

## TRAINING COURSE

# Biofuels: An Alternative Fuel for Transportation Decarbonization

*The course will cover current and emerging process technology, energy transition issues, and industry developments concerning decarbonization. It provides the learner with a complete understanding of the biofuels value chain from agriculture, biofuel manufacturing, and downstream into retail transportation fuels and the impact on chemicals markets.*



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### 1. Introduction to Biofuels

– Historical Development of Biofuels; Biofuel Policies and Regulations

### 2. Biofuel Markets

### 3. The Role of Agriculture

– Agricultural Feedstocks; Technology and Agricultural Feedstocks

### 4. Fundamental Biofuel Technologies

– 1st Generation Bioethanol AND 1st Generation Biodiesel  
– Alternative Feedstocks for Biofuel Production

### 5. Advanced Biofuels Technologies

– Advanced Bioethanol; 2nd Generation/Advanced Biodiesel and Jet Fuel

### 6. Biofuel Demand & Outlook

### 7. Decarbonization: Role of Biofuels in Refinery & Chemicals Production

– The Changing Nature of Refining and its Impact on Biofuels  
– Adding Value to Biofuels and Selected; Biofuel Byproducts

### 8. e-Fuels: Power-to-Liquid (PtL)

– Technology maturity assessment, scale-up risks  
– Basic economic assessments, including projections on expected costs and their evolution  
– Projected market potential of products in e-fuels