



Overview of FAA Alternative Jet Fuel Efforts

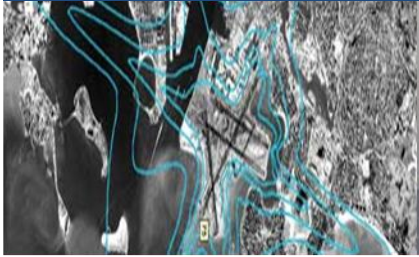
Federal Aviation Administration's (FAA) Office of Environment and Energy (AEE)

Pat Moran



Aviation Environmental Challenges

NOISE



AIR QUALITY



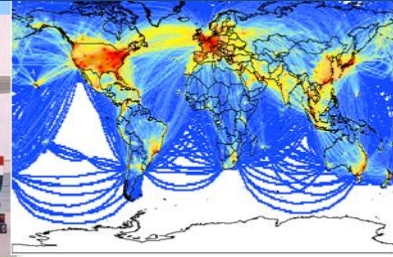
WATER QUALITY



ENERGY



GLOBAL CLIMATE



- Aviation impacts community noise, air quality, water quality, energy usage, and climate change
- Environmental impacts from aviation emissions could pose a critical constraint on capacity growth
- Alternative jet fuels could reduce the environmental impact of aviation:
 - Carbon neutral growth by 2020 compared to 2005
 - 1 billion gallons of renewable jet fuel in use by aviation by 2018



Alternative Fuels Principles – FAA view

- Alternative Jet Fuels must be “drop-in”, have equivalent safety and better environmental performance than petroleum Jet fuel
- Government role to address key barriers
- Enable all possible fuels that meet criteria
- Work through Public-Private Partnerships
- Address the whole supply chain
- Leverage expertise and programs of other States
- Aviation should be a lead user of alternative fuels





Current FAA Alternative Jet Fuel Activities

- Testing
 - Material compatibility
 - Certification / Qualification
 - Emissions measurements
- Analysis
 - Environmental sustainability
 - Techno-economic analysis
 - Future scenarios
- Coordination
 - Interagency
 - Public-Private
 - State & Regional
 - International
- Tracking Fuel Use



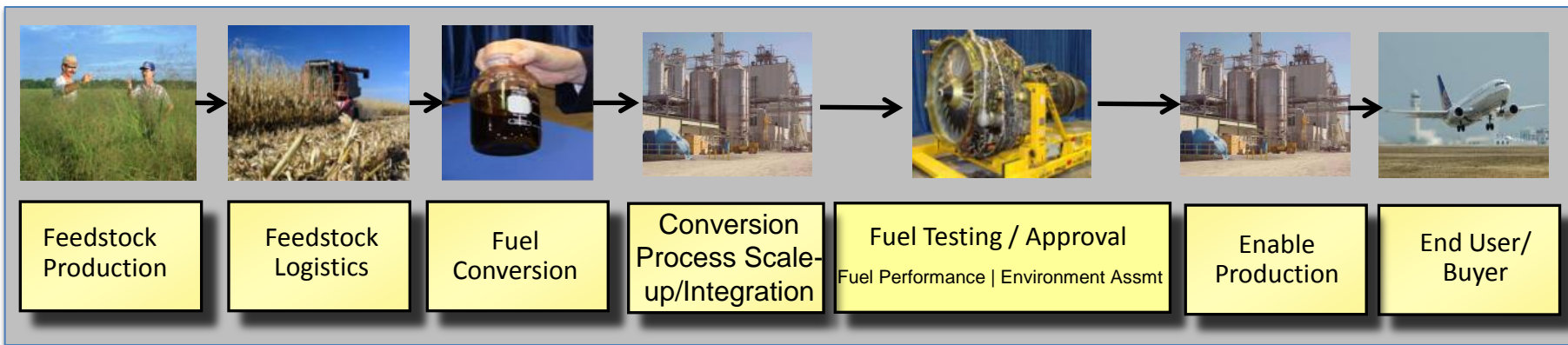
Alt Fuels Development Progress 2014

- ASTM approval of Synthesized Iso-Paraffinic (SIP) fuel (June 2014), additional ballots under preparation
- Engine tests of novel fuels continue
- ASCENT analysis projects established
- Continued domestic and international engagement





