



The CAAFI Quarterly

Q2 2021

A Note from the Executive Director

This [CAAFI Quarterly](#) newsletter describes the CAAFI activities and events that occurred April through June 2021. In this issue, we share industry updates and CAAFI team accomplishments. I also want to make sure you are aware of the following upcoming items:

- IPREFER Annual, 10-11 Aug, Virtual
- SBAR Retreat, 12-13 Aug, Tucson or Virtual tbd
- ICAO Stocktaking Meeting, 31 Aug–02 Sep, Virtual
- AICHe/SBE Commercializing Industrial Biotech, Virtual, 13-14 Sep
- OPIS RFS, RINS & Biofuels Conference, 15-17 Sep, Chicago, IL
- ATAG Global Sustainable Aviation Forum, 28 Sep, Virtual
- IASH Virtual, 29-30 Sep, Future Challenges and Initiatives
- NBACE, 12-14 Oct, Las Vegas
- Biofuels International Conference & Expo
Brussels date has changed to 15-16 Mar, 2022.

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 SAF news from the last quarter, including funding opportunities.
- ⇒ Go to "[Ask CAAFI](#)", a segment that highlights and explains relevant topics that impact the SAF industry.
- ⇒ See "[CAAFI Team Highlights](#)" for a snapshot of CAAFI work teams' projects and progress last quarter.
- ⇒ Jump to "[SAF State and Regional Efforts](#)" for a summary of select deployment projects around the United States.

What's New?

[U.S. Introduces SAF Legislation](#)

[SkyNRG Receives RSB CORSIA Certification](#)

[Pennycress Likely Alternative to Widely Used Oilseeds](#)

[USDA Secretary Advocates for Biofuels](#)

[Munich Airport to Make SAF Available Starting June 2021](#)

[Washington State Makes Strides for SAF Advancement](#)

[Neste to Begin Producing SAF in Rotterdam](#)

[Aemetis Receives Permits for Carbon Zero Renewable Fuels Plant](#)

[First-Ever European Business Aviation SAF Summit](#)

[IAG to Use SAF for 10% of Flights by 2030](#)

[DOE Announces \\$61.4M for Emissions Reduction Research](#)

[United Airlines Continues to Encourage SAF Uptake in Industry](#)

[House Committee Urges GAO to Study SAF](#)

[World Fuel Services Begins SAF Deliveries to Los Angeles FBOs](#)

[Byogy Commissions Japanese Plant to Advance ATJ Process](#)

[Airbus will Increase SAF Use while Continuing to Work on Hydrogen Aircraft](#)

Additional information on these news items and additional funding opportunities can be found at caafi.org.

CAAFI Leadership Team and Steering Group members are editing and/or contributing to a [Frontiers in Energy Research Sustainable Aviation Fuels "Research Topic."](#) This collection will be an

open-source resource for SAF research and perspectives. The first paper in the collection, [Comparing Fuel Dependencies Between Combustors of Different Size and Mixing Approaches](#) has now been published. Keep an eye on this Research Topic for more papers to be published soon.

Some of our friends north of the border have been participating in the [BC-SMART Low Carbon Fuels Consortium](#). You can find their [newsletters there](#), and they note that that will soon be highlighting additional work on SAF.

Speaking of additional work on SAF and our colleagues in Canada, see also the summary of IEA Bioenergy Task 39, published in May, entitled, [“Progress in Commercialization of Biojet /Sustainable Aviation Fuels \(SAF\): Technologies, potential and challenges”](#).

Finally, although this isn't second quarter news, **please check out the following very significant Notice of Funding Opportunity from the Department of Commerce, [EDA-HDQ-ARPBBS-2021-2006976](#)**, entitled “FY 2021 American Rescue Plan Act Build Back Better Regional Challenge.” Some of you may be working with non-profit entities who can take advantage of this type of grant program. The awards will proceed in a phased approach, with \$30M targeted up to 60 projects in Phase 1.

Ask CAAFI

Question: “We hope to be producing SAF within 30 months. As we're staffing up, I've got a few new team members onboarding who ought to develop a more complete understanding of the jet fuel and synthetic specifications. Any ideas?”

Answer: Several – take advantage of upcoming CAAFI webinars which we'll announce through our regular distribution list emails (let us know if you want to have new members added to the list); ASTM offers training sessions on jet fuel, both a single day introductory session (<https://www.astm.org/TRAIN/filtrex40.cgi?P+ID+504+traindetail.frm>) and three day session

([ASTM International - Training Courses - Aviation Jet Fuel Training -- eLearning Bundle](#)); purchase the ASTM specifications (D4054, D7566, D1655) and read through them; consider joining ASTM and participating in the activities of Committee D02; spend some time on www.caafi.org – we have a lot of relevant content there.

