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Energy, Carbon and the Environment

15 - 26 July 2024

Boston (USA)

Energy, Carbon and the Environment

course code: S7026 From: 15 - 26 July 2024 Venue: Boston (USA) - course Fees: 5500 Euro

Introduction

With increasing concerns about climate change, carbon footprint and energy production, there are a lot of misconceptions and misunderstandings concerning the subject. This course will try to clear up these misunderstandings and misconceptions by going into some depth about the various forms of energy production, their environmental impacts, waste management issues and the global challenges in these areas that we all have to deal with. As the push is on now to moving towards a low carbon future, organizations have to ensure that their staff are being kept current and informed.

Workshops, DVD videos and classroom exercises will be used during the seminar to enhance the learning process.

Objectives

- Learn about the various types of energy production, their positives and negatives, cost comparisons and which ones are being recommended by the Intergovernmental Panel on Climate Change (IPCC)
- An in-depth look at Sustainability
- Calculation of Carbon Footprints
- The significance of Climate Change and Why a global perspective with global input is necessary
- Why Waste Management issues and the availability of Water are important components of the equation
- Learn about the concept of Zero Waste and the benefits of an integrated Waste Management System

Training Methodology

The course will encourage delegates' participation and the atmosphere in the classroom will be tailored to asking questions and the delegates will be made to feel welcome in a stress free atmosphere. The instructor having worked in a nuclear power station and fossil fuelled generation stations (oil, coal and natural gas) will share some technical practical experiences during some of the discussions.

Organisational Impact

- The organization, based on the training received by its employees at the course, will be more aware of sustainability and carbon footprint issues at the plant and be able to advise/recommend solutions when requested. This usually results in improved productivity
- As climate change is now a global issue, an informed employee will be able to differentiate

between misconceptions and factual information on this issue.
- Enhanced reputation of the organization in the community knowing that the company is doing its part concerning reducing its carbon footprint
- Concerning energy production, by knowing the positives and negatives of each form of energy production and their relative costs, the informed employee can make the appropriate recommendations for optimizing the plant's current energy producing method and also offer some valuable input if a new energy producing method is planned
- By addressing any real or potential contamination problems, the company is proactive in doing its part in minimizing any adverse environmental impacts from its operations
- An improved image of the organization with the Regulatory Authorities

Personal Impact

- Personal satisfaction of the employee knowing that the organization is providing the necessary information required for him/her to stay current on energy, carbon and environmental issues
- Risk Reduction knowledge which will provide lasting benefits both personally and professionally
- Information acquired during the course will contribute to a safer working environment
- Personal psychological advantage of an employee doing his or her part concerning one of the recommendations of UNEP (United Nations Environmental Program) – "Think Globally, Act Locally"
- Personal pride in being part of an organization that's committed to protecting the environment and preventing pollution
- Personal pride in having the necessary information to discuss what's known and what's not known about climate change issues

SEMINAR OUTLINE

DAY 1

A general outline of the course which will include definitions, types of energy and their relationships with the environment

- Brief general introduction- Seminar instructor and attendees
- An overview of the course material that will be covered in the 5 days
- Definitions
- A detailed look at the various forms of energy used for electrical production and their positives and negatives
- Fossil (oil, natural gas and coal)
- Canadian Oil Sands and Gulf Coast Countries oil (similarities and differences)
- Geothermal
- DVD
- Class Exercise

DAY 2

A brief review of the topics covered in Day 1 and a continuation of the other forms of energy used for Electrical production

- Nuclear
- Hydro Electric
- Biomass
- Combined Cycle
- Wind
- Fuel Cell
- Electrochemical (batteries)
- Emerging Technologies
- DVD
- Class Exercise

DAY 3

A brief review of the topics covered in Day 2 and a detailed look at Carbon Footprints for each of the various forms of energy used for producing electricity and their contribution to the organization's KPIs (Key Performance Indicators) and a discussion on Environmental Risks and Health & Safety Issues (ISO 18001)

- Carbon Footprints calculations
- KPIs
- Environmental Risks
- ISO 18001
- DVD
- Class Exercise

DAY 4

A brief review of the topics covered in Day 3 and current information on GHGs (Green House Gases), sustainability & related international environmental treaties and the role that the availability of Water plays in the Energy, Carbon and Environment equation

- Green House Gases
- Sustainability issues
- Related International Environment Treaties
- Availability of Water
- Water banking
- Class Exercise

DAY 5

A brief review of the topics covered in Day 4. A detailed look at What's known and not known about climate change. Why most companies are now moving towards an

Integrated Waste Management System. Environmental Ethics and moving towards a low carbon or carbon negative future.

- Climate Change and its significance for the Gulf Coast Countries
- Integrated Waste Management System
- Waste disposal & the concept of Zero Waste
- Environmental Ethics
- Moving towards a low carbon future (carbon negative)
- Generic recommendations concerning “greening” your company at a reasonable cost
- Complete course review