Business Team
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Supporting the business case for aviation alternative fuels

- Multi-faceted approach to facilitating commercialization of aviation alternative fuels:
  - Support cost reduction initiatives – cost workshop
  - Tools development
  - State Initiatives
  - Facilitation of producer-customer communication
Workshop held by CAAFI, FAA, and DOE in late 2012:

- Convened DOE technologists and techno-economic modeling experts, commercial and military jet fuel customers, academics, and other technical experts.
- Discussed production costs (current and estimated “nth plant” for several pathways:
  - Fischer-Tropsch
  - HEFA
  - Thermo-chemical (pyrolysis)
  - Biochemical (e.g., fermentation, catalytic upgrading of hydrocarbons)
  - Algae-based pathways
  - Gasification
Cost reduction initiatives – cost workshop (cont’d)

- **Workshop follow-up:**
  - Workshop findings presented at the CAAFI R&D meeting in late 2012
  - Identification of new pathways for joint analysis and development
  - EERE and FAA Center of Excellence will collaborate on identifying means to techno-economic analysis results comparable, interchangeable, and capable of directing cost reductions

- **More information:**
  http://www1.eere.energy.gov/biomass/past_meetings.html
Tools development – recent ACRP projects

- **Report 60: Guidelines for Integrating Alternative Jet Fuels into the Airport Setting**
  - Considers entire supply chain from feedstock to aircraft
  - All links in the chain need to be successful for projects to occur
  - Emphasis on understanding main factors for project success:
    - Regulatory
    - Environmental
    - Logistical
    - Financial and business case

http://www.trb.org/ACRP/ACRP.aspx

Feedstocks
- Fossil fuels
- Bio-derived

Production facility → Dedicated alt. jet fuel transport → Blending location → Conventional storage → Airport + end users

Conventional jet fuel
**Tools development – recent ACRP projects (cont’d)**

- **Report 60: Assessing Opportunities for Alternative Fuel Distribution Programs**
  - Follow-on to ACRP 02-18 project
  - Focus on airports as distribution hubs for multiple products of alternative fuel facilities
  - Develops evaluation tool of alternative fuels for multi-modal use:
    - Alternative jet fuel → airlines
    - Green diesel, CNG, electric, etc. → rental cars, transit, airport vehicles, back-up generators, other ground users
Tools development – Quality control

- **Development of overview material on jet fuel quality control**
  - Work sponsored by FAA through the CLEEN program
  - Interested in understanding potential impact of drop-in alternative fuels on existing jet fuel quality control procedures
  - Support new producers that may not have sufficient experience with jet fuel quality control procedures

- **Development of a jet fuel properties catalog**
  - Important to understand properties of conventional jet fuel (e.g., density) prior to blending with alternative fuels
  - Longer term, catalog can be used to understand impact of alternative fuels on properties of overall jet fuel pool
State Initiatives

- Collaborative efforts supporting implementation of alternative fuel projects based on initiatives at the State level:
  - Typically, one entity within the State identified as “State focal”, e.g., Economic Development Agency, State University, Industry coalition
  - CAAFI team designates a representative to work with State focal
  - State focal has sufficient gravitas to attract other stakeholders:
    - Other government offices (state and federal)
    - Feedstock producers
    - Fuel producers
  - Activity concentrated around one or more airports
  - Major airlines serving airports of interest invited to participate
  - States may offer tax and other incentives for alternative fuel production that supplements federal help, if any
Facilitation of producer-customer communication

- **Support development of readiness tools:**
  (http://caafi.org/information/fuelreadinessstools.html)
  - Path to Alternative Jet Fuel Readiness
  - Fuel Readiness Level (FRL)
  - Feedstock Readiness Level (FSRL)
  - Environmental Progression

- **Facilitate producer-customer interactions:**
  - Identify stakeholders for participation in State Initiatives
  - Organize meetings between producers and customers
Thank you

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