



A Note from the Executive Director

Happy New Year! This [CAAFI Quarterly](#) newsletter describes the CAAFI activities and events that occurred October through December 2018.

In this issue, we review the CAAFI Biennial General Meeting (CBGM) that was held December 4-6 at the Washington Marriott at Metro Center in Washington, DC.

I also want to make sure you're aware of the following upcoming items:

- [ABLC 2018](#), April 3-5, Washington, DC

We appreciate questions, comments, and suggestions at any time. Enjoy!

Steve Csonka and the CAAFI Team

Quick Links

⇒ Check out "[What's New](#)" for a brief review of noteworthy SAJF news from the last quarter, including funding opportunities.

⇒ Go to "[Ask CAAFI](#)", a segment that highlights and explains relevant topics that impact the SAJF industry.

⇒ See "[CAAFI Team Highlights](#)" for a snapshot of CAAFI work teams' projects and progress last quarter.

⇒ Jump to "[SAJF Deployment Projects](#)" for a summary of select deployment projects around the United States.

What's New?

[Shell announced collaborative effort to reduce carbon emissions at SFO at CBGM](#)

[Neste makes final investment decision expanding renewable product production capacity](#)

[Euglena announced production of AJF and renewable diesel from algae and waste oil to begin in Japan using ARA CH technology](#)

[Business aviation organizations reaffirm commitment to SAJF](#)

[Phillips 66 and Renewable Energy Group announced plans for West Coast Renewable Diesel Facility](#)

[SAS and 10 other Nordic-based companies commit to AJF use as part of aligning their business strategies with the UN Sustainable Development Goals](#)

[World Energy Paramount announces decision to invest in expanding renewable fuel production capacity more than six times current production levels](#)

[Future of renewable and waste-based fuels: IEA Renewables 2018 Report, and NAS/DOE report on Gaseous Carbon Waste Stream Utilization](#)

[LanzaTech supplies ATJ SPK for Virgin Atlantic flight demonstration using world's first fuel made from waste carbon gases](#)

[WestJet and Alberta Innovates team announce additional Canadian Incentive Program targeting SAJF development – the WestJet Aviation Biofuel Challenge](#)

Additional information on these news items and additional funding opportunities can be found at [caafi.org](#).

Ask CAAFI

Question: What happened at the 2018 CBGM and what's next?

Answer: Based on significant feedback from attendees, the 2018 CBGM was a great success. As

evidenced by the progress and accomplishments discussed by the speakers and panelists at the meeting, the CAAFI community is making great strides in the deployment of sustainable alternative jet fuel.

The event included presentations and discussions of results from a number of key events from this year, including outcomes from International Civil Aviation Organization's (ICAO) Committee on Aviation Environmental Protection (CAEP) meetings and, the maturation of several commercial activities. There was a keynote from Ray Mabus from the Mabus Group and former Secretary of the Navy. Stakeholders also made some exciting announcements!

A meeting summary document is available here: http://caafi.org/files/2018_CBGM_Summary_Final.pdf

You can view photos from the event here: <https://www.andresharrisphotography.com/Corporate/n-2D5Sgq/CBGM-2018-1>

The final agenda and links to the presentations can be found here: http://caafi.org/resources/CAAFI_Events.html#general

Feedback received at the CBGM was used to inform CAAFI's 2019 Goals and Priorities document here: http://caafi.org/files/CAAFI_2019_Look_Ahead.pdf

CAAFI Team Highlights

Business —

- ⇒ Continued to expand work with prospective alternative fuel producers and airlines to facilitate opportunities for airline and other end user engagement, identifying supply logistics needs and informing contract processes.
- ⇒ CAAFI leadership continues to work with several firms approaching commercialization, including SG Preston, ARA (and several of its licensees), Velocys, LanzaTech, and others.

⇒ Continued to foster expanded engagement by the latest two NIFA/AFRI/CAP projects, [SPARC](#) and [SBAR](#).

⇒ At the CBGM, introduced the Commercialization Engagement Framework and Commercialization Committee concept to assist future SAJF producers with business maturation leading to airline engagement for the purpose of achieving offtake agreements.

Certification/Qualification —

- ⇒ An ASTM ballot proposal to add a "fast track" option to the D4054 qualification process is nearing completion (released on 17Oct). This annex will allow for reduced testing scope for candidate alternative fuels that have a jet fuel-like composition.
- ⇒ HFP-HEFA (Green Diesel): The OEMs have completed their review of the Phase 1 version of the research report, but additional investigation of the feedstock quality and composition is currently underway. Additional fit-for-purpose testing and rig testing (combustor, fuel nozzle spray, APU cold/altitude starting) have been conducted under the FAA CLEEN II R&D program per recommendations from this OEM review.
- ⇒ ARA CHJ: ARA submitted their Phase 2 research report to the OEM review team for final review on October 31. The completion of this review is targeted for early February, followed by submittal of the initial ASTM ballot in early March. It is anticipated that the new D7566 annex for CHJ fuel will be issued sometime between July and September 2019.
- ⇒ Virent Hydrodeoxygenation: The OEMs have completed their Step 3 review of the Synthesized Aromatic Kerosene (HDO-SAK) research report and have submitted their comments and Tier 3 and 4 test requirements to Virent. Virent is now reviewing the comments. The FAA is collaborating with an OEM to conduct the required rig testing under the CLEEN II R&D program.
- ⇒ Shell/CRI submitted their initial batch of test fuel from their IH² demonstration facility to the D4054 Clearinghouse at UDRI and Tier 1 and 2 testing has been initiated. Shell is also working

with the FAA to provide additional fuel for testing under the ASCENT National Jet Fuel Combustion Program (NJFCP) to provide data that will help develop streamlined rig testing concepts that may be used to pre-screen candidate alternative jet fuels.

