PetroSkills
part of RelyOn

PetroSkills.com

2026 ENERGY TRANSITION

Instructor Led Training and Development Guide

Worldwide Energy Training

Industry Driven. Industry Approved.

With a complete spectrum of solutions, courses and learning tools, PetroSkills is developing competent petroleum professionals in all technical processes, spanning the industry's entire value chain, worldwide. PetroSkills' services and solutions connect learning to the workplace, allowing employers to manage and assure the competence of workers at every level.

eLearning Solutions

For Engineers and Professionals

The Competency Alliance's eLearning solutions combine industry knowledge, expertise, content, and technology to develop workforce competency. Online learning accelerates time to competency while eliminating travel expenses.

petroskills.com/solutions/elearning-petroacademy

For Operations and Maintenance

Comprehensive eLearning courses in Health, Safety, and Environment (HSE) and technical skills. Our expertly designed programs ensure your team is well-equipped to meet stringent compliance standards. Invest in knowledge and build a resilient, informed workforce.

petroskills.com/solutions/epilot-elearning-libraries

In-Person Solutions

In-House Training

In-house courses are private, on-site classes taught wherever, whenever and however you want. Offering a cost-effective solution by bringing our courses to your site or to any convenient location you choose.

petroskills.com/solutions/in-house-training

Public Courses

We conduct more than 1,000 public course sessions each year, in every oil and gas producing region. Wherever you are located, PetroSkills courses are available frequently and conveniently to lower total cost.

petroskills.com/training?vf-mode=sessions

Console Operator Simulator Training

From Simulation Solutions, Inc.

Our Hands On Training System contains a broad range of high fidelity process models and realistic DCS system emulations which have been integrated into a network based, fully automated training system that includes detailed training exercises, comprehensive on-line help, self and graded evaluations, and the recording of test scores and results.

petroskills.com/solutions/console-operator-training

PetroSkills Ability™

Learning Management to drive competency and move your business forward.

To be effective, Learning and Development must not only manage employee capabilities—but must also do so in a way that supports key business goals. Ability™ is designed to make these L&D challenges easier. It is a tool we created by combining a powerful learning and compliance management engine with a competency development and assurance engine. Our experience with compliance and competency is broad. We have more than 30 years' history of innovating L&D technologies, and we have been delivering learning and compliance solutions worldwide to the most heavily-regulated industries for over 50 years.

petroskills.com/solutions/ability

Performance Consulting

Combining business, technical, and learning expertise to improve operations.

PetroSkills Performance Consulting Services can help you understand how to achieve sustainable competency management. We use a proven four-phase methodology to guide a Performance Consulting project, relying on the knowledge and assets developed through the PetroSkills Alliance for guidance. To support better business results PetroSkills Performance Consulting Services combines proven resources, including:

- Petroleum industry business experts
- Highly experienced technical experts
- Comprehensive learning resources

petroskills.com/solutions/performance-consulting

PetroSkills® part of RelyOn

We help individuals and companies in the oil and gas industry identify skill and knowledge gaps, give them the tools they need to fill those gaps, and equip them to do their jobs safely, efficiently, and profitably.

To learn more visit petroskills.com

Industry-leading competency-based training available online & in-classroom.

Energy Transition Training

The energy industry is facing major challenges, such as the need for clean energy, new business models, emerging technologies, and the reallocation of oil and gas professionals to low carbon or renewable energy. These challenges are driving the requirement for new skills and competencies.

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The courses listed within this catalog are arranged by Discipline and then Level.
The Disciplines have been color coded for ease of locating.
For more information on Courses, please contact us or visit PetroSkills.com.

