Refineries of the Future

Monday, March 20

8:00 am - 5:00 pm (CDT)

Topics Addressed

The Energy Transition is reshaping refining. Refiners are reducing portfolios, repurposing sites and reinventing what it means to be a refiner in the mid-21st century. Gain a fundamental understanding of how the energy transition will impact refining and the role petrochemicals have to play.

Course content

- With trillions of dollars of assets and trading volumes in play, many are forced to reinvent what it means to be a refiner in the present and future energy landscape.
- How will refining portfolios change against the backdrop of the energy transition? For some refiners, it means investing in petrochemical integration as they adapt to a lower carbon future where chemicals may increasingly drive growth and profitability. The training focuses on the technical and economic challenges refiners are facing plus provides insight on how and why refiners might expand their petrochemical refining capabilities.

Key benefits

- Refining operations and technical configuration, economics, and margin optimization
- Key drivers behind the energy transition and short, medium, and long-term commercial outlook
- Refining petrochemical integration including olefins and aromatics and Crude-Oil-to-Chemicals (COTC)
- Refinery flexibility and how to optimize and/or shift yields without making a major capital investment
- Ways to increase the percent of barrel to chemical feedstocks (COTC).
- Use of greener power and hydrogen in refining
- Technical and design approaches to accommodate a net-zero future

Course Outline

SESSION 1: Fundamentals of Refining

- Refinery technical configuration and operations
- Refinery economics and margin optimization

SESSION 2: Energy Transition

- Fundamentals of energy transition
- Understanding the industry response

SESSION 3: Refining and Petrochemical Integration

- Outlook for refined products as petrochemical feedstocks
- Grassroots crude oil to chemicals (COTC) developments and trends

SESSION 4: Refinery Flexibility

- Refinery flexibility for higher petrochemical production
- Bioconversions

SESSION 5: Greener Refineries

- Environmental impact overview
- Power and hydrogen

SESSION 6: Aspirational Design to Net Zero

- Refiner's aspirational designs and technical approaches to net-zero designs
- Quantitative impact on a world-scale refinery carbon footprint