



## Fundamentals of Net-Zero and Renewables - NG-20

### COURSE

#### About the Course

Globally there is an ongoing shift in energy production away from fossil fuels and towards energy sources that have lower carbon footprints. The primary objective of this training course is to give an overview of the various available technologies with their pros and cons.

This training course covers the political and business drivers for reduction in CO2 emissions as well as an introduction to the various technologies being introduced and researched. This training course is useful for anyone involved in the strategic planning and implementation of strategies that satisfy national, international, and company requirements for reductions in greenhouse gas emissions in power generation environments.

A Basic-level version of this course is also available [on-demand as an eLearning course](#)

#### Training course Objectives

The key objectives of this training course are as follows:

- To assist participants in developing an understanding of climate change strategies and implementation.
- To enhance the knowledge and skills of the participants in renewable energy technologies.
- To provide participants with an understanding of the implications of the changes in power generation.

#### Target Audience

This training course is useful for all management levels and for anyone involved in the integration of low carbon power generation technologies into existing and future infrastructure.

#### You Will Learn

- Delegates will enhance their knowledge of low carbon energy production alternatives.
- Participants will gain a sound working knowledge of the interdependence of design and operation of the various carbon reduction technologies.
- Participants will be introduced to the international political treaties and organizations involved in climate change analysis and policies and their recommended actions.

#### Course Content

## The Drivers Behind Net-Zero

- Global warming - the case for and against
- Greenhouse gases – what are they and what do they do?
- Paris Accord / International Energy Agency / Intergovernmental Panel on Climate Change

## Business aspects

- How big is big – how much hydrocarbon usage do we need to displace?
- Carbon net zero
- Energy costs
- Life Cycle Assessment
- Infrastructure development

## Fossil Fuel Power & Nuclear Power

- Coal, Oil, Gas
- Traditional Power Gen
- Integrated Gas Turbine Combined Cycle

## Solar Power

- Concentrated Solar Power
- Photovoltaic

## Wind Power

- HAWT v VAWT
- Offshore & onshore locations
- Sizing calculations

## Energy Storage

- Steam
- Hydroelectric (includes direct power generation as well as energy storage)
- Battery technologies
- Salt & Sodium
- Novel technologies

## Alternative Fuels

- Geothermal (conventional and unconventional)
- The hydrogen rainbow
- Hydrogen distribution & storage
- Biofuels

## Coherent planning for the future

- The future of fossil fuel production
- Integrating electrical generation
- Predicting the cost of generation
- Financing the Energy Transition and the role of subsidies

**Product Details**

Categories: [Energy Transition](#)

Disciplines: [Net Zero & Renewables](#) [Multi-Discipline Training](#)

Levels: [Basic](#)

Product Type: [Course](#)

Formats Available: [In-Classroom](#)

Instructors: [Ronald Frend](#) [Conrad Dziobon](#)

**In-Classroom Format**

20 Aug '24 22 Aug '24 - | Course | In-Classroom (in Houston) \$3,475.00

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28 Oct '24 30 Oct '24 - | Course | In-Classroom (in Dubai) \$4,310.00

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