CAAFI Team Highlights

CAAFI hosted the following two webinars during this reporting period:

⇒ Overview of IPREFER and SPARC: Projects Funded by USDA NIFA AFRI presented by [Dr. Win Phippen \(Western Illinois University\)](#) and [Dr. Sheeja George \(University of Florida\)](#) on June 16th

⇒ Overview of C-CHANGE's Grass2Gas and MASBio: Two NIFA Grant Awardees presented by [Dr. Tom Richard \(Penn State University\)](#) and Dr. Jingxin Wang (West Virginia University)

Business —

Our business engagement has remained fairly robust since the beginning of the year, with new producers, new suppliers, new customers, and many adjacent participants contacting us for guidance and assistance (now on a weekly basis), or asking for introductions to others who can assist with their commercialization efforts. We are very pleased to see this level of engagement, and to help many!

Certification/Qualification —

The work of the Cert/Qual team is aligned with the activities of ASTM's aviation fuel subcommittee [the Aviation Committee of the Coordinating Research Council, and the National Jet Fuel Combustion Program](#). [It is supported by](#) periodic OEM meetings in the US and UK and various ASCENT projects. .

D4054 updates include:

⇒ The recent interest in unblended, or 100% SAF has reenergized the Virent SAK D4054 effort. Virent SAK is a pure aromatic stream that when blended with other SPKs such as FT or HEFA will result in a fully formulated fuel. Virent is working with the OEMs to scope out the remaining qualification tasks.

- ⇒ Shell IH2: Shell is continuing to finalize their D4054 Tier 3 & 4 test plan. Once that is finalized, Shell will work the OEMs to identify test facilities and on producing the necessary quantities of test fuel to conduct the testing.
- ⇒ Swedish Biofuels Phase 1 research report has been completed and will now be submitted to the OEMs for review.
- ⇒ Global BioEnergies has been working with the D4054 Clearinghouse and other European labs to conduct D4054 Tier 1 and Tier 2 testing. Initial data has been generated and is undergoing preliminary evaluation.
- ⇒ CSIR – Indian Institute of Petroleum has completed their initial round of Tier 1 and 2 fuel property testing and is reviewing the results to determine the next steps.

Other companies that have initiated contact with the ASTM OEM team and have shared preliminary data include REVO International, and OMV Downstream GmbH.

We are now also seeing increased engagement from petroleum refiners and suppliers who are interested in increasing the types and maximum blend levels for SAF co-processing at existing refinery installations, and task force deliberations around such are active.

Sustainability —

Most of the effort and focus of the Sustainability team has been to support deliberations of ICAO and its work on CORSIA.

- ⇒ Continued to participate in the LCA, sustainability and alternative fuels tracking work in the ICAO CAEP Fuels Task Group (FTG), Working Group 4 (CORSIA), and Sustainability Certification Scheme Evaluation Group (SCSEG).

R&D —

- ⇒ At the CAAFI Virtual Mini-Symposium, the R&D team presented an overview of the challenges of 100% SAF and raised a series questions that need to be addressed to achieve 100% SAF use in the aviation sector. The team is developing a paper on the topic and intends to hold an interactive webinar to explore these topics in

September 2021.

- ⇒ Continued discussing engaging companies with emerging alternative jet fuel pathways.
- ⇒ Continued developing enhanced prescreening guidance documents.

Feel free to reach out to [Josh Heyne](#) if you have interest in fuel screening efforts.

SAF State and Regional Efforts

◇ Southeast, Appalachian, and Mid-Atlantic Regional Efforts

- CAAFI is working as an advisor on the Central Appalachian project in which they have identified hardwood feedstocks for a SAF biorefinery. Five potential sites have been identified in KY, NC, and VA that have sufficient feedstocks to supply commercial scale operations. Have had productive meetings with Kentucky government personnel and they are working on a plan to help attract business to the state.
- CAAFI is working in an advisory role for the Mid-Atlantic Sustainable Biomass Consortium (MASBio) which an AFRI-funded project investigating methods to increase biomass yields, optimizing harvest and logistics strategies, and improving bioproduct conversion processes. Working with several entities that are interested in developing woody biomass feedstock supply chains and possible commercial scale plants throughout the Southeast – GA, SC, TN, and TX.

◇ Hawaii

- The State of Hawaii Legislature is considering two bills to facilitate the production of SAF: 1) [HB327](#) Creation of a Sustainable Aviation Task Force, and 2) [HB 683](#) Matching funding program for Hawaii-based low-greenhouse gas fuel manufacturers through the state's Hawaii Technology Development Corporation.
- Simonpietri Enterprises LLC (SE) announced they have completed the engineering feasibility study for the [Aloha Carbon](#)

construction and demolition debris waste-to-fuel technology for their Hawaii project with the multinational engineering firm Wood PLC of Houston TX, and completed the first waste gasification trials with Gas Technology Institute of Des Plaines, IL. The gasification trials were funded in [part by a contract from the US National Institute of Food and Agriculture](#)'s Small Business Innovation Research (SBIR) Program. A second round of gasification trials starting next quarter and focused on environmental performance of the Aloha Carbon process is [funded by a contract from the US Environmental Protection Agency](#).

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