Sustainable Energy and Carbon Footprint Reduction Training Course



14 - 18 Dec 2026

Cape town

4600 € (Per Person)

Ref: #ERE8432_274056

Course Introduction / Overview:

The global transition towards a low-carbon economy presents both unprecedented challenges and significant opportunities for organizations across all sectors. This intensive training course is meticulously designed to equip professionals with the essential knowledge and practical skills required to navigate the complexities of sustainable power generation and effectively reduce their organization's carbon footprint. Moving beyond theoretical concepts, this program delves into actionable decarbonization strategies, renewable energy integration, and robust carbon accounting methodologies. We will explore the foundational principles outlined by leading academics like Dr. Mark Z. Jacobson and discuss concepts from seminal works such as "100% Clean, Renewable Energy and Storage for Everything". Participants will learn to conduct comprehensive life cycle assessments and align their corporate sustainability strategy with global standards and stakeholder expectations. BIG BEN Training Center has developed this course to empower leaders to drive meaningful environmental change, enhance corporate reputation, and secure a competitive advantage in an increasingly eco-conscious marketplace by mastering the tools needed to achieve net-zero emissions and foster sustainable business practices.

Target Audience / This training course is suitable for:

- Environmental Managers and Specialists.
- Sustainability Officers and Consultants.
- Corporate Social Responsibility (CSR) Managers.
- Energy Managers and Analysts.
- Operations and Facility Managers.
- Strategic Planners and Business Development Executives.
- Policy Makers and Regulators.
- Engineers and Technical Staff in the energy sector.
- Supply Chain and Procurement Managers.
- Finance and Investment Professionals focused on ESG.

Target Sectors and Industries:

- Energy and Utilities.
- Manufacturing and Industrial Production.
- Transportation and Logistics.
- Construction and Real Estate.
- Information Technology and Data Centers.
- Agriculture and Food Production.
- Consulting and Professional Services.
- Governmental agencies and public sector bodies.
- Non-profit and non-governmental organizations.
- Financial Services and Investment Banking.

Target Organizations Departments:

- Sustainability and Corporate Responsibility.
- Environmental, Health, and Safety (EHS).
- Operations and Production.
- Strategic Planning and Corporate Strategy.
- Engineering and Technical Services.
- Supply Chain and Logistics.
- Finance and Investment.
- Facilities Management.
- Research and Development (R&D).
- Public Relations and Corporate Communications.

Course Offerings:

By the end of this course, the participants will have able to:

- Analyze an organization's carbon footprint using established protocols like the GHG Protocol.
- Evaluate the feasibility of various renewable energy technologies for specific applications.
- Develop comprehensive decarbonization strategies aligned with corporate objectives.
- Master the principles of carbon accounting and life cycle assessment (LCA).
- Implement effective energy efficiency measures to reduce consumption and costs.
- Navigate the regulatory landscape and voluntary reporting frameworks like ESG.
- Assess the financial implications and opportunities of transitioning to sustainable energy.
- Integrate sustainability principles into the corporate supply chain.
- Communicate sustainability performance effectively to stakeholders.
- Formulate a strategic roadmap towards achieving net-zero emissions.

Course Methodology:

The training methodology at BIG BEN Training Center is designed to foster a dynamic and engaging learning environment that bridges theory with real-world application. This course utilizes a blended approach, combining expert-led presentations with highly interactive sessions. Participants will engage in practical workshops where they will apply carbon accounting techniques and model decarbonization scenarios. A significant portion of the program is dedicated to the analysis of contemporary case studies from various industries, allowing for a deep understanding of successful strategies and potential pitfalls. Collaborative group projects encourage teamwork and peer-to-peer learning, simulating the cross-departmental cooperation required for effective sustainability initiatives. Throughout the course, there will be structured Q&A sessions and open forums to encourage critical thinking and the exchange of ideas. Our experienced instructors provide continuous feedback and facilitate discussions, ensuring that each participant can connect the course content directly to their professional context and organizational challenges, leaving them confident and prepared to implement change.

Course Agenda (Course Units):

Unit One: Foundations of Climate Science and Carbon Management

- Introduction to climate change and the global energy landscape.
- Understanding greenhouse gases (GHGs) and their impact.
- The fundamentals of the GHG Protocol Corporate Standard.
- Introduction to carbon accounting and emissions scopes (1, 2, and 3).
- The role of international agreements and national policies.
- Defining carbon footprint and its importance for business.
- Key terminology in sustainability and decarbonization.

Unit Two: Renewable and Sustainable Energy Technologies

- In-depth analysis of solar power (photovoltaic and thermal).
- Exploring wind energy technology and grid integration.
- Understanding hydropower, geothermal, and biomass energy sources.
- The role of energy storage solutions, including battery technology.
- Introduction to green hydrogen and its potential applications.
- Evaluating the economic and environmental case for each technology.
- Challenges and opportunities in integrating renewables into existing grids.

Unit Three: Carbon Footprint Measurement and Analysis

- Advanced techniques in Scope 1 and 2 emissions calculations.
- Methodologies for measuring complex Scope 3 emissions.
- Conducting a Life Cycle Assessment (LCA) for products and services.
- Introduction to ISO 14064 for GHG quantification and reporting.
- Data collection strategies and management for accurate reporting.
- Using software and tools for carbon footprint analysis.
- Verification and assurance of emissions data.

Unit Four: Developing Effective Decarbonization Strategies

- Setting science-based targets for emissions reduction.
- Implementing energy efficiency and conservation programs.
- Strategies for sustainable procurement and green supply chain management.
- Evaluating carbon offsetting and carbon capture technologies (CCS).
- Developing a corporate net-zero roadmap.
- Engaging employees and stakeholders in sustainability initiatives.
- Financial modeling for decarbonization projects and ROI analysis.

Unit Five: Reporting, Governance, and Future Trends

- Introduction to Environmental, Social, and Governance (ESG) reporting frameworks.
- Navigating the requirements of the Task Force on Climate-related Financial Disclosures (TCFD).
- The role of sustainable finance and green investments.
- Communicating sustainability performance to investors and the public.
- The impact of the circular economy on carbon reduction.
- Future trends in clean technology and energy policy.
- Final project workshop: Building a preliminary decarbonization plan.

FAQ:

Qualifications required for registering to this course?

There are no requirements.

How long is each daily session, and what is the total number of training hours for the course?

This training course spans five days, with daily sessions ranging between 4 to 5 hours, including breaks and interactive activities, bringing the total duration to 20 - 25 training hours.

Something to think about:

What unique qualities does this course offer compared to other courses?

Beyond technological solutions and regulatory compliance, what is the fundamental role of corporate culture in achieving a truly sustainable, net-zero future?

What unique qualities does this course offer compared to other courses?

This course distinguishes itself by offering a holistic and strategic perspective that transcends a purely technical or compliance-focused approach. While many programs concentrate solely on the mechanics of renewable energy or the specifics of carbon accounting, this training integrates these critical components into a broader business strategy framework. We emphasize the "why" behind the "how," enabling participants to build a compelling business case for sustainability that aligns with financial performance and long-term value creation. The curriculum is uniquely structured to bridge the gap between operational implementation and executive-level decision-making, covering everything from life cycle assessments to ESG reporting and sustainable finance. Rather than just presenting tools, we focus on developing critical thinking through complex case studies and scenario-based workshops that mirror real-world challenges. This ensures participants leave not just with knowledge, but with the strategic acumen to lead transformative change, influence stakeholders, and position their organizations as leaders in the low-carbon economy.