Recovering from COVID-19
The Airline Perspective

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Climate Change and Aviation: Opportunities in the Midst of Adversity
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OVERVIEW

• Impact of COVID-19

• Despite the Negative Economic Impacts of COVID-19, Airlines are Committed to Contributing to and Supporting Environmental Progress

• Recovering from COVID: Building on Aviation’s Strong Record

• The Important Role of Sustainable Aviation Fuel (SAF)

• Need to Recognize Importance of Maintaining Aviation’s Role in Achieving a Sustainable Future
Impact of COVID-19
Economic impact has been devastating

- In U.S., particularly significant impact on passenger carriers
- Worldwide passenger traffic (RPK) down 66%, cargo traffic down 11% (RTK) [Source: IATA]
- International travel and business travel been hit even harder (down ~80%, ~85%), compromising significant revenue streams
- Passenger carrier revenue down 61.5% YOY in first nine months of 2020

Also, **accelerated** retirement of less-efficient aircraft: as industry recovers and replenishes the fleet it will do so with new, more efficient aircraft
Impact of COVID-19

*Intensified* focus on environment and sustainability

“Build Back Better” is the more than an aspiration, it is the expectation

The worst economic crisis in the industry’s history has strengthened airlines’ commitment to sustainability and the environment

Sustainability of our economy and society depends on healthy, vibrant – in other words, a sustainable – air transportation system

We recognize the importance of our sector and our responsibility to ensure its sustainability

Today’s panel focuses on one aspect of sustainability: achieving climate goals
Aviation Is a Relatively Small Contributor

- Domestic U.S. commercial aviation = 2% GHGs (source: EPA)
- Worldwide aviation = 2% (source: IPCC)

We Have a Strong Record - U.S. Airlines:

- Improved fuel efficiency over 135% between 1978 and 2019
- Saved over 5 billion metric tons of CO₂ (equivalent to taking 27 million cars off the road each year since 1978)

But There Are Concerns . . .

- Potential for aviation emissions growth and challenges to meeting ambitious reduction targets

The Global Aviation Industry Is Working Hard to Address These Concerns
Recovery from COVID - Achieving Climate Goals

Building and Improving on our Environmental Record

Airlines Remain Committed to Ambitious Emissions Targets

- 1.5% annual average fuel and carbon efficiency improvement, 2009-2020
- Carbon neutral growth starting in 2020
- 50% net reduction in CO₂ in 2050 relative to 2005 levels

Key Focus on Technology, Operations, Infrastructure & SAF

Implementing 2016 United Nations International Civil Aviation Organization (ICAO) Agreements

- ICAO CO₂ certification standard for new aircraft (2020 and 2023 implementation dates)
- ICAO Carbon Offsetting & Reduction Scheme for International Aviation (CORSIA), emissions monitoring began in 2019, offsetting 2021+ (includes crediting for SAF use)
Recovery from COVID - Achieving Climate Goals

Building and Improving on our Environmental Record

We are Continuing to Push Hard on Technology, Operations and Infrastructure.

But that Will Not be Enough to Meet Reduction Targets

Expected “gap” to be met by other means, CORSIA, emergence of radical new technologies, but SAF will be critical to success.

Source: ICAO CAEP 2019
Achieving Climate Goals

Critical Role of Sustainable Aviation Fuel

Commercial Aviation Will Rely on Liquid Fuels for Years to Come

- For example, viable electric or hydrogen alternative unlikely to significantly penetrate the market next several decades, whereas cars can switch from liquid fuels in the nearer term

What is SAF? Basic Definition:

- SAF is one of the terms used to describe non-petroleum-derived aviation fuel proven to be safe, which emits less carbon from a life-cycle perspective and meets other environmental and economic sustainability criteria

Terms Commonly Considered Synonyms:

- Sustainable Alternative Jet Fuel; “Bio-jet” Fuel; Alternative Jet Fuel; Renewable Jet Fuel

Benefits in Addition to Greenhouse Gas Emissions Reduction:

- Local air quality benefits (primarily particulate matter)
- “Sustainability” more broadly
- Potential to enhance energy security
Achieving Climate Goals

Critical Role of Sustainable Aviation Fuel

We’ve Made Significant Progress through Public-Private Partnerships

Safety – *Paramount Precondition*, Achieved Through:
- ASTM specification D7566; and
- Application of procedures to assure fuel quality is maintained

Environmental Benefit – Addressed Through:
- Lifecycle GHG assessment (LCA), benefits up to 80%; and
- Sustainability review/certification

Commercial Viability
- Need cost competitiveness and
- Supply scale up and reliability of supply

ACCOMPLISHED

PROTOCOLS ESTABLISHED

PROGRESS, BUT CHALLENGES REMAIN

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Critical Role of Sustainable Aviation Fuel

What is needed to ensure commercial viability so SAF is available in quantities sufficient to achieve emissions goals?

✅ Collaborative, Cooperative Efforts Across Key Stakeholders
  • We have multiple cooperative efforts (e.g., CAAFI; CLEEN; ASCENT)

✅ Market Signals from Fuel Purchasers
  • United, American, Alaska and JetBlue currently are taking supply; other A4A members have SAF offtake agreements with prospective suppliers

❓ Consistent and Sustained Policy from Governments

❓ Scale-up Capability and “Positive” Economics (Relative to Renewable Diesel and Petroleum-Based Jet Fuel)
  • Includes opportunities for regionally available feedstocks
Achieving Climate Goals

Critical Role of Sustainable Aviation Fuel

Mechanisms to Scale Up and Enhance Cost-Competitiveness

- SAF is still very expensive and scale-up takes time
- Need stable alternative fuels programs
- Tax incentives: e.g., currently none for SAF specifically; the $1/gallon federal blender’s tax credit for biodiesel/renewable diesel expired for 2 years, now reinstated but only through 2022
  - NOTE: The aviation industry and SAF producers are seeking a SAF-specific federal tax credit
- Positive support is good (e.g., tax incentives; loan guarantees; grant programs for promising technologies) – mandates are not (unlike for ground-based alternative fuels, still an immature market)
Achieving Climate Goals

Critical Role of Sustainable Aviation Fuel

**SAF Should Remain a Priority in the Resource-Constrained Environment During and in the Wake of COVID-19**

Global, National, Regional and Local Economies Rely Heavily on Air Transportation Services – Sustainability of Economies Will Depend on Sustainability of Aviation

The SAF Bioeconomy Will Create Jobs and Provide Climate Change, Local Air Quality, Sustainability and Energy Security Benefits

Again, Commercial Aviation Will Rely on Liquid Fuels for Years to Come - The Aviation, Fuel Producer & Bioenergy Communities Remain Committed and Are Devoting Significant Resources to Develop and Deploy SAF
Looking Beyond COVID-19
Aviation is Critical to Achieving a Sustainable Future

Economic Good

Critical Enabler of Commerce
See A4A -
http://airlines.org/weconnecttheworld/

Environmental Good

Environmental Stewardship
See A4A –
http://airlines.org/industry/#greener

Social Good

Key Contributor to Society
See A4A –
http://airlines.org/airlines-give-back/
Looking Beyond COVID-19

Aviation is Critical to Achieving a Sustainable Future

~ 750,000 direct employees

28,000 worldwide flights per day

2.5 million passengers per day

58,000 tons of cargo per day

2 percent of the nation’s greenhouse gas emissions

5 percent of the nation’s GDP

94 percent reduction in aircraft noise exposure since 1975

And we’re committed to flying even greener

*NOTE: Pre-COVID Levels