Energy Transition Courses

Carbon Capture, Storage, and Sequestration

3	Basic	Carbon Capture from Stationary Industrial Sources - PF-82
3	Basic	Carbon Sinks NS-21
3	Intermediate	Commercial Assessment for Carbon Storage
3	Intermediate	The Transition of CO2-EOR to Storage

Greenhouse Gas

4	Basic	Overview of Net-Zero and Renewables - NG-20
4	Foundation	Introduction to Greenhouse Gas Management, Accounting, and Reporting - NG-51

Carbon Capture from Stationary Industrial Sources

BASIC: 3 DAYS PF-82

This course provides an overview of the emerging field of CO2 capture from stationary industrial sources - primarily combustion operations. CO2 capture is part of the CCUS chain - CO2 Capture, Utilization and Storage - wherein CO2 is prevented from entering the atmosphere by removing it from flue gas or other vent streams, transported to an appropriate location, and injected deep underground into secure geologic formations. CCUS is viewed as a key component of Green House Gas (GHG) mitigation by IEA, as part of a migration to long term, sustainable energy systems. The focus of applications reviewed is operations in the Oil and Gas (O&G) industry and the Power industry. The course material is general in nature, but is framed around process technologies for capture - most of which are used in the natural gas processing industry. The content does not cover compression and transport in detail. The material does not cover the technology and engineering in detail and serves mainly as an introduction to the few commercially proven options and the myriad of emerging technologies, along with representative costs.

COURSE CONTENT:

- Characteristics of Power Sector and O&G emissions in the context of CCS
- Review of drivers and restrainers to deployment of CCS
- The general technical approaches to CO2 Capture - Post-Combustion, Pre-Combustion, and Oxyfiring
- Review of Post-Combustion Technologies, Studies and Demonstrations
- Solvents - proven and emerging
- Alternative technologies - Adsorption and Membranes
- Studies and industrial demonstrations
- Review of Pre-Combustion Capture Technologies, Studies and Demonstrations
- Reforming for industrial fuel production - importance of scale & experience with H2 as fuel
- CO2 capture from Steam Methane Reformers (SMR)-what's old and what's new
- Operating industrial Pre-Combustion projects
- Advanced technologies
- Review of Capture using Oxyfiring
- Background - it's not about white-hot combustion
- Specific applications and concept testing/ demonstrations
- Novel approaches - Chemical Looping Combustion
- Special topic: NGCC and co-generation
- Review of all three approaches to capture applied to NGCC
- Operating CCS projects linked to natural gas processing and power generation

TARGET AUDIENCE:

The course provides a wide ranging overview of CO2 Capture, and is suitable for interested parties, such as environmental staff, facilities engineers, and gas processing engineers, including entry-level (1-2 year) engineers, or anyone interested in a general, technically-oriented overview of this approach to Greenhouse Gas (GHG) mitigation.

Carbon Sinks

BASIC: 5 DAYS NS-21

Climate change is a key sustainable development issue, and transitioning to a low-carbon economy is now imperative. Most governments are taking steps to reduce Greenhouse Gas (GHG) emissions based on international and governmental standards and recommendations such as The Greenhouse Gas Protocol, ISO 14064/14067/14080, CARB, ASHRAE/ ICC 240P, IFRS S1 and IFRS S2 (ISSB) and NIST among others. This is done through national policies that include the introduction of emissions trading programs, voluntary programs, carbon or energy taxes, and regulations and standards on energy efficiency and emissions.

Organizations must be able to understand and manage their GHG risks if they are to ensure long-term success and to be prepared for future national or regional climate policies. A well-designed and maintained corporate GHG inventory (carbon footprint) is essential to manage these risks effectively.

The course is a combination of theory, case studies, and practical exercises.

The course is available as a 5-day instructor led course or as individual modules for on-line, self-paced delivery.

TARGET AUDIENCE:

This course is for anyone wanting to commence their learning or to further consolidate their fundamental knowledge and competence with regard to GHG management.

Commercial Assessment for Carbon Storage

INTERMEDIATE: 3 DAYS NS-10

Carbon Capture and Storage (CCS) is a critical technology for meeting global CO_2 reduction targets. This course provides an end-to-end understanding of the CCS value chain—from capture and transportation through subsurface storage, operations, and monitoring—supporting both foundational learning and practical application. Participants examine CCS fundamentals, the components of the value chain, and typical project life cycles, along with the basics of CO_2 capture and transportation. The curriculum also covers geologic storage, including prospect screening, site selection, storage design, and issues unique to long-term CO_2 containment.

