



Federal Aviation
Administration

An Update on FAA Alternative Jet Fuel Efforts

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Aviation, Environment and Energy

- Aviation impacts include noise, air quality, water quality, and the global climate
- Environmental impacts from noise and emissions will be a critical constraint on capacity growth
- Trend towards stricter environmental standards and mitigation of impacts
- Fundamental changes ongoing in energy markets

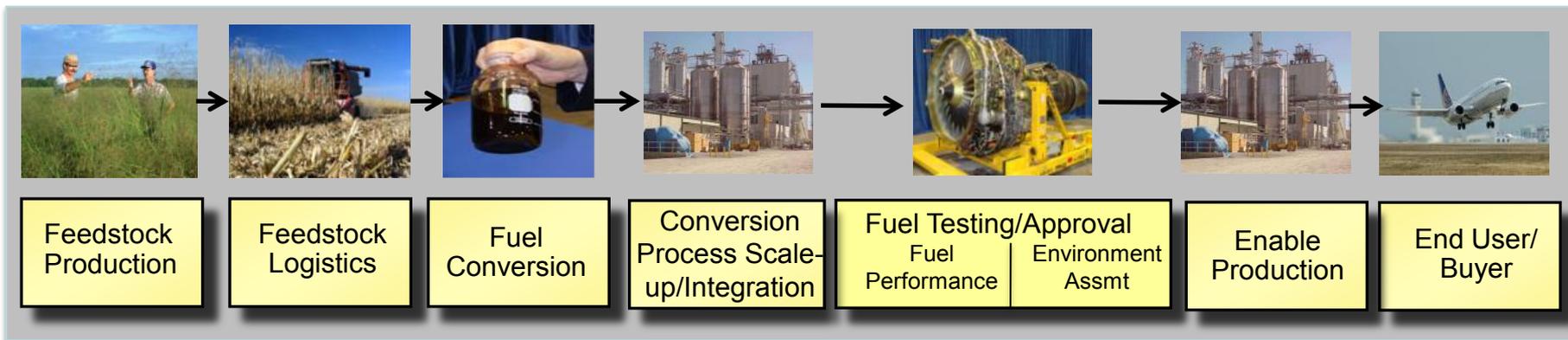


The challenge is to increase mobility with reduced environmental impacts and enhanced energy efficiency and security. Alternative fuels could be critical to this.

Coordinating USG Efforts across Supply Chain



Facilitating Deployment and Investment



Agriculture: Biomass Crop Assistance Program & Crop Insurance Program

Energy & Defense: R&D grants

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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

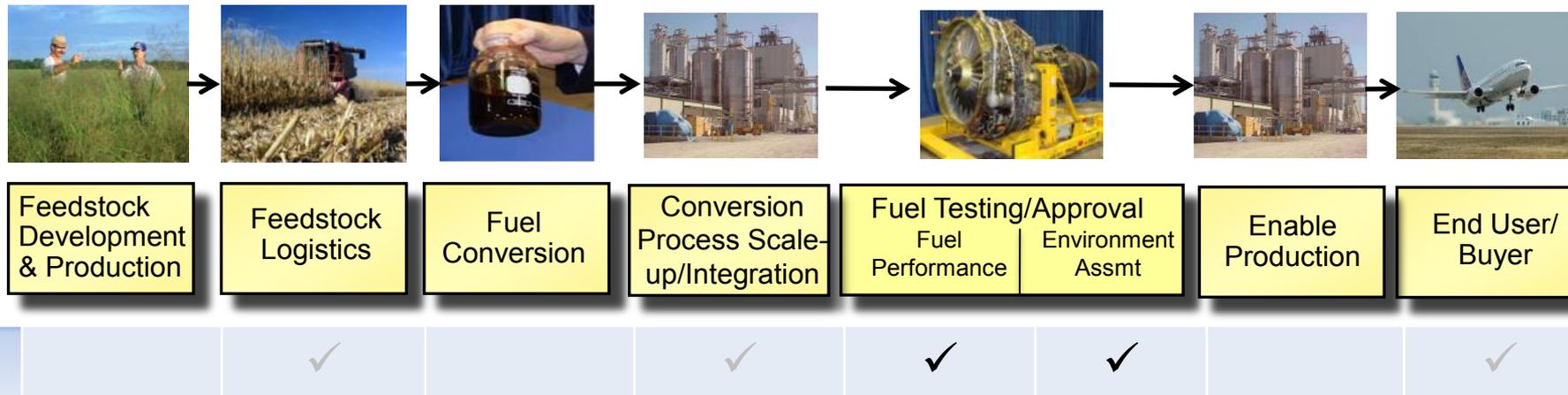
EPA: Renewable Fuel Standard



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FAA Areas of Focus in Alternative Fuels



High level description of agency effort:

- Fund Certification/Qualification testing to inform ASTM approval
- Environmental & cost analysis
- Government & Industry coordination & cooperation
- Additional support and studies



BAA for alternative jet fuel



Current FAA Alt Jet Fuel Activities

- 14 projects
- Testing
 - Material compatibility
 - Certification/Qualification
 - Emissions
- Analysis
 - Environmental sustainability
 - Techno-Economic
 - Future scenarios
- Coordination
 - Interagency & Industry
 - State & Regional
 - International