Coordinating Agency Efforts across Supply Chain Facilitating Deployment and Investment



Agriculture: Biomass Crop Assistance Program & Crop Insurance Program

Energy & Defense: R&D grants

Agriculture & Energy: R&D grants

FAA & Defense: C/Q Fuel testing

FAA, Defense, & NASA: Enviro Analysis

Agriculture, Navy, & Energy: Defense Production Act and Biorefinery Program

Defense & Airlines: fuel purchase

Agriculture: Feedstock Development Center Grants



FAA: Guidance for Airports

EPA: Renewable Fuel Standard



Commercial Aviation Alternative Fuels Initiative

- **Public-Private coalition for commercial aviation to engage the emerging alternative fuels industry**
- **Coordinate development of alt jet fuels:**
 - Equivalent safety/performance (drop-in)
 - Comparable cost
 - Environmental improvement
 - Security of Energy supply
- **Four teams for key issues:**
 - Environment Team
 - Certification-Qualification Team
 - R&D Team
 - Business Team
- **State and Regional Support**
- **International Cooperation**

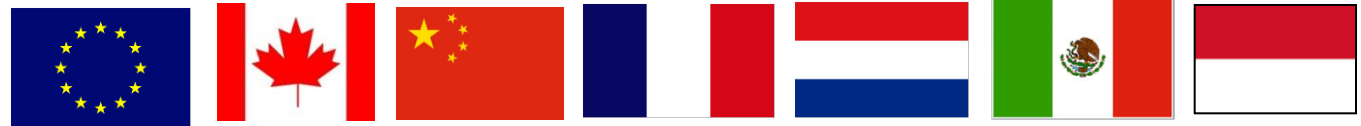
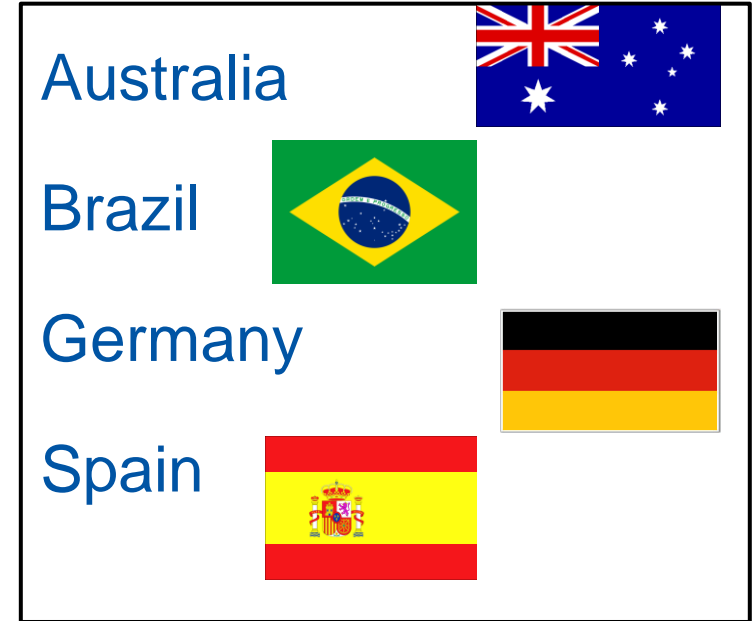


Airlines for America™
We Connect the World



International Engagement

- Bilateral Cooperation Agreements
- Coordination with counterparts, and R&D organizations
- U.N. International Civil Aviation Organization



Summary

- Advancing use of alternative jet fuels is key for meeting U.S. environmental goals
- Testing efforts accelerate alt fuel technology development
- Analysis efforts improve environmental impacts quantification and decision-making
- Coordination among government agencies and across the supply chain is key to deployment
- Partnership between government & industry vital to success
- Global engagement will support sector goals





ICAO

ENVIRONMENT

Thank You / Terima Kasih

