

Sustainable Aviation in the United States

Presented to: JITI Seminar on Sustainable Aviation

By: Julie Oettinger, Assistant Administrator for
Policy, International Affairs and Environment

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Federal Aviation
Administration



U.S. Goals



- **Carbon-neutral growth by 2020 using 2005 baseline**
 - 2010 ICAO Assembly Resolution aimed for aspirational goal of carbon-neutral growth by 2020 using 2005 baseline
- **Aspirational goal of fuel efficiency improvements of 2 percent per year**
 - Consistent with commitments in the 2010 ICAO Assembly Resolution
- **Target to use 1 billion gallons of alternative fuels a year starting in 2018**



FAA Approach

- **Aircraft & Engine Technology Improvement**
- **Operational Improvements**
- **Alternative Fuels Development & Deployment**
- **Polices, Standards, and Measures**
- **Scientific Understanding & Modeling/Analysis**



Aircraft Technologies



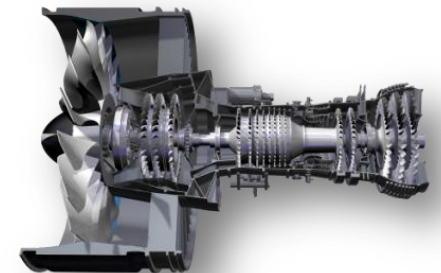
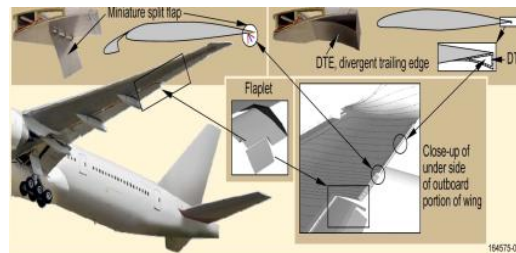
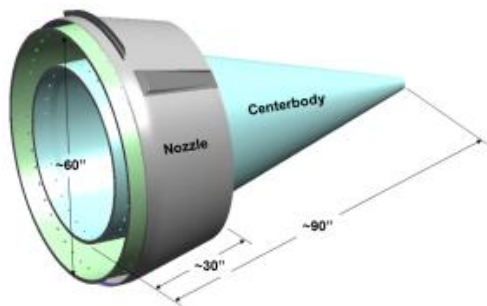
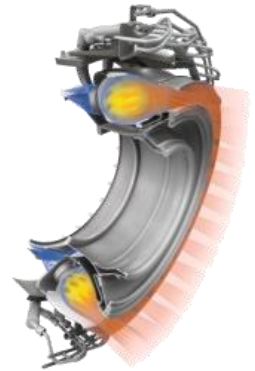
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CLEEN

Continuous Lower Energy, Emissions and Noise



- 5 year effort to accelerate technology development and commercialization with 50 percent cost share
 - FAA budget: US\$125 million
 - Industry budget: US\$125 million+
- Mixed portfolio of technologies
 - *Engine*: GE, Honeywell, Pratt & Whitney, Rolls-Royce
 - *Aircraft*: Boeing
 - *Alternative Fuels*: Boeing, Honeywell, Rolls-Royce



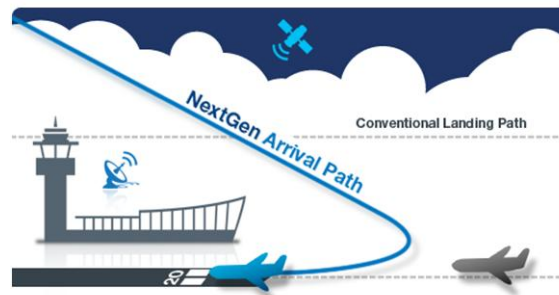
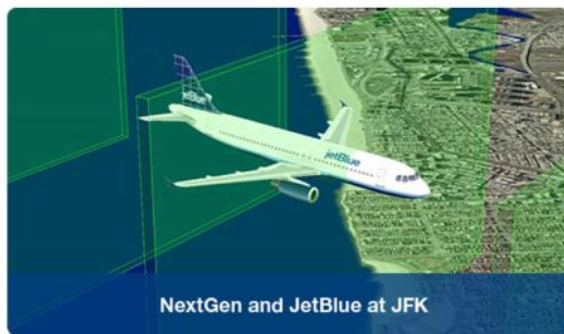
Operations



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NextGen

- **The Next Generation Air Transportation System (NextGen) drives many FAA efforts**
- **Integrated set of systems, technologies and policies to make U.S. aviation safer, reduce delays, reduce energy use, and mitigate impact on the environment**



ASPIRE



- **Japan (JCAB) is current chair**
- **Demonstrated improvements in fuel burn through air traffic management best practices, such as:**
 - Dynamic Airborne Reroute Procedures
 - User Preferred Route Expansion
 - Continuous Descent Approach, Tailored Arrivals, etc.



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Alternative Fuels

The background of the slide features a vibrant scene of yellow flowers, likely rapeseed or canola, in full bloom. The flowers are set against a clear blue sky with scattered white clouds. The overall composition is bright and natural, suggesting a focus on sustainable or bio-based alternatives.

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Commercial Aviation Alternative Fuels Initiative

- **Public-Private coalition for commercial aviation to engage emerging alternative fuels industry**
- **Goals**
 - Drop-in capable
 - Comparable cost to petroleum fuels
 - Environmental improvement
- **Enables diverse stakeholders to:**
 - Share and collect data and identify resources
 - Direct research, development, and deployment of alternative jet fuels



Policies, Standards and Measures

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Policy, Standards and Measures

ICAO



- **Work with ICAO Committee on Aviation Environmental Protection to make continued progress on an aircraft CO₂ standard**
- **U.S. experts engaged in ongoing work at ICAO on market-based measures**



Voluntary Airport Low Emission Program



- **National program to reduce all sources of airport ground emissions**

- **Chicago O'Hare – Gate Power**

- Gate electrification and preconditioned air units for six gates



- **Albuquerque International – Alternative Fuel**

- Solar power system on six parking garage rooftops



Science & Decision-making



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Moving Forward

- **The ICAO 2010 Assembly Resolution provides the basis for addressing aviation CO₂ emissions**
- **The international aviation community must continue to make progress mitigating aviation's contribution to global CO₂ emissions**
- **The EU ETS continues to be a distraction as it undermines global efforts; we need a multilateral approach through ICAO**
- **The U.S. government and aviation industry are committed to working with partners around the world to help reduce aviation's carbon footprint in the future**

