Petrogenium. Academy

Upstream (Renewables)

Carbon Capture and Storage (CCS): Project Risks and How to Manage Them

Consultant / Trainer

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The **Petrogenium. Carbon Capture and Storage** course will guide participants to develop key concepts and techniques to identify, assess, and manage risks in CCS projects with focus on CO2 injection and storage. These key concepts can be utilized to make optimized technical and operational decisions without endangering the integrity of CCS assets. This training gives yourself and your employees the keys to success of reducing risk for the full life cycle of carbon storage projects.

Participants

This **Petrogenium.** course aims at improving competencies of all surface and subsurface engineers—geologists, geophysicists, reservoir engineers, petrophysicists, production technologists/engineers, well engineers, geomechanical specialists, facility engineers—in terms of understanding the CCS engineering issues faced by complex energy transition projects. It is also possible to benefit from an exclusive technical services arrangement from Petrogenium after the training. Participants can be from diverse spectrum of both young and experienced engineers. The training includes both theoretical and practical hands-on sessions with case studies and exercises. The training can also be structured to address specific issues faced by a particular CCS project/operating company.

Learning Objectives

Understanding of CCS project risk management, enabling further optimization and troubleshooting:

- CCS in an international context – organizations, research efforts, demo projects, findings
- Site selection and site characterization – reservoir modelling methodology, model framing techniques, tools to assess the container
- Storage capacity assessment – requirements (physics modelling) and uncertainties to assess CO2 storage capacity of a selected site
- Injectivity assessment – design of new CO2 injection wells, well injectivity for CO2 & phase behaviour

Programme

Learning Objectives continued....

- Containment assessment – leakage along well paths, well integrity assessment, leakage through top seal, fault reactivation & induced seismicity
- Measurement, Monitoring & Verification (MMV) – monitoring objectives, design of monitoring programmes, integrated risk assessment

DAY 1

CCS System & Project Maturation

- Course Overview, Introductions
- International context (organisations, research efforts, demo projects, findings)
- Bring your own case (understand participants learning needs)
- CCS system overview
- Project maturation milestones, risk management
- Introduction Case Study 1

DAY 2

Site Selection & Characterisation

- Discuss Case Study 1
- Reservoir modelling methodology
- Model framing for a CCS project
- Tools to assess the container
- The size of the container
- Introduction Case Study 2

DAY 3

Injectivity Assessment

- Discuss Case Study 2
- Design of new injection CO2 wells
- Well Injectivity for CO2 & phase behaviour
- Containment assessment overview
- Introduction Case Study 3

DAY 4

Containment Assessment

- Discuss Case Study 3
- Containment: Leakage along well paths
- Well integrity assessment
- Leakage through the top seal
- Fault reactivation & induced seismicity
- Exercise: Identify containment related risks & issues

Why select Petrogenium.?

The above support will be provided by principal consultants with 30+ years world-class experience in the technology and hands-on know-how from operation of refinery units.

Contact Petrogenium.:

Email: training@petrogenium.com
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Because Experience Matters