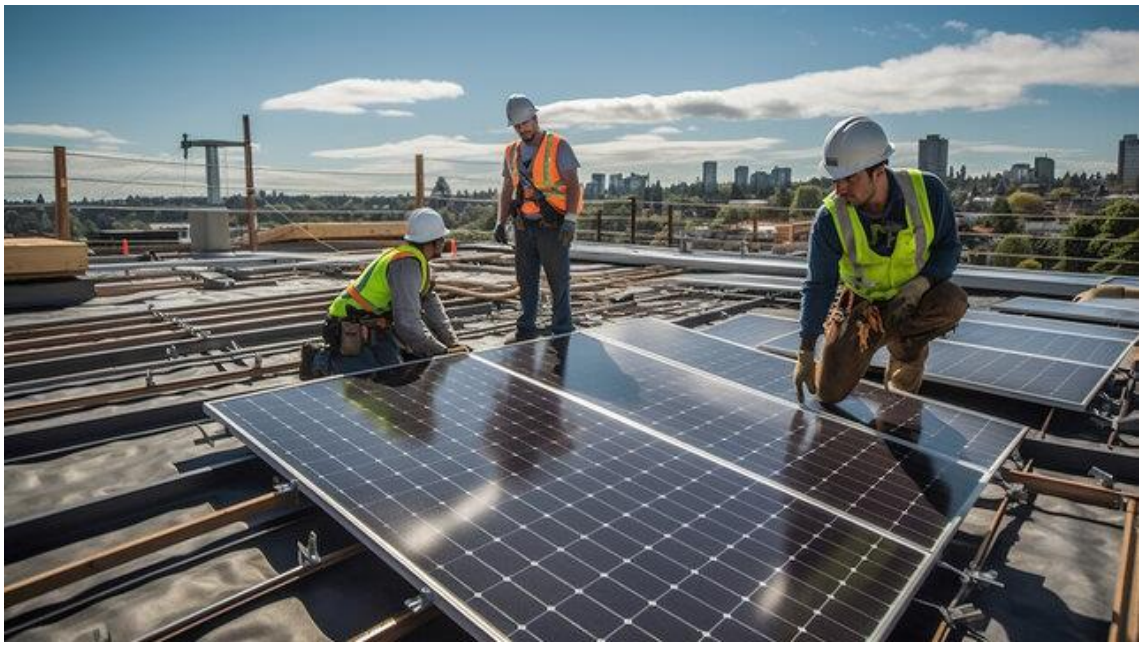
1215 – 1230	*Break*
1230 – 1330	***Financial & Economic Evaluation*** *Cost-Benefit Analysis of Environmental Improvements • ROI of Sustainability Initiatives • Linking Benchmarking to Financial Performance • Carbon & Energy Cost Optimization*
1330 – 1420	***Change Management & Leadership*** *Driving Organizational Change • Overcoming Resistance to Benchmarking Initiatives • Leadership Roles in Sustainability Transformation • Building a Performance-Driven Culture*
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, 15th of May 2026

0730 – 0830	***ESG & Sustainability Benchmarking*** *ESG Rating Systems (MSCI, Sustainalytics) • Benchmarking Sustainability Disclosures • Investor-Driven Benchmarking Expectations • Integrating ESG into Corporate Strategy*
0830 – 0930	***Digital Transformation in Benchmarking*** *AI-Driven Benchmarking Models • Big Data & Cloud-Based Analytics • Digital Twins for Environmental Performance • Automation of Reporting & Benchmarking*
0930 – 0945	*Break*
0945 – 1100	***Scenario Analysis & Future Benchmarking*** *Climate Scenario Modeling (IPCC Pathways) • Stress Testing Environmental Performance • Long-Term Sustainability Forecasting • Transition Risk Benchmarking*
1100 – 1230	***Benchmarking for Net-Zero & Decarbonization*** *Sectoral Decarbonization Pathways • Benchmarking Renewable Energy Integration • Hydrogen & Alternative Fuels Benchmarking • Carbon Capture & Storage (CCS) Comparisons*
1230 – 1245	*Break*
1245 – 1300	***Reporting & Communication of Benchmarking Results*** *Executive Dashboards & Reporting Formats • Communicating Benchmarking Insights to Stakeholders • Transparency versus Competitive Sensitivity • Storytelling with Environmental Data*
1300 - 1345	***Capstone Exercise: Benchmarking Strategy Development*** *Developing a Full Benchmarking Framework for NSRP • Selecting KPIs & Peer Groups • Identifying Improvement Initiatives • Presenting Strategic Recommendations*
1345 – 1400	***Course Conclusion*** *Using this Course Overview, the Instructor(s) will Brief Participants about the Course Topics 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

Mari Nakintu, Tel: +971 2 30 91 714, Email: mari1@haward.org