



Alternative Fuels & Chemicals Coalition

Advocating for Public Policies to Promote the Development & Production of Alternative Fuels & Chemicals, with a Focus on Sustainable Aviation Fuels

The Benefits of Sustainable Aviation Fuels (SAF)

What is Sustainable Aviation Fuel (SAF)?

- SAF is a jet fuel made from renewable sources such as municipal solid waste (MSW), construction and demolition (C&D) debris, crop residues, wood wastes, used cooking oil, animal tallow, algae, oilseeds – and even industrial smokestack emissions.
- SAF has been certified to the same safety standards and specification (ASTM D1655) as petroleum Jet-A. SAF typically is blended as a “raw” or “neat” aviation biofuel with Jet-A.

SAF Offers Multiple Economic Opportunities to Every State – and to Local Communities in Almost Every Congressional District

- **Communities in every state and most Congressional districts have the opportunity to create jobs and stimulate economic development through the production of SAF.**
- This is because SAF can be produced from waste products that are readily available in all large and medium-size and many modest-size communities.
- These wastes often represent economic and environmental liabilities to these communities due to the logistics associated with their disposal.
- **By using these waste materials to produce SAF, communities can turn these liabilities into job creators and economic assets.**

Here are the Advantages of SAF Over Conventional Petroleum Jet Fuel

- Reduces lifecycle greenhouse gas emissions 50% to 80% compared with petroleum jet fuel.
- Has zero sulfur (less than 5 parts per billion) compared to ultra-low sulfur Jet-A which contains 15 parts per million of sulfur.
- Has no aromatics such as benzene, toluene, and naphthalene, which cause smog.
- Has very little particulate matter (soot).
- Reduces carbon monoxide and unburnt hydrocarbon emissions.
- Offers better thermal stability and combustion characteristics.

There are Significant Economic Benefits to the Use of SAF:

Tests conducted on military jets at Wright-Patterson Air Force Base in 2012 and the Naval Air Warfare Center Weapons Division at China Lake in 2013 found that:

- **SAF can add 13% to performance**, compared to fossil fuels.
- SAF lowers engine temperatures by 135 degrees, due to the absence of impurities, aromatics, and particulate matter found in conventional fossil fuels. (When these impurities burn, they cause high temperatures to radiate throughout the engine, which accelerates metal fatigue.)
- **Preliminary data from these tests show that engine parts could last up to 10 times longer.**
- SAF has, for the same volume, 7 percent less mass, which lowers the weight of a plane when fully fueled, making it possible for jets to fly faster, farther, or carry more payload.
- **Each of these benefits translates into significant savings in reduced maintenance and extended engine life, greater reliability, less time on the ground and increased revenues**

A Collaborative Government Affairs Effort
Organized by Kilpatrick Townsend & Stockton and American Diversified Energy Consulting Services

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(and improved military preparedness) due to better performance and the ability to fly farther and carry more payload.