**University Research
(FAA Center of Excellence
program)**



Example: Commercial Aviation Alternative Fuels Initiative

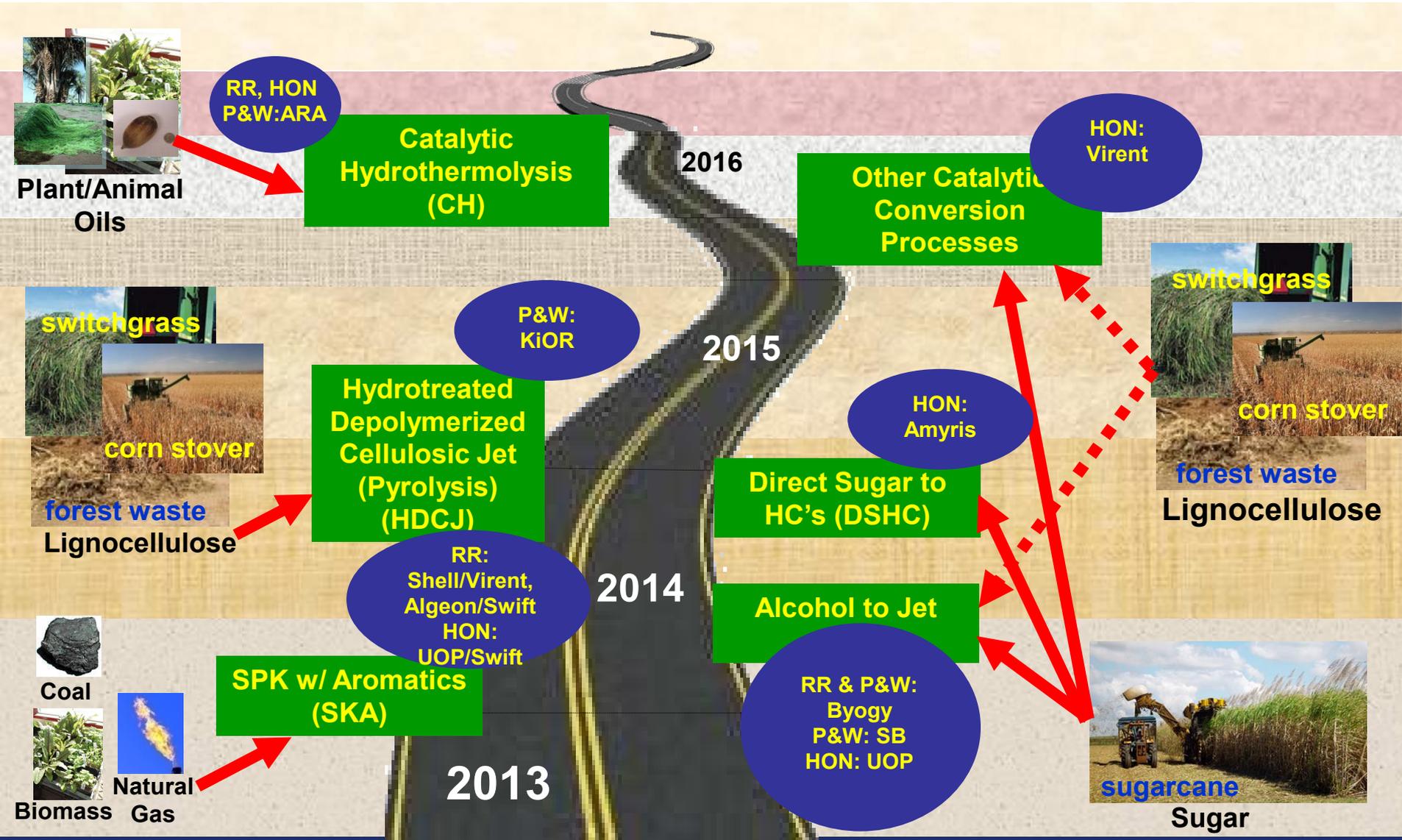
- Public-Private coalition for commercial aviation to engage the emerging alternative fuels industry
- Goal is development of alt jet fuels with:
 - Equivalent safety/performance (Drop-in)
 - Comparable cost
 - Environmental improvement
- Comprehensive approach to key issues:
 - Environment Team
 - Certification-Qualification Team
 - R&D Team
 - Business Team
 - State/Regional activities



**For more information:
www.caafi.org**



Example: Road to Future Alternative Fuels



Future FAA Alt Jet Fuel Activities

FAA CoE
program
(University
Research)

Center of Excellence for Alternative Jet Fuel & Environment

- Active solicitation to establish a new CoE
- Continues research carried out by PARTNER CoE
- Ten technical areas – include feedstock, infrastructure
- Address strategic needs and gaps
- On schedule to have center operational late 2013

Continuous Lower Energy, Emissions and Noise (CLEEN) II

- CLEEN I: 2010-2015 effort
- CLEEN II: solicitation 2014; start May 2015-2020.
- Reduce aircraft fuel burn, emissions and noise & advance Alternative Jet Fuels
- 50% cost share; total FAA budget: ~\$125M (10% for fuels)



Observations

- **Government & Industry leadership has led to significant successes**
 - Drawing focus to aviation
 - Aerospace manufacturers acceptance of alt fuels
 - ASTM approvals of two alt jet fuels
 - Inclusion of alt jet fuels in life-cycle models (GREET)
 - More interagency coordination & collaboration
- **Near term next steps**
 - Additional Approvals & Analysis
 - Coordinate Domestic and International Stakeholders
 - Facilitate State & Regional Deployment

