XCELERATE TRAINING INSTITUTE

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MECHANICAL ENGINEERING

Carbon Capture, Utilisation and Storage (CCUS) Training Course

Technologies, Projects and Economics of Carbon Capture

DURATION	LANGUAGE	FORMAT	COURSE CODE
5 days	English or Arabic	Classroom / Online	ME-103

Upcoming dates

Dates	Venue	Format	Fee
18 – 22 Jan 2027	Madrid	Classroom	€4,800
22 – 26 Mar 2027	Manama	Classroom	€3,800
3 – 7 May 2027	Paris	Classroom	€4,800
12 – 16 Jul 2027	Singapore	Classroom	€5,500
20 – 24 Sep 2027	Amman	Classroom	€3,800
22 – 26 Nov 2027	Amsterdam	Classroom	€4,800

Register or ask a question

Online: x8ti.com/course/carbon-capture-utilisation-and-storage-ccus-training…

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Carbon Capture, Utilisation and Storage (CCUS) Training Course

Introduction

Carbon capture, utilisation and storage is a key technology for reducing emissions from oil and gas, power, cement, steel and petrochemical plants. Gulf countries are developing large CCUS hubs, building on decades of experience in gas processing and enhanced oil recovery.

This course explains the full CCUS chain: capture technologies, compression and transport, geological storage, utilisation options, monitoring and the commercial and regulatory frameworks that make projects viable.

Learning Objectives

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

- Explain the role of CCUS in decarbonisation
- Compare post-combustion, pre-combustion and oxy-fuel capture technologies
- Understand CO2 compression, transport and injection
- Assess geological storage and monitoring requirements
- Evaluate CO2 utilisation options
- Analyse CCUS project economics and regulation

Training Methodology

This course combines short expert presentations with practical exercises, case studies from the Gulf and international organisations, group discussions and work with real templates and tools. Participants are encouraged to bring examples from their own work so that the learning can be applied immediately.

Participants study operating CCUS projects and evaluate a capture project case.

Benefits for Your Organisation

- Technical understanding to evaluate CCUS options
- Better-informed decarbonisation investments
- Teams ready for regional CCUS hubs
- Reduced technical and regulatory risk
- Support for net-zero commitments

Benefits for You

- Comprehensive CCUS knowledge
- Understanding of project economics
- Insight into regional and global projects
- Skills relevant to oil and gas and energy careers
- Ability to contribute to decarbonisation planning

Who Should Attend

This course is designed for:

- Process, chemical and petroleum engineers
- Reservoir and geoscience professionals
- Energy and sustainability managers
- Project developers and planners
- Investment and policy professionals

Course Outline

Day 1: CCUS in Context

- Industrial emissions and decarbonisation pathways
- The CCUS value chain
- Global and Gulf CCUS projects and hubs
- Policy drivers and carbon pricing
- Lessons from operating projects

Day 2: Capture Technologies

- Post-combustion capture with solvents
- Pre-combustion and oxy-fuel capture
- Direct air capture
- Energy penalty and cost drivers
- Selecting capture technology

Day 3: Transport and Storage

- CO2 compression and conditioning
- Pipelines and shipping
- Storage in saline aquifers and depleted reservoirs
- CO2 enhanced oil recovery
- Injection well design

Day 4: Monitoring, Safety and Utilisation

- Measurement, monitoring and verification
- Risk assessment and leakage prevention
- CO2 utilisation: fuels, chemicals and building materials
- Mineralisation
- Life-cycle assessment

Day 5: Economics and Regulation

- Capital and operating costs
- Business models and hub approaches
- Carbon credits and incentives
- Legal and regulatory frameworks

- Project evaluation exercise

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Registration Form

Carbon Capture, Utilisation and Storage (CCUS) Training Course

Preferred dates: ..... Venue or online: .....

Duration: 5 days Language: .....

Please complete and email this form to us, or register online. We confirm your place and send the invoice within one working day.

Delegate information

Full name (Mr / Ms / Dr / Eng): .....

Position: ..... Telephone / mobile: .....

Official email: ..... Personal email: .....

Company information

Company name: .....

Address: .....

City / country: ..... VAT / tax number: .....

Person responsible for training & development

Full name (Mr / Ms / Dr / Eng): .....

Position: ..... Telephone / mobile: .....

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Email this form
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Register online
Open the course page