

## Refineries of the Future: Impact on Petrochemicals

Dates: March 3 & 4; Start time: 7:30 am CST; End time: 11:00 am CST

### Workshop Overview

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.

- This is live 2 half-day training course will be designed to be instructive, but interactive in order to engage in a dialog and feedback from the audience
- It will be comprised of 12 live virtual instructor-led training (V-ILT) segments of refining and petrochemical learning culmination in aspirational Net Zero refinery/petrochemical designs
- Each section will be taught by an industry expert

### Workshop Content

#### Day 1- March 3, 2021

- 1) **Fundamentals of Refining.** (60 minutes)
  - a) Session 1: Refinery technical configuration and operations
  - b) Session 2: Refinery economics and margin optimization
- 2) **Energy Transition** (60 minutes)
  - a) Session 1: Fundamentals
    - i) What is the definition and scope of Energy Transition?
    - ii) What are the drivers (e.g. ESG)?
  - b) Session 2: Commercial Outlook
    - i) What is the industry response (e.g. electric vehicles, hydrogen economy, crude-oil-to-chemicals, etc.)?
    - ii) What is the outlook, short, medium, and long term?
- 3) **Refining petrochemical interface/integration** (60 minutes)
  - a) Session 1: Refined products as petrochemical feedstocks
    - i) Olefins and Aromatics
    - ii) Regional balances and outlooks
  - b) Session 2: Process Technology as a function of the percent of chemical feedstocks a.k.a. Crude-Oil-to-Chemicals (COTC)
    - i) Process configuration
    - ii) Commercial Status and Economics Implication of “traditional” Petrochemical Assets

**Day 2- March 4, 2021**

**4) Refinery Flexibility (60 minutes)**

What can refiners do with the configuration that they have to optimize/shift yields without making a major capital investment?

- a) Session 1: to increase the percent of the barrel to chemical feedstocks (COTC)
- b) Session 2: bio conversion is (to include both co-processing of bio feedstocks and full bioconversions)

**5) Greener Refineries: Environmental Impact Overview (60 minutes)**

- a) Session 1: Quantification of Greenhouse Gases (GHGs)
- b) Session 2: Use Greener power and hydrogen

**6) Refineries of the Future; Aspirational Design to Net Zero (60 minutes)**

- a) Session 1: Technology and configurations to approach Net Zero carbon emissions
- b) Session 2: Cost estimates and scenarios of success