Training - Reactive transport and geological CO2 Storage

RTCO2-EN-P | Face-to-face only | 5 days

This training focuses on the mechanisms of reactive transport in CO_2 geological storage contexts, combining flow processes, geochemical reactions and rock–fluid interactions. Through practical case studies, participants will analyze CO_2 migration, dissolution and mineralization in subsurface reservoirs to visualize reactive fronts and rigorously assess the performance of CO2 geological storage scenarios

Level

Skilled

Public

Geoscientists, reservoir engineers, petroleum engineers

Objectives

Attendees will be able to implement the following skills:

- Understand mineral reactivity processes in CO2 geological storage contexts
- Review thermodynamics and kinetics concepts
- Analyze case studies using Arxim and Geoxim software
- Interpret results from geochemical and reactive transport simulations

Pedagogical & technical resources

- Presentations
- Interactive discussions
- Case studies using software

Assessment of achievements

Trainees are assessed throughout the training through practical application phases and interactions with the trainer. A final on-the-spot evaluation may also be carried out at the end of the course using tests designed to verify the learners' understanding and assimilation of the knowledge linked to the training objectives.

Prerequisites

Basic geology and reservoir engineering knowledge or fundamental knowledge in transport within geological réservoirs.

Responsable

IFP Training instructors, with expertise in the field and trained in modern teaching methods adapted to the specific needs of learners from the professional world

Program

FUNDAMENTAL CONCEPTS OF REACTIVE TRANSPORT — 1 day

General presentation of the Sleipner CO_2 storage case.
Thermodynamic basics.
Practical exercises (Arxim).

PHASE DIAGRAMS AND MINERAL STABILITY — 1 day

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Stability ranges.
Phase diagrams.

REACTION KINETICS AND 1D CASE — 1 day

Reaction kinetics, applications to CO2 geological storage.
Challenges of accounting for kinetics in geochemical processes.

INTRODUCTION TO 2D TRANSPORT — 1 day

Geoxim introduction. Sleipner case study.
Practical exercises.

ADVANCED ANALYSIS — 1 day

Advanced analysis and visualization of results (Floviz).
Reactive front mapping.
Conclusion.

To French entities : IFP Training is referenced to DataDock ; you may contact your OPCO about potential funding.
Please contact our disabled persons referent to check the accessibility of this training program : referent.handicap@ifptraining.com

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