

Chemical Conversion via Modular Manufacturing: Distributed, Stranded, and Waste Feedstocks

Draft Workshop Agenda

Revised: September 21, 2015

NOTE: Speakers will be added once confirmed

December 2 - Evening

- 4:00 pm Welcome and Introductions (John Holladay, PNNL)
Review of Workshop I (Robert Brown, ISU)
Workshop Objectives/Guiding Principles/Big Idea Concept (Cynthia Jenks, AMES)
- 4:30 pm Panel Discussion: What are Federal Agencies Planning in this Area?
- 5:30 pm State-of-Technology Presentations
- Modular manufacturing
 - Hydrocarbon conversion at reduced scales
 - Market Realities, Project Finance, and Applications
- 7:00 pm Dinner

December 3 - Morning

- 8:00 am Panel Discussion: Federal agencies drivers including feedstocks, logistics, products specifics
- 9:00 am Manufacturing scaling economics, include emerging manufacturing technologies that may impact current economics or feasibility
- 9:30 am BREAK
- 9:50 am Panel Discussion: Feedstock issues, including feedstock preparation, feedstock logistics, feedstock separation, experts on waste, residues, stranded gas
- 10:40 am Breakout session expectations
- 10:50 am Moderated Group Breakout Session 1
- Topic Area 1: Discuss and recommend 2-4 target feedstocks based on overall impact and technical feasibility or economical difficulty.
 - Topic Area 2: Discuss modular chemical processing and identify
 - Scaling inflection points (size of process),
 - Manufacturing inflection points (number of units),
 - Manufacturing technology needs
 - Topic Area 3: Discuss advantages and disadvantages for possible products (crude intermediate, chemical intermediate, finished fuels, etc.)
- 11:40 am Present results of breakout sessions and discuss

December 3 – Afternoon

- 12:15 pm Box Lunch while en route to Roeslein/Red Bud for optional tour of Roeslein & Associates Facilities
- 1:15 pm Presentations and tour of Roeslein
- 4 pm Return to hotel
- 5:00 pm Social hour
- 6:00 pm Dinner
- 7:00 pm After dinner speaker

December 4 – Morning

- 8:00 am Technical Challenges Presentations and Discussions (speakers to discuss pre-selected conversion areas)
- Steam reforming, solvent liquifaction (John Holiday, PNNL)
 - GTL
 - Pyrolysis (Robert Brown, ISU)
 - Fermentation
 - Anaerobic digestion
 - Discuss why this would work
 - Barriers to technology
 - Technical holes that national labs and universities should be focusing on
 - Barriers to implementation
 - Commonalities to barriers
 - Best approaches
- 9:30 am BREAK
- 9:50 am Instructions for table discussion
- 9:55 am Table discussions about appropriate conversion technologies for selected feedstocks (include emerging technologies that may impact current economics or feasibility)
- Discuss engineering paradigm shift for designing for modularity
 - Opportunities for process intensification and modularization for various technologies
 - Identify technology needs to reduce cost of manufacturing process equipment, process intensification components, skid components, and module assembly
- 10:45 am Table discussion session sharing
- 11:30 am Wrap-up and discussion of next steps
LUNCH
- 1:00 pm Workshop concludes