



R&D Team Workshop March 9-10, 2015

Meeting Fact Sheet

CAAIFI R&D Team collaborates with Aviation Sustainability Center of Excellence (ASCENT); expands assessment of stakeholder R&D investment needs and priorities

The CAAIFI R&D Team held its 2015 biannual team workshop on March 9th and 10th, in Alexandria, VA. The second day of the event overlapped with the first day of the FAA-funded Aviation Sustainability Center of Excellence (ASCENT) Advisory Group meeting that continued through the week. CAAIFI and ASCENT members were invited to attend both meetings in their entirety.

The first day of the R&D Team workshop focused on current R&D challenges in the alternative aviation fuel space, as well as updates from CAAIFI leadership, overviews of funding opportunities, and discussions of lessons learned by alternative jet fuel producers over the course of development and certification. The day's events included panel and open member discussions of critical technology gaps and industry opportunities that, if addressed, would facilitate the development of cheaper, more scalable production of alternative aviation fuels.

The authors of the Critical R&D Challenges white papers provided updates on the series of papers that were developed in 2013 and 2014 that addressed key topics as proposed by the members. The paper topics and updates were presented briefly as a precursor to an exercise identifying new and pressing R&D challenges and prioritizing them by their urgency (near-term, mid-term, far-term) and strategic importance.

Day 2 focused on aspects of ASCENT's research that are particularly relevant to the CAAIFI R&D membership, namely the ASCENT Project 1 Alternative Jet Fuel Supply Chain Analysis project team activities and the National Alternative Jet Fuel Combustion Program. The Department of Defense DLA-Energy and Air Force Research Lab also provided updates on their activities.

Meeting Highlights:

The "Funding Opportunities" panel provided information on current and planned R&D program funding relevant to alternative jet fuels. Panelists were: Nate Brown (FAA), Zia Haq (DOE), Jim Heidmann (NASA), and Bill Goldner (USDA).

The “Past and Current Challenges of Emerging Certification and Qualification Pathways” panel focused on experiences of alternative jet fuel producers and collaborators in overcoming R&D challenges during their quest for development, certification, and deployment. Speakers were: Ed Coppola (ARA), Fernando Garcia (Amyris), John Holladay (PNNL), Glenn Johnston (GEVO), and Michael Lakeman (Boeing).

On Day 2, the Alternative Jet Fuel Supply Chain Analysis team covered a broad array of activities relating to alternative jet fuel feedstock production, conversion processes, logistics, sustainability, and techno-economics. Speakers included Ralph Cavalieri, Manuel Garcia-Perez, and Mike Wolcott (Washington State University), Paul Smith (Pennsylvania State University), Wallace Tyner (Purdue University), Robert Malina (MIT), Kristin Lewis (Volpe National Transportation Systems Center), and Jody Endres, Madhu Khanna, and Luis Rodriguez (University of Illinois).

The National Jet Fuel Combustion program team provided insight into the testing and modeling being performed on a variety of jet fuels to better understand the fuel composition effects of jet fuel combustion performance. Speakers included: Mohan Gupta (FAA), Josh Heyne (University of Dayton), and Med Colket (Consultant). Additional topics related various ASCENT projects were presented by speakers: Tonghun Lee (University of Illinois), Stephen Barrett (MIT), Randy Vander Wal (Pennsylvania State University), Mark Jacobson (Stanford University), Steve Zabarnick (Air Force Research Laboratory), and Manuel Garcia-Perez (Washington State University). Question and Answer sessions were moderated by John Gardner (Washington State University).

Outcomes:

During the meeting, nearly 40 ongoing, industry-wide topics were identified by the attendees. Streamlining of fuel testing and certification continues to be identified as a key challenge for alternative jet fuel development and deployment. A number of new topics were also introduced, such as understanding the regional dimensions of alternative jet fuel development, including potential regional sustainability considerations, rural development opportunities and impacts, various aspects of regional feedstock production needs, and state and regional policy implications for optimal alternative jet fuel production. A variety of concerns were also raised regarding assessing the full costs and benefits of alternative fuels compared with conventional fuels.

Next Steps:

The team leads will group the new challenges identified during the workshop into themes and work with volunteers from the membership to develop white papers to explore the issues and identify potential solutions that could be researched. New white papers will be added to the R&D team’s white paper repository on www.caafi.org and will be incorporated into an updated CAAFI R&D position paper. Upon finalization, the position paper will be utilized by CAAFI

leadership and members to guide the organization's future work, engagement, and communications.

CAAFI sponsors are the U.S. Federal Aviation Administration, Airlines for America (A4A), Aerospace Industries Association (AIA) and Airports Council International-North America (ACI-NA). Additional information on CAAFI can be found at our website: <http://www.caafi.org>.