Development of National Alternative Jet Fuels R&D Strategy

Research, Development, Demonstration, and Deployment (RD3) Challenges, Opportunities, and Strategic Way Forward

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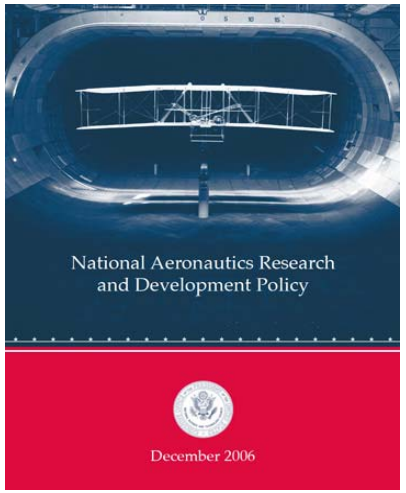
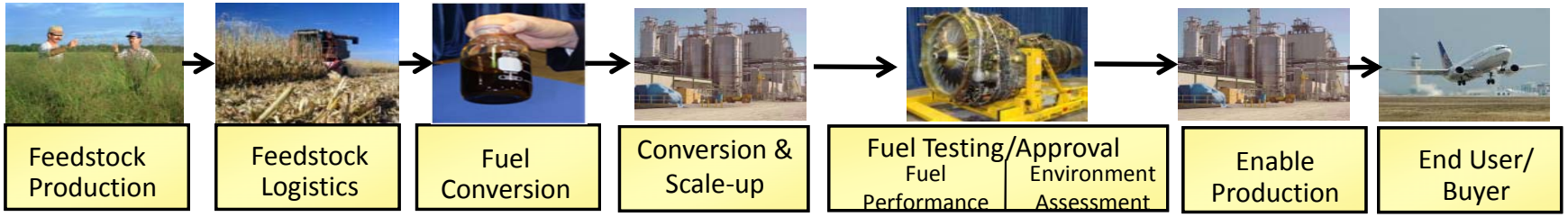
Background: National Aeronautics Research & Development Plan

Developed under sponsorship of the National Science & Technology Council, Aeronautics S&T Subcommittee (ASTS)



Plan focuses on 17 aeronautics goals in four areas –

- Mobility, Security, Safety and Environment and Energy
- Energy Availability, Efficiency & Environmental Protection
  - Goal 1: "Enable new aviation fuels derived from diverse & domestic resources to improve fuel supply security & price stability"



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NASA	---	---	---	---	✓	✓	---	---
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Overarching R&D Challenges

- Varieties and geographical diversity of feedstocks
- Production and yield efficiency of feedstock
- Sustainable and dependable supply
- Conversion efficiency and commercial scale production
- Jet specificity and demand for byproducts
- Cost-competitiveness
- ASTM approval for performance, safety and operability
- Environmental sustainability and resource demand

Currently - no common guiding path that defines an actionable R&D strategy to help meet these challenges.

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Intended Purpose

Identify opportunities and strategically address challenges associated with Research Development Demonstration and Deployment (RD3) along the supply-chain of alternative jet fuels.

National AJF R&D Strategy – A mechanism to

- **Articulate** *Aspirational yet Achievable* Objectives, *Measurable* Performance Metrics and Timeline to achieve the goal
- **Mobilize** the federal and non-federal stakeholders community towards achieving the common goal and objectives
- Understand industry needs and target federal strategic R&D efforts to address **RD3 challenges** along the alternative jet fuels supply-chain
- **Integrate**, align and coordinate interagency activities
- **Promote** increased collaboration
- **Enhance** technology transfer

DRAFT Goal Statement

Enable the development, production, and use of environmentally sustainable, cost-competitive and socially responsible alternative jet fuel with stable supply to significantly meet the needs of U.S. jet aviation

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Stakeholders' input is integral to inform the development of this Strategy

- STPI sought stakeholders input to identify R&D challenges along the supply-chain
- STPI organized stakeholders workshop on Jan 7, 2014 to discuss these challenges
- STPI delivered workshop report to funding sponsor. This report is a compilation of workshop proceedings without any attempt for analysis/interpretation.

Interagency Coordination Group (ICG) continues to draft the Strategy.

Developing initial draft objectives for 4 thematic areas:

(1) Feedstock production and logistics

(2) Scale-up and conversion

(3) Certification and qualification

(4) Cross-cutting issues

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ICG recognizes the value in follow-up efforts after the release of the Strategy

Implement a process for a periodic assessment of the federal and community-wide progress made towards meeting the Strategy goal and identify R&D adaptations to meet evolving challenges, as needed.

Plan and structure for this assessment have not been defined as yet.