

**Testimony for
Judith Canales, Administrator, Rural Business Service
United States Department of Agriculture
Before the Senate Committee on Commerce, Science, & Transportation
Aviation Operations, Safety, and Security Subcommittee
On Aviation Fuels: Needs, Challenges, and Alternatives**

Chairman Cantwell, Ranking Member Thune and members of the Committee, I appreciate the opportunity to appear before you today and testify on the USDA's role in addressing the needs, challenges and alternatives to aviation fuels. In July 2010, the U.S. Department of Agriculture, Air Transport Association of America and The Boeing Company signed a resolution formalizing their commitment to work together on a "Farm to Fly" initiative "to accelerate the availability of a commercially viable sustainable aviation biofuel industry in the United States, increase domestic energy security, establish regional supply chains and support rural development." In addition, USDA has an MOU with the FAA on the development of research related to aviation biofuels, but I will defer to the FAA to cover the details of that arrangement.

The Opportunity

In his State of the Union address on Jan. 25, 2011, President Obama reaffirmed the administration's commitment to government investment in clean-energy technology research, development, and deployment, "an investment that will strengthen our security, protect our planet, and create countless new jobs for our people." The President's remarks underscored the "promise of renewable energy," building on his pledge to develop a commercially viable biofuels industry in America.

Just a year earlier, on February 3, 2010, President Obama had announced a series of steps that the administration was taking to boost biofuels production in the United States. The Biofuels Interagency Working Group released a report spelling out ways to promote the development of the biofuels industry in the United States in connection with the *Energy Independence and Security Act* target of 36 billion gallons per year of U.S. biofuels production by 2022. The report, “Growing America’s Fuel,” laid out the situation and called for “an outcome-driven re-engineered system.” The strategies include supporting the development of first- and second-generation biofuels and accelerating the development of third-generation biofuels – including aviation fuels. These strategies were further highlighted in the USDA Biofuels Strategic Production Report and regional roadmap released in June of 2010.

Farm to Fly

As a result of the Farm to Fly initiative, the U.S. aviation community has come together with government stakeholders, including USDA, the Department of Energy, the Department of Transportation, the Department of Defense, and the Department of Commerce to express unified support for the President’s goals of environmental stewardship and energy security. The coalition was formed to help aviation biofuels become an economical and environmentally preferred alternative to petroleum-based jet fuels. In pursuit of that goal, the initiative is coordinating exchanges of information to inform research and development activities while capitalizing on the existing efforts across the government to spur innovation. For example, DOE’s research, development, and deployment activities on technologies for biomass handling and conversion to fuel, power, and products are complementary to USDA’s activities and are increasingly focused on hydrocarbon advanced biofuels such as jet fuel.

Why Commercial Aviation?

In 2010 the U.S. produced approximately 13 billion gallons per year of biofuels, mostly corn grain ethanol. However, in comparison to the investments made in surface transportation fuels like ethanol and biodiesel, government efforts to date have not emphasized research, development, or commercialization of alternative fuels for aviation. Yet, commercial aviation is a central contributor to the modern American economy and, among transportation modes, aviation is unique in its complete dependence on liquid fuels.

Moreover, rather than delivering this fuel to tens of thousands of gas stations and convenience stores around the country, the largest 35 U.S. airports account for about 80 percent of the jet fuel used by commercial aviation. Thus, if aviation biofuel producers can deliver to these 35 airport “gas stations,” they have access to virtually the entire 17-to-19 billion gallon-per-year commercial jet-fuel market. The production of environmentally preferred aviation biofuels by U.S. companies also will support the President’s goal of reducing imported oil by 1/3 by 2020 and increasing U.S. exports to support our nation’s rural economy and to win the future.

