

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

Cost reduction initiatives – cost workshop

- **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)

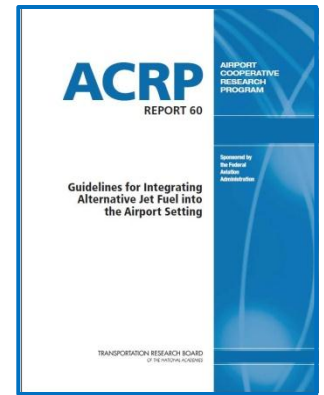
- **Workshop follow-up:**
 - Workshop findings presented at the CAAFI R&D meeting in late 2012
 - Identification of new pathways for joint analysis and development
 - EERE and FAA Center of Excellence will collaborate on identifying means to techno-economic analysis results comparable, interchangeable, and capable of directing cost reductions
- **More information:**
http://www1.eere.energy.gov/biomass/past_meetings.html



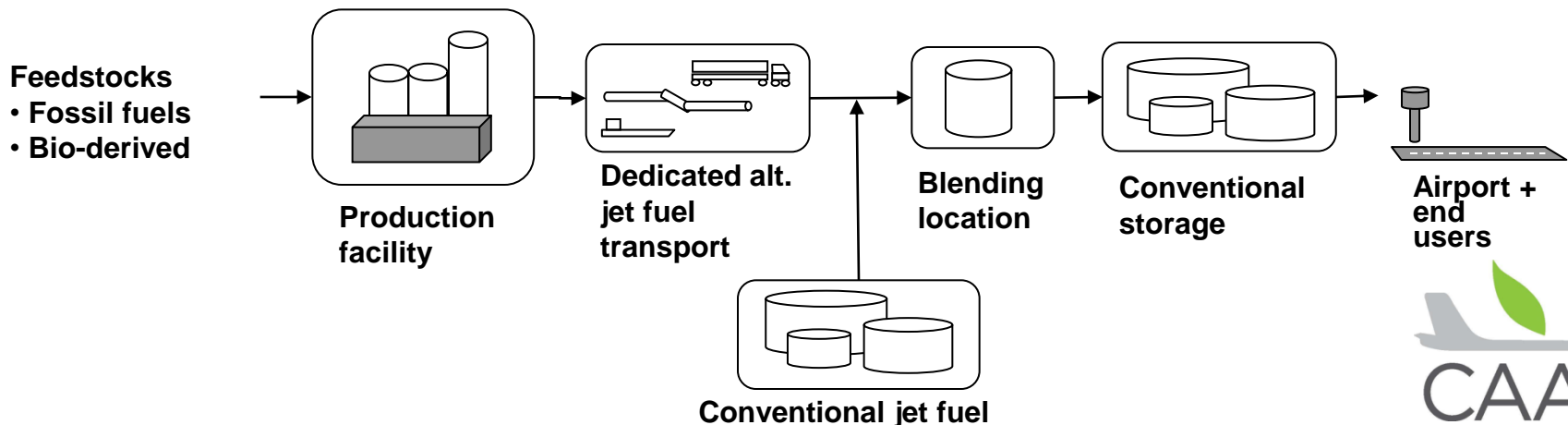
Tools development – recent ACRP projects

- **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

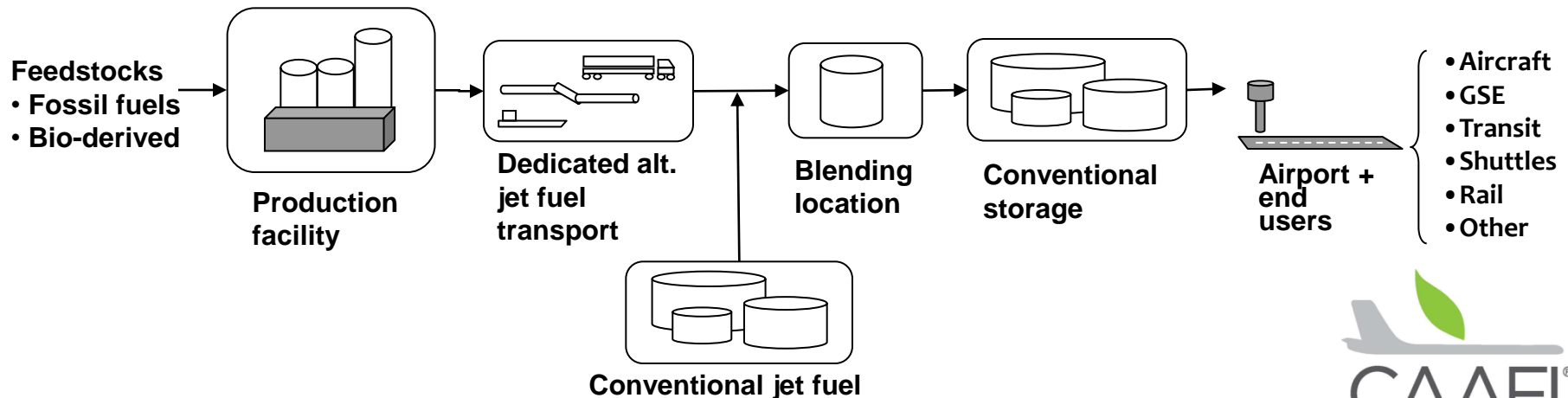


<http://www.trb.org/ACRP/ACRP.aspx>



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/fuelreadinesstools.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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