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Commercial Aviation Alternative Fuels Initiative (CAAFI®)  
R&D Vision for Alternative Jet Fuels

Alternative jet fuels have a primary role in meeting the energy independence and sustainability goals for the global aviation industry while mitigating risk exposure from reliance on fossil fuels. Achieving a commercially viable supply of these new fuels will require the well-considered exploration of all possible sources and pathways, and the effective development and use of the diverse resources and technology options available.

The CAAFI R&D team has a top level, on-going mission to identify critical technology gaps that, if addressed, would potentially lead to cheaper, scalable, and more widely available production of alternative aviation fuels. A number of promising alternatives are being explored at the research, development, and small commercial scale which will bring much needed technical and operating data to this space. In many cases, these solutions may be important at a regional level and may vary greatly from one region to the next, based on available natural and other resources.

Through soliciting input from a wide set of biofuel technology stakeholders, the CAAFI R&D team has collectively written a total of eight (8) white papers that discuss several emerging fuel production pathways and related activities to clarify the current state of the art and to identify challenges and promising areas for potential collaboration and funding. These include:

- 1) Efficient conversion of waste to advanced alternative fuels
- 2) Diversity-focused biofuel feedstock production
- 3) HEFA Feedstock costs
- 4) Relative economics of alternative jet fuel compared to other fuels
- 5) Alternative methods of CO<sub>2</sub> capture
- 6) Alternative methods of conversion of CO<sub>2</sub> to fuels
- 7) Alternative jet fuel testing and specifications
- 8) Alternative jet fuel cost of production

Industry and government stakeholders are strongly encouraged to review these white papers to understand progress and challenges associated with various alternative fuel pathways and ancillary issues. As alternative aviation fuels remains a fast moving, dynamic area of research and development, stakeholders are also strongly encouraged to provide updates, modifications, and corrections to these white papers as new data and analyses are completed. The CAAFI R&D team believes that the information provided in the above white papers should be factored into future opportunities and planning by both government and industry sources.