Synergy with the U.S. Military

The U.S. Air Force is working to have one-half of its jet fuel be nonpetroleum-based by the year 2016. The Department of the Navy (DON) has announced a goal of supplying 50 percent of its total energy consumption from alternative sources by 2020. USDA and the DON announced on January 21, 2010 that Secretary Vilsack and Secretary Mabus signed a Memorandum of Understanding (MOU) to help meet these goals and encourage the development of advanced

biofuels and other renewable energy systems. The military services have implemented robust programs to reach these goals. Significant collaboration and coordination on research and development and on fuel approval and deployment by commercial aviation and military efforts has allowed for significant mutual benefit and more rapid progress.

USDA Programs which can Support Aviation Biofuel

There are several programs related to alternative fuels production under the *2008 Farm Bill*.

These programs provide additional opportunities for access to credit in rural America and jump-start the biofuels industry. The following *2008 Farm Bill* programs were designed to support the biofuels industry and have contributed to our efforts.

- **Biorefinery Assistance Program (Section 9003 of the 2008 Farm Bill).** The Biorefinery Assistance Program (BAP), administered by USDA-Rural Development, provides loan guarantees for the construction or retrofitting of rural biorefineries to “assist in the development of new and emerging technologies for the development of advanced biofuels...made from renewable biomass, other than ethanol from corn kernel starch.” It does so by guaranteeing up to 90 percent of a private loan (not to exceed \$250 million) to construct first of kind / scaled to commercial level or retrofit commercial-scale biorefineries producing advanced biofuels. To date, a total of \$390.1 million has been obligated in loan guarantee authorities to leverage an estimated \$1.5 billion in total project costs toward the construction of commercial scale advanced biofuel facilities, including Sapphire Energy for \$54.5 million which will have the capability of producing aviation biofuel from algal oil. The Rural Business-Cooperative Service Agency is

currently reviewing 10 applications, including multiple aviation biofuel projects, for the remaining \$463 million available at the program level.

- **The Bioenergy Program for Advanced Biofuels (“BPAB” – Section 9005 of the 2008 Farm Bill):** BPAB gives the Agriculture Secretary broad discretion – and \$300 million – to create a program to provide production payments to eligible advanced biofuel producers, “to support and ensure an expanding production of advanced biofuels.”

- **Biomass Crop Assistance Program (“BCAP” – Section 9011 of the 2008 Farm Bill):** BCAP is the only energy program primarily dedicated to the expansion of the diversity of cellulosic feedstock for commercial conversion. The program has demonstrated, through project area proposal submission and matching payment distribution, that demand for feedstock support exists.

Just this last Tuesday, USDA announced a BCAP project area for AltAir, a company formed to manufacture bio-based jet fuels from camelina grown on up to 50,000 acres in Oregon, Washington and California.

- **Crop Insurance Coverage for Energy Crops (Section 12023 of the 2008 Farm Bill):** The 2008 Farm Bill directed the Risk Management Agency (RMA) to research and develop “a policy to insure dedicated energy crops,” defined as crops “grown expressly for the purpose of producing a feedstock for renewable biofuel, renewable electricity or biobased product, and is not typically used for food, feed or fiber.” RMA has recently awarded a contract to conduct this research.

- **National Institute of Food and Agriculture (NIFA):** NIFA was created by the *2008 Farm Bill* to fund competitive, peer-reviewed research efforts. For example, the Biomass Research and Development Initiative (Section 9008 of the *2008 Farm Bill*) made \$118 million available for uses that include advanced research on feedstock development, biofuels, and bio-based product development and biofuels development analysis. In addition to BRDI, NIFA offers a series of Sustainable Bioenergy grants through its Agriculture and Food Research Initiative, and also operates the Plant Feedstock Genomics for bioenergy program, both competitive grant programs support research and development of bioenergy.

Flying into the Future

Expediting the commercial production of aviation biofuels will strengthen those elements of the agricultural sector involved in the growth of biomass, the “green” technologies that process the biomass, and those who build the logistical infrastructure that is needed in select areas. Over time, the investments made today will lessen our reliance on petroleum-derived fuels. The Farm to Fly effort aims to “accelerate the availability of a commercially viable, sustainable aviation biofuel industry in the United States, increase domestic energy security, establish regional supply chains and support rural development.” We look forward to working with the Congress to reach these goals and to fly into the future.