



**ICAO AVIATION AND SUSTAINABLE  
ALTERNATIVE FUELS  
WORKSHOP**

ICAO Headquarters, Montréal, Canada

18 to 20 October 2011



# Sustainable Alternative fuels for Aviation Progress to date

Jane Hupe  
Chief Environment Branch  
ICAO



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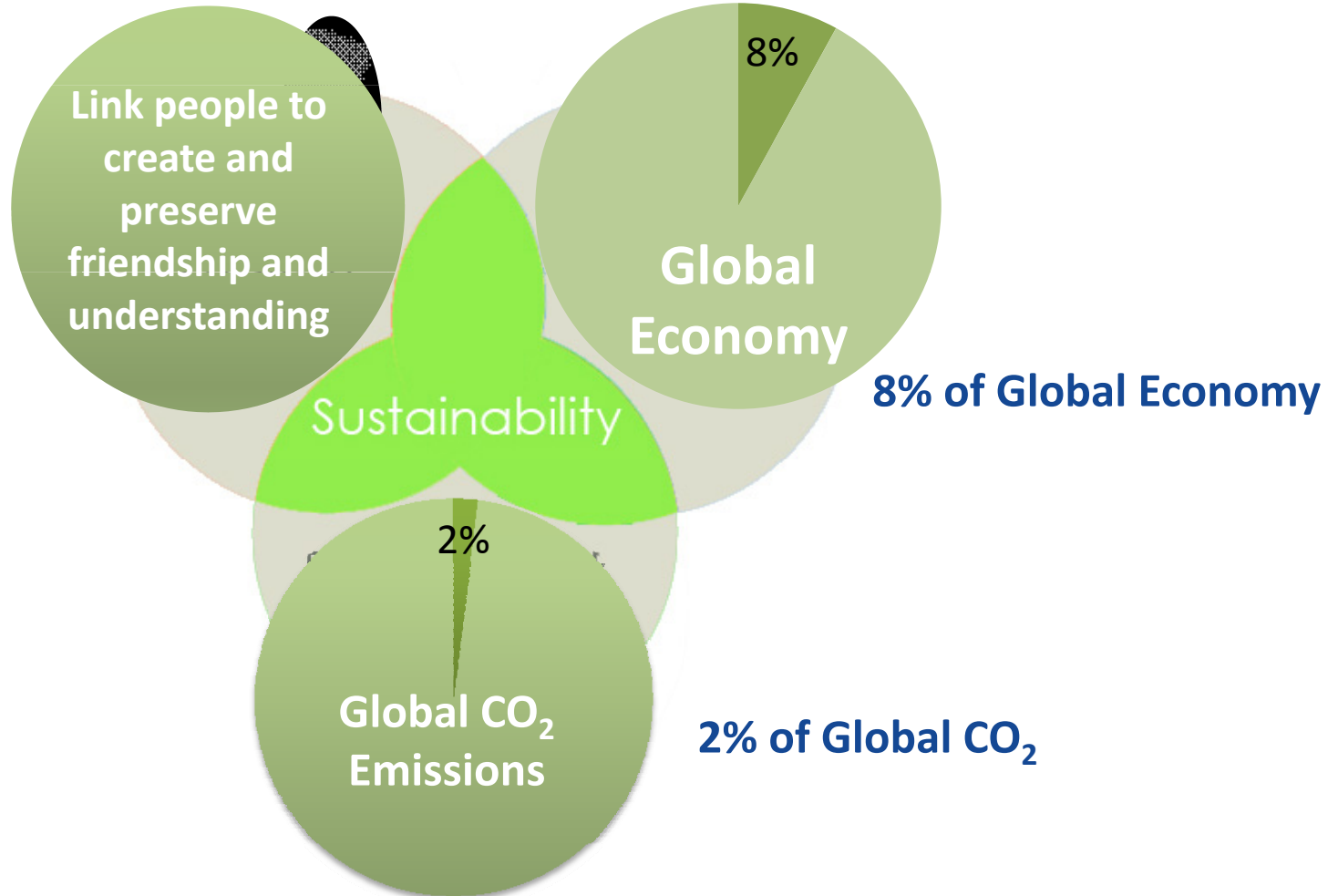
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**Aviation - Social, Economic and  
Environmental pillars of  
Sustainable Development**



**2.5 Billion  
Passengers**

**32 Million Jobs  
Worldwide**