COURSE CONTENT:

- The case for CCS: role, benefits, and climate impact; CCS versus CCUS and common terminology, scale, and units
- CCS value chain: capture, transport, and storage; integration across project life cycle and business models
- Capture fundamentals: CO_2 sources by sector, technology options, performance and cost ranges, and industry-specific breakevens
- Transport fundamentals: CO_2 phase behavior, compression and dehydration, pipelines and alternatives, routing and infrastructure considerations
- Geologic storage fundamentals: storage types, screening criteria, subsurface geology, trapping mechanisms, legacy wells, distance-to-source, and schedule constraints
- Storage Resource Management System (SRMS): classification, resource estimation, and communication of storage potential
- Storage design: subsurface characterization, well placement, injection strategy, conformance and containment, and Class VI-ready design considerations
- Storage operations: surveillance and monitoring, integrity management, mitigation plans, and post-injection site care
- Risks and concerns: containment assurance, potential leak paths, seal integrity, injectivity and pressure management, and environmental and regulatory factors
- Development workflows: end-to-end CO_2 storage workflow and data requirements; compare and contrast CCS versus typical oil and gas prospect generation and development
- Economics and commercial drivers: value propositions, revenue streams and incentives, cost drivers across the chain, and comparison to typical oil and gas economics

TARGET AUDIENCE:

Technical or non-technical audiences, including engineers, geoscientists, finance, accounting, and operations professionals who want a basic understanding of the project life cycle, the fundamentals of CO2 capture and technology readiness, and transportation options. More advanced CO2 capture topics are covered in the Carbon Capture from Stationary Industrial Sources course.

The Transition of CO2-EOR to Storage

INTERMEDIATE: 3 DAYS NS-20

Many O&G technical disciplines, particularly enhanced oil recovery by CO2, are needed for CO2 storage (CCS). However, important differences exist between CO2 injection performance expectations for EOR and CO2 management associated with long-term storage. This new CO2-EOR-to-CCS course will examine these differences to discover the current practical potential of EOR for CO2 storage, and to understand where EOR can be used to store CO2.

COURSE CONTENT:

Introduction and Basic Fluid Properties

- Basic fluid Properties of CO2, Water, and Methane
- Petrophysical Properties
- Phase Behavior

Reservoir Engineering Fundamentals and Storage Options

- Flow and Sweep
- Heterogeneity Measures
- CO2 Storage Options
- CO2 Trapping Mechanisms
- Carbonate vs. Sandstone Reservoirs

Storage Options

- Storage in Saline Aquifers
- Lab and Field Test Examples
- Modeling and CO2 Monitoring
- Storage in Depleted Gas Reservoirs

Storage in Gas and Oil Reservoirs (Miscible and Immiscible)

- Displacement flow regimes and dimensionless groups
- Storage in Gas Reservoirs
- Storage in Shale and Tight Oil Reservoir
- Storage in Oil Reservoirs

Storage in CO2-EOR

- Review of Field Cases
- High-Level Economics
- Facility Consideration

TARGET AUDIENCE:

The 5-day course is designed for petroleum engineers, geologists, geophysicists, and subsurface professionals. Having several disciplines in the course will make the course meaningful and applicable to all.

Overview of Net-Zero and Renewables

BASIC: 3 DAYS NG-20

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

This course covers the political and business drivers for reducing CO2 emissions and introduces the various technologies being developed and researched. It is useful for anyone involved in the strategic planning and implementation of strategies to meet national, international, and company requirements for reducing greenhouse gas emissions in power generation environments.

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

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.

Introduction to Greenhouse Gas Management, Accounting, and Reporting

FOUNDATION: 5 DAYS NG-51

Climate change is a key sustainable development issue, making the transition to a low-carbon economy imperative. Most governments are taking steps to reduce Greenhouse Gas (GHG) emissions based on international and governmental standards and recommendations such as The Greenhouse Gas Protocol, ISO 14064/14067/14080, CARB, ASHRAE/ICC 240P, IFRS S1 and IFRS S2 (ISSB), and NIST. These measures include national policies introducing emissions trading programs, voluntary programs, carbon or energy taxes, and regulations and standards on energy efficiency and emissions.

