

GREENING U.S. AVIATION



Carl Burleson

*Director, Office of Environment and Energy
Federal Aviation Administration*

The Way Forward: How to Make Aviation Sustainable

*Presented to: ICAO Colloquium on Aviation and Climate Change
May 12, 2010*



**ACT>>>
GLOBAL**

ICAO. UNITING AVIATION ON CLIMATE CHANGE

ICAO Colloquium on Aviation and Climate Change

GREENING U.S. AVIATION

The Challenge:

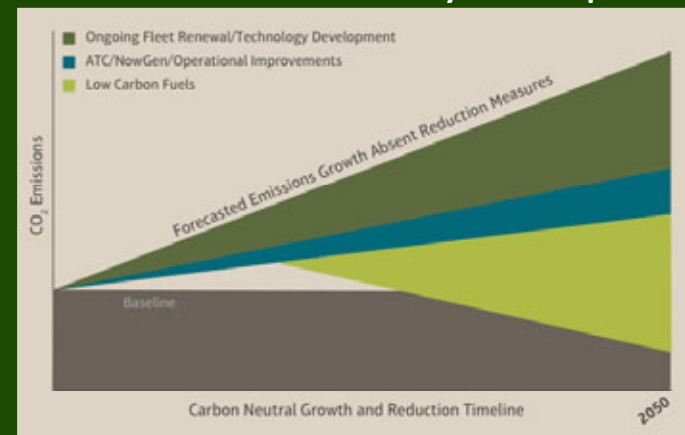
- *Enable increased mobility while reducing climate and other environmental impacts in absolute terms.*

The Solution - U.S. five-pillar approach

- Advance Scientific Understanding, Improve Environmental Analysis Capability
- Accelerate Operational Changes
- Mature New Aircraft Technology
- Develop Alternative Fuels
- Examine Policies and Market Based Measures

Our Plans

- Aggressive efficiency improvements of at least 2% per year
- Carbon neutral growth by 2020, absolute reductions by 2050
- Aircraft and engine CO₂ and other emissions standards



Science & Decision-making

How will we decide which policies, technologies, fuels, and operational procedures best address societal needs for mobility and a clean environment?

GREENING U.S. AVIATION

- * *Aviation Emissions Characterization (AEC) Roadmap*
- * *Aviation Climate Change Research Initiative (ACCRI)*
- * *Evolving Noise Metrics and Health Impacts Plan*
- * *New Integrated Tools and Models used in Standard Setting*

Operations

What role can operations play in limiting aviation's environmental impact?

GREENING U.S. AVIATION

- * *Exploring opportunities in every phase of flight.*
 - *Optimizing ground operations*
 - *RNAV Departures*
 - *Enroute Optimization*
 - *Continuous Descent Arrivals*
- * *Ongoing international work in AIRE and ASPIRE Initiatives*

Aircraft Technologies

How will future aircraft mitigate their environmental impact while enabling continued growth?

GREENING U.S. AVIATION

- * Historically new technology accounts for majority of environmental footprint reduction*
- * New concepts offer promise for improvement*
- * Collaborative demonstrations for technology transition*
- * FAA CLEEN Initiative*

Alternative Fuels

Can alternative fuels provide aviation with a sustainable source of energy to power both the fleet of today and that of tomorrow?

GREENING U.S. AVIATION

Commercial Aviation Alternative Fuel Initiative (CAAFI)

- Looking at a range of fuels*
- Assessing business, safety, and environmental aspects*
- Aggressive certification targets*
- Operational use in 3-5 years*

Policies and Market Based Measures

Can we use policy and market-based measures to help achieve sustainable aviation growth?

Developing an “Environmental Management Systems (EMS) Approach” for NextGen

Developing initial goals, metrics, and targets for NextGen





MOVING FORWARD

Climate change issues could prove the most significant environmental challenge to aviation growth.

U.S. NextGen plan offers an integrated approach of technology, operational and policy innovation to address environmental constraints.

International collaboration and partnerships are essential to success.

We applaud ICAO's progress and look forward to working to implement global solutions