

Overview & Discussion: Aviation Biofuels & Farm-to-Fly 2.0 (F2F2)

TAC Meeting



August 14, 2013

Aviation Biofuels Overview

- * **Industry making progress on all fronts:**
 - * **Research and Development**
 - * **Demonstration**
 - * **Cert/Qual**
 - * **Environment**
 - * **Business**

- * **Key issues remaining for goal achievement:**
 - * **Feedstock supply-chain development – led to F2F2 discussions**
 - * **Bridging valley-of-death on investment & deployment**

Farm-to-Fly 1.0 Summary

- ... *“accelerate the availability of a commercially viable and sustainable aviation biofuel industry in the United States, increase domestic energy security, establish regional supply chains, and support rural development.”*
- * **Collaboration between USDA, Airlines for America (A4A), and Boeing**
 - * **USDA Feedstock Development – relevant to jet fuel**
 - * **Leverage projects and regional activities**
 - * **Sustainable Aviation Fuels Northwest (SAFN)**
 - * **Biomass Research Centers, BCAP, Biorefinery Assistance Program, ...**
 - * **ARS, OEPNU, FAA Environment and Energy Office: FSRL**
 - * **REPORT: Agriculture and Aviation: Partners in Prosperity**

F2F2 Vision

Moving to the Next level of granularity :

* Challenges:

- * Feedstock costs comprising the majority of fuel cost
- * Supply chain immaturity a critical risk to near-term scale
- * Financial risk mitigation needed

* Opportunity:

- * Use recommendations from previous efforts
- * Aligned with strategic national imperatives
- * Next phase of engagements required to enable and achieve near term commercialization of renewable fuels for aviation

... “THEREFORE, AS OUR GOAL, we the undersigned, jointly signify our intent to continue working together over the next five years in an expanded collaboration entitled “Farm to Fly 2.0”, to **enable commercially viable, sustainable bio-Jet Fuel supply chains in the U.S.** that are able to support the goal of **one billion gallons of bio-Jet Fuel production** capacity and use for the Aviation Enterprise **by 2018**”



F2F2 Signatories

- * **USDA & DOT/FAA**
- * **CAA's Industry Sponsors: Airlines for America (A4A), Aerospace Industries Assoc. (AIA) and Airports Council International-North America (ACI-NA)**
- * **Addition of Business Aviation: General Aviation Manufacturers Association (GAMA) and National Business Aviation Association (NBAA)**
- * **Entire civil jet-aviation enterprise now represented and engaged**

F2F2 Commitments

- 1) Work together to assess and propose means for meeting our mutual Goal through regional/local assessments, and studies of potential bio-jet fuel production projects**
 - * Communications
 - * Engage local agents (State / Regional / Airport / Academic Initiatives)
- 2) Address requirements needed for sustainable scale-up of several promising feedstocks, addressing risk and risk abatement in 5 key areas**
 - * Feedstock development
 - * Feedstock Infrastructure
 - * Grower Acceptance/Approval – Education - Adaptability
 - * Grower Risk
 - * Accessibility Risk: Sustainability: Feedstock / Conversion Overall Acceptability: USDA, FDA, EPA, NGOs
- 3) Serve as a vehicle for enhanced communication and coordination**

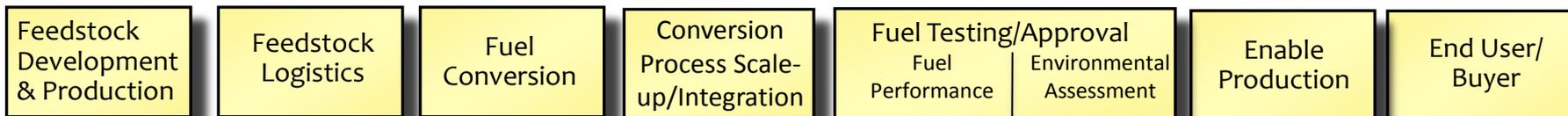
F2F2 Next Steps

- * **Leadership Team tentatively defined**
- * **First group working session: 30Jul in DC**
- * **Potential early work elements**
 - * **Individual Feedstock Summits hosted by Biomass Research and/or NIFA/AFRI Centers - benchmarking**
 - * **Process to flesh-out State Teams**
 - * **Baseline scenarios/forecasts that substantiate ability & opportunities to achieve goal**

Leadership Team

USDA OSEC – Baumes & Campbell
USDA REE - tbd
USDA RD - tbd
USDA FSA - tbd
FAA – Nate Brown
FAA – Jim Hileman
DOT/FAA - tbd
DOE – Zia Haq
DOD – Chris Tindal
EPA – Sarah Bittleman
A4A – John Heimlich
A4A – Nancy Young
AIA – Leslie Riegler
AIA, Boeing – tbd
ACI – Katherine Preston
GAMA – Ed Smith
NBAA – Eli Cotti
CAAFI – Steve Csonka

Continued need to work interagency coordination



USDA	✓	✓	✓	✓	---	---	✓	---
DOC	✓	---	✓	✓	✓	✓	---	✓
DOE	✓	✓	✓	✓	---	✓	✓	---
DOD	---	---	---	---	✓	✓	---	✓
EPA	---	---	---	---	---	✓	✓	---
FAA	---	✓	---	✓	✓	✓	---	✓
NASA	---	---	---	---	✓	✓	---	---
NSF	✓	✓	✓	---	---	---	---	---

Plenty of Work to Do