Organizations must understand and manage their GHG risks to ensure long-term success and prepare for future national or regional climate policies. A well-designed and maintained corporate GHG inventory (carbon footprint) is essential for managing these risks effectively.

COURSE CONTENT:

This course provides the foundations of knowledge and competence for GHG management. This five-day training course empowers management and company personnel with skills to:
- Understand the requirements of international, national and local regulatory requirements for GHG emissions management
- Prepare for external auditing, reporting and verification of GHG emissions,
- Identify and quantify GHG management, mitigation and reduction
- Consolidate data into different scopes and inventories
- Understand audit and reporting objectives and requirements
- Work with external auditors, ensuring they are prepared for the audit and confirm they have relevant, applicable and accurate data
- Ensure the audit and verification provides accurate and timely information for regulatory and shareholder stakeholders

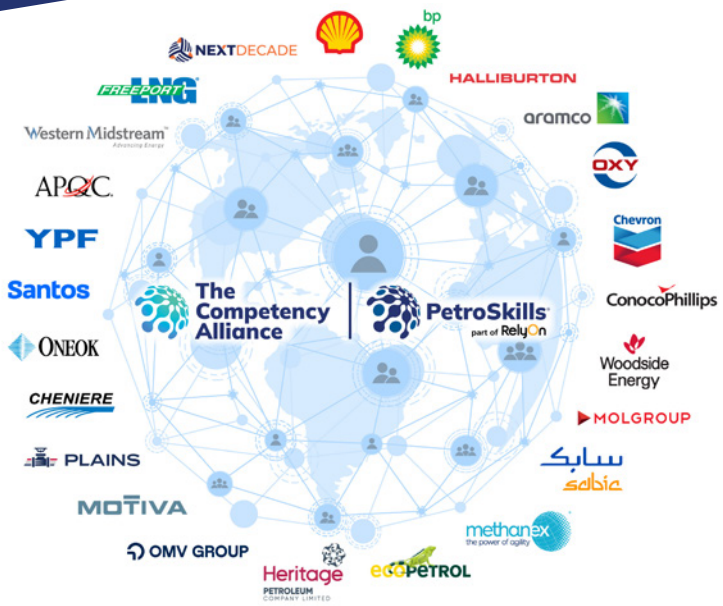
TARGET AUDIENCE:

This course is for anyone wanting to commence their learning or to further consolidate their fundamental knowledge and competence with regard to GHG management.

The PetroSkills Alliance

Industry-driven, industry-approved competency-based training

The PetroSkills Alliance is focused on meeting the challenges of workforce development and a rapidly changing hydrocarbon resource base.



The PetroSkills Alliance was founded in 2001 by Shell, BP and OGCI, to provide “important but not unique” competency based training. Since then it has evolved into an industry-driven, industry-approved program that spans the industry. Today, with dozens of members representing all facets of the global oil and gas industry, the PetroSkills Alliance is focused on meeting the challenges of workforce development and a rapidly changing hydrocarbon resource base. As the oil and gas Industry’s partner, our mission is to deliver consistent, high quality, learning and development training and programs to build competent petroleum professionals.

It Begins with People Focused on Development:

People

PetroSkills longevity and relevance is a direct result of the member company input. Subject matter experts contributed by Alliance member-companies ensure that our courses address current industry needs through our technical discipline networks.

Processes

PetroSkills training programs and courses are the products of PetroSkills’ technical networks and quality processes. Together they ensure that the courses are relevant and aligned with today’s needs for competency development and assurance.

Competency Solutions

Workforce development and tailored competency assurance solutions across teams, regional operations and the entire enterprise are available with our integrated consulting, and software solutions.

Accelerating Time to Autonomy

We deliver knowledge when, where and how it is needed. Our instructor-led training is available in person or virtually in real time, from a remote location. Blended coaching and mentoring accelerates time to competency.

To learn more visit petroskills.com