

ONLINE: INTEGRATION OF OIL & GAS INFRASTRUCTURE FOR THE ENERGY TRANSITION (FAC914)

Level: Skill

Instructor: Chandrasekhar Ramakrishnan

Pursuing the international Net-Zero Greenhouse Gas Emission targets for 2050 poses significant challenges for the entire energy industry. While various new energy carriers and concepts for net-zero emissions are being developed in parallel during the ongoing operation of our industries and transportation sectors, most experts believe that there will not be one single new technology arising, but that the solution will be a co-existence of several technologies, including hydrogen, electrification, e-fuels, etc.

For both technology and infrastructure development, the quickest and most efficient way forward will be to utilise most of the existing oil & gas infrastructure, from production of these new energy carriers to storage and distribution.

This course will provide an insight into the currently emerging technologies, changing legal boundaries and the potential of the existing oil & gas infrastructure to accommodate these developments, including required improvements and modifications.

Course Structure: 4 days, 4 hours per day

Each session includes several breaks and will allow time for questions and discussions.

DESIGNED FOR YOU, IF YOU ARE...

- A professional in the energy industry
- Management or commercial staff involved in energy transition or working for energy companies, technological start-ups, etc.

HOW WE BUILD YOUR CONFIDENCE

- Mixed, instructor-led delivery of theoretical content with blend of PowerPoint overview and detailed explanations
- Case studies for energy transition projects
- Participants are encouraged to bring own case studies for class discussion

THE BENEFITS FROM ATTENDING

By the end of this course, you will:

- Understand the concept of energy transition and net-zero greenhouse gas emissions
- Get affiliated with the driving legal framework for energy transition, especially in Europe, incl. the European Green Deal, RED II, etc.
- Be aware of technical challenges and legal restrictions in the handling of new energy carriers with existing infrastructure

TOPICS

- Overview of the most promising concepts and future energy carriers for industry and global mobility, incl. their specific characteristics, advantages/disadvantages
- Chemistry and physical characteristics of CO₂, H₂ and carriers like NH₃, e-fuels, etc.
- Overview of the available oil & gas infrastructure today, covering Upstream / Midstream / Downstream and their respective potential roles for energy transition
- Technical challenges in the handling of new energy carriers with existing infrastructure
- Legal restrictions for handling new energy carriers with existing infrastructure
- Case studies for energy transition projects incl. re-assignment of existing infrastructure, incl. hydrogen transport in gas pipelines, CCUS projects, green hydrogen applications for conventional oil & gas industries, green ammonia production and handling, e-fuels synthesis, storage and handling, etc.
- Feasibility of energy transition projects and potential improvement by using existing infrastructure
- Project risks and key success factors

INSTRUCTOR:

Chandrasekhar Ramakrishnan is currently Managing Director of an Austrian based engineering and consulting company. He holds a Ph.D. in Process Engineering from the Institute of Process Engineering, Austria and an M.Sc. in Chemical Engineering from the Technical University Vienna, Austria.

Chandrasekhar has 15 years of work experience in the international oil & gas industry and has worked as consultant to companies such as OMV, PETROM S.A., SIBUR, MAERSK and LUKOIL in a range of engineering, project management and consultancy roles. He has managed, led and supervised numerous on- and off-shore projects dealing with oil & gas production, gas storage facilities, process plants and refineries. Areas worked include Europe, the Middle-East and CIS countries.

His key qualifications and areas of interest include project management, oil & gas engineering, refinery engineering, explosion protection, conceptual design and acquisition. He is also an experienced HAZOP Chairman.

Chandrasekhar is author and co-author of several publications and a member of the Austrian Society of Petroleum Sciences (ÖGEW).