- ⇒ IHI expects to deliver an initial batch of hydroprocessed Bb oil to the University of Dayton for D4054 Clearinghouse testing sometime this spring.

Sustainability —

- ⇒ Continued to participate in the LCA, sustainability and alternative fuels tracking work in the ICAO CAEP Alternative Fuels Task Force (AFTF) and Global Market-based measure Task Force (GMTF).
- ⇒ Provided supporting environmental sustainability data for CA LCFS and Oregon Clean Power Plan proposals to add sustainable jet fuel to their programs on a voluntary basis.
- ⇒ Presented on LCFS and the Carbon Offsetting and Reduction Scheme for International Aviation (CORSA) at the CBGM.

R&D —

- ⇒ Continued to engage companies with emerging alternative jet fuel pathways.

SAJF Deployment Projects

◇ Florida, Alabama, Georgia

Several developments in Alabama and Florida will enhance opportunities for the Southeast Partnership for Advance Renewables from Carinata (SPARC), a USDA Coordinated Agricultural Project (CAP).

The Alabama Department of Economic Development and Community Affairs (ADECA) has issued an RFP for the best option for developing a sustainable biofuels distribution system in Alabama. Auburn University is leading a response to the RFP that will leverage expected outcomes from the SPARC / Volpe collaboration utilizing the Freight and Fuel

Transportation Optimization Tool (FTOT) to enhance state efforts to commercialize the feedstock carinata.

Efforts to develop a supply chain in Florida received a boost due to the renewed focus on water quality issues by the newly elected Commissioner of the Florida Department of Agriculture and Consumer Services (FDACS) and Governor DeSantis. CAAFI is presently working with the University of South Florida and University of Florida along with other entities with fuel and water interests to establish the use of sustainable fuel crops as both energy crops and to monetize water quality gains in order to enhance the value of sustainable feedstock commercialization efforts in Florida.

Meanwhile, ongoing SPARC scenario development for FTOT analyses progressed from beta testing to pragmatic case studies of value to feedstock producers, Agrisoma, and processors, ARA. Input data for Agrisoma priorities have been defined. Efforts early in 2019 will focus on formatting datasets to reflect those priorities that will then be used as inputs for FTOT analysis.

◇ South Carolina, North Carolina, Virginia

Clemson University submitted a full NIFA CAP proposal for the Southcentral Atlantic State Supply Chain Alliance (SASSCA). Clemson is the team lead and other members include North Carolina State University, Virginia Tech and the University of Virginia. Award announcements are expected in the first half of 2019.

The SASSCA proposal concentrates on the supporting forest interests in the region to find new jet fuel co-product applications to open markets for wood residuals in the near-term and possible cellulosic ethanol supplies in the longer-term to support the nascent ATJ market in the region.

SASSCA includes several CAAFI members on the advisory board, including United Airlines, Federal Express, FAA, DOE, Velocys, and Honeywell UOP.

◇ Vermont

Vermont F2F2 team members are reaching out to aviation, dairy and research contacts in Canada to identify whether there is interest in collaborating on the Canadian Sky's the Limit Green Aviation Fuel Innovation Competition.

During the CBGM, CAAFI principles, Canadian consultant firm Waterfall, and Air Canada met with colleagues from Transport Canada to communicate the intent of the Vermont F2F2 team to explore opportunities to collaborate with Canadian private sector companies for the challenge competition and beyond.

◇ Georgia

2018 featured ASTM qualification of LanzaTech's ethanol-to-jet ATJ fuel pathway and the company's announced commitment to build a commercial scale fuel processing facility at its Freedom Pines Biorefinery in Soperton, GA with a target of 10 million gallons per year of AJF. Meetings were held at the CBGM to refocus efforts led by Georgia Tech to meet LanzaTech's sustainable ethanol supply demands at the Freedom Pines facility via a hub-and-spoke system to include ethanol derived from sustainable sources such as beets, sorghum and wood.

◇ Connecticut

Continued discussions with the Connecticut Center for Advanced Technology (CCAT) regarding how best to reopen consideration of converting the current Materials innovation and Recycling Authority (MIRA) facility in South Hartford, CT to a biofuels processing plant.

At the CBGM, discussions were held with Velocys and Federal Express to explore their interest in meeting with CCAT, visiting MIRA and holding discussions with city and state entities to assess the opportunity. Velocys is an FT company and Federal Express has a delivery hub at Hartford's BDL airport. The effort is looking to also bring in Praxair and schedule the visit early in 2019.

If you are aware of other scenarios that could be appropriate for a regional development effort, please

let us know. For more information, see [CAAFI's State Initiatives](#) page.

Please check the [CAAFI website](#) on a regular basis for more detail on pending activities.

Email peter.herziq@dot.gov with any ideas for CAAFI Quarterly items of interest, caafi.org news suggestions, or inquiries about subscription to the CAAFI Membership group.