



Refinery Performance & Cost Improvement

Consultant / Trainer:

Dr. Eric-Hans Wolff

The **Petrogenium**. Refinery performance & cost improvement course provides a solid and broad awareness of the refinery business by providing basic technical information on refining processes, the place of the refinery in the value chain and future trends. Planning and optimisation of your refinery margin is included as is the gaining of awareness of the basic tools and techniques used for economic evaluations in refineries.

This course can be given face-to-face or remotely. The presentations are interactive, supported with slides that also serve as a dedicated course manual (PDF file). The course includes interactive discussions and participant topics (on demand, aided by short videos, exercises and a Q&A session). Learning assessment is through a written examination (if required).

Participants

This **Petrogenium**. course can be tailored for awareness or inexperienced staff, for intermediate and for experienced personnel. Furthermore, the course can be customized for a specific refinery, plant or unit. The option for post-course consultancy/help-desk support is also available.

Participants may include: analysts working in a supply environment or a refinery planning department; linear programming (LP) modelers; employees of private equity firms, trading firms and other investors interested in the refinery business; those involved with Mergers & Acquisitions (M&A); non-refinery professionals in the oil & gas industry or related sectors, semi-technical personnel who require introductory training to acquire the broader perspective; environmental professionals, insurance representatives, government officials, energy industry journalists & reporters and other professionals who desire a better understanding of the subject matter.

Learning Objectives

Upon completion of this course, participants will be able to:

- State the role of the main refining processes, operating characteristics, crude and products quality parameters, planning and economics
- Describe the place of the refinery in the value chain from 'well to wheels', including petrochemicals
- Recognize the need for performance monitoring, Quality & Assurance
- Explain the challenges (including environmental), opportunities and future trends in the refining industry
- Understand and use the crude oil refining terminology

Programme

Day 1

- | | |
|--|--|
| <ul style="list-style-type: none"> • Introduction <ul style="list-style-type: none"> • Global demand • Crude oil reserves (incl. video) • Refinery - value chain position • Crude Oil and Products <ul style="list-style-type: none"> • Crude oil origin & types • Oil products & specifications • Crude oil & product pricing | <ul style="list-style-type: none"> • The Refinery <ul style="list-style-type: none"> • Refinery segments • Simple, Semi-complex and Complex refineries (incl. exercise) • Main refinery units (incl. videos, exercise) • The role of catalysts • Utilities / Refinery Fuel / Steps • Refinery layout |
|--|--|

Day 2

- Refinery Economics
 - Refinery Margin
 - Linear Programming model
 - Crude Oil Selection
- Refinery Planning
 - Long term / short term planning
- Environmental Regulations
 - Restriction & opportunities
- Hydrocarbon Mass Balance and Loss

Day 3

- Maintenance, reliability & turnarounds
- Oil Chemicals interface
- Refinery Process Control
- Performance monitoring
- Quality & Assurance
- Management System & Auditing
- Trends: Future of Fossil Fuels
- Questions & Answers
- Examination