



# 2014 Environment Team Workshop (Jan 27)

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## **CAAFI® Environment Workshop attendees review state-of-the-art life cycle greenhouse gas emissions analysis and develop matrix for assessing differences across methods and tools**

The CAAFI Environment Team leaders hosted a full-day workshop with a subgroup of team members and experts on January 27, 2014, focused on life cycle greenhouse gas emissions analysis (GHG LCA) for alternative aviation fuels. The aim of the workshop, which preceded the 2014 CAAFI General Meeting, was to identify the contributors to differences among GHG LCA performed under different regulatory regimes and tools. Improving GHG LCA methodologies and tools and identifying opportunities for mutual recognition and steps toward potential harmonization among the methods and tools are key Environmental Team work streams. While country-specific and regulation-specific approaches to GHG LCA for alternative aviation fuels are the norm, increasing interest in the use of alternative aviation fuels in international flight makes identifying and understanding differences among these approaches more important. Workshop participants heard presentations from GHG LCA experts across academia, government and industry. The workshop provided a basis for understanding the most critical drivers of differences in GHG LCA results among varying regulatory programs and tools.

### **Session Highlights:**

To start the day, a sampling of current environment-centered, alternative aviation fuel activities was presented by representatives from the Argonne National Lab, Massachusetts Institute of Technology (MIT), Michigan Tech, the International Civil Aviation Organization (ICAO) Committee on Aviation Environmental Protection's Alternative Fuels Task Force, and Roundtable for Sustainable Biomaterials/Quantis. The Argonne National Lab/MIT presentation, in particular, set out key drivers in GHG LCA methodologies and tools, highlighting the differences between the GHG LCA methods and tools established under different regulations most commonly applicable to alternative aviation fuels.

Building off of the information disclosed in the presentations, workshop participants assisted CAAFI Environment Co-leads Jim Hileman and Nancy Young in populating a GHG LCA Issue Matrix for alternative aviation fuels. The matrix summarized the key elements pertinent to comparing GHG LCA methods and tools as applied to alternative aviation fuel, including the baseline used for comparison, data sources, accounting, and system boundaries.

**Outcomes:**

The workshop served as a platform for information exchange among GHG LCA researchers and those who rely on GHG LCA methods and tools for alternative aviation fuels analyses. The presentations and subsequent discussions identified significant GHG LCA elements and clarified the work required to develop a mutual understanding of potential differences in results with respect to those elements when applied to alternative aviation fuels under different methodologies and tools. The GHG LCA Issue Matrix provides a tool for reflecting the significant GHG LCA elements and assessing the materiality of the differences.

The meeting encouraged discussion and further developed the CAAFI Environment Team's collaborative network. The Environment Team leaders and other participants presented a summary of this work to the CAAFI General Meeting team breakout session the following day to expand the network and solicit further input.

**Next Steps:**

The Environment Team leaders will continue to refine the GHG LCA Issue Matrix based on the discussion at the workshop and additional input from the larger CAAFI Environment Team and other environmental experts. Ultimately, the GHG LCA Issue Matrix will be helpful in assisting GHG LCA researchers and practitioners in identifying potential sources of discrepancy between results under different regulatory programs. The GHG LCA Issue Matrix also may help guide researchers, practitioners, and regulators in identifying means for mutual recognition of GHG LCA results under different programs and/or areas in which harmonization among programs is possible to reduce the LCA burden and facilitate use of alternative aviation fuels in international flight. The Environment Team plans an additional working meeting in early 2015.

*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>.*