

Geological Sequestration of CO2

0.8 CEUs (Continuing Education Units) awarded for this 1-day course.

Instructors

Charles A. Christopher, BP Americas, Inc.
Sam Avasthi, Avasthi & Associates, Inc.

Intended Audience

Petroleum engineers, reservoir engineers, production engineers, facilities engineers, managers, government officials, and others involved or interested in CO2 sequestration.

Description

This course is intended to serve as an introduction to geological storage or sequestration of CO2, a greenhouse gas. Geological storage of CO2 has been discussed in the literature for a number of years, but it has only recently received widespread attention as a possibly acceptable means of dealing with global warming, and over the last 6-7 years, has developed rapidly. Although much of the technology is similar to that of CO2 enhanced oil recovery (EOR), as practiced in the Permian Basin of West Texas, there are differences and some of those differences are only now being recognized. The information presented in this course is drawn from instructors' extensive practical experience in EOR projects in West Texas, involvement in development of actual CO2 sequestration projects around the world, as well as from numerous conferences, workshops, literature, and research projects in which the instructors have participated. In teaching this course, the instructors will spend most of the time discussing the practical aspects of CO2 sequestration, and keep discussion on the theoretical topics to bare minimum.

Topics Covered

- ◆ West Texas CO2 Injection / Flooding / EOR experience
- ◆ Overview of Greenhouse Gas Issues and the Role of CO2
- ◆ Types of CO2 Storage – EOR
- ◆ Types of CO2 Storage – EGR, ECBM, Aquifers
- ◆ The Four Trapping Mechanisms for CO2
- ◆ Potential Sources of CO2 Leakage
- ◆ Monitoring CO2 Movement
- ◆ Risk Assessment
- ◆ Reservoir Selection
- ◆ Financing and Regulation

Additional Information

Attendees will receive a workbook containing copies of the instructors' PowerPoint presentations.

About the Instructors

Charles A. Christopher is CO2 Program Manager - Americas at BP Americas Inc., in Houston, Texas. He is responsible for managing all CO2 related issues for BP in North America, including research and development in joint industry projects and the identification of options for mitigation of CO2 emissions at BP's North American operations. He is also one of BP's representatives to the CO2 Capture Project (CCP), and principle representative and co-lead of the subsurface team known as the Storage, Measurement and Verification (SMV) team, of the IEA Greenhouse Gas R&D Program. Christopher holds BS and MS degrees in Chemistry from Stephen F. Austin State University, and he is a longstanding member of the SPE.

Dr. S. M. Avasthi, P.E., is president of Avasthi & Associates, Inc., a worldwide petroleum consulting company headquartered in Houston. Dr. Avasthi has more than 30 years' experience in reservoir engineering; simulation; improved oil recovery by CO₂ flooding and other processes; EOR project design, evaluation, and optimization; and teaching. He has lectured on numerous topics in the United States, Japan, Southeast Asia, the Middle East, Norway, and Venezuela. He earned a PhD degree in Petroleum Engineering from Texas A&M University, and was a Fellow in Chemical Engineering at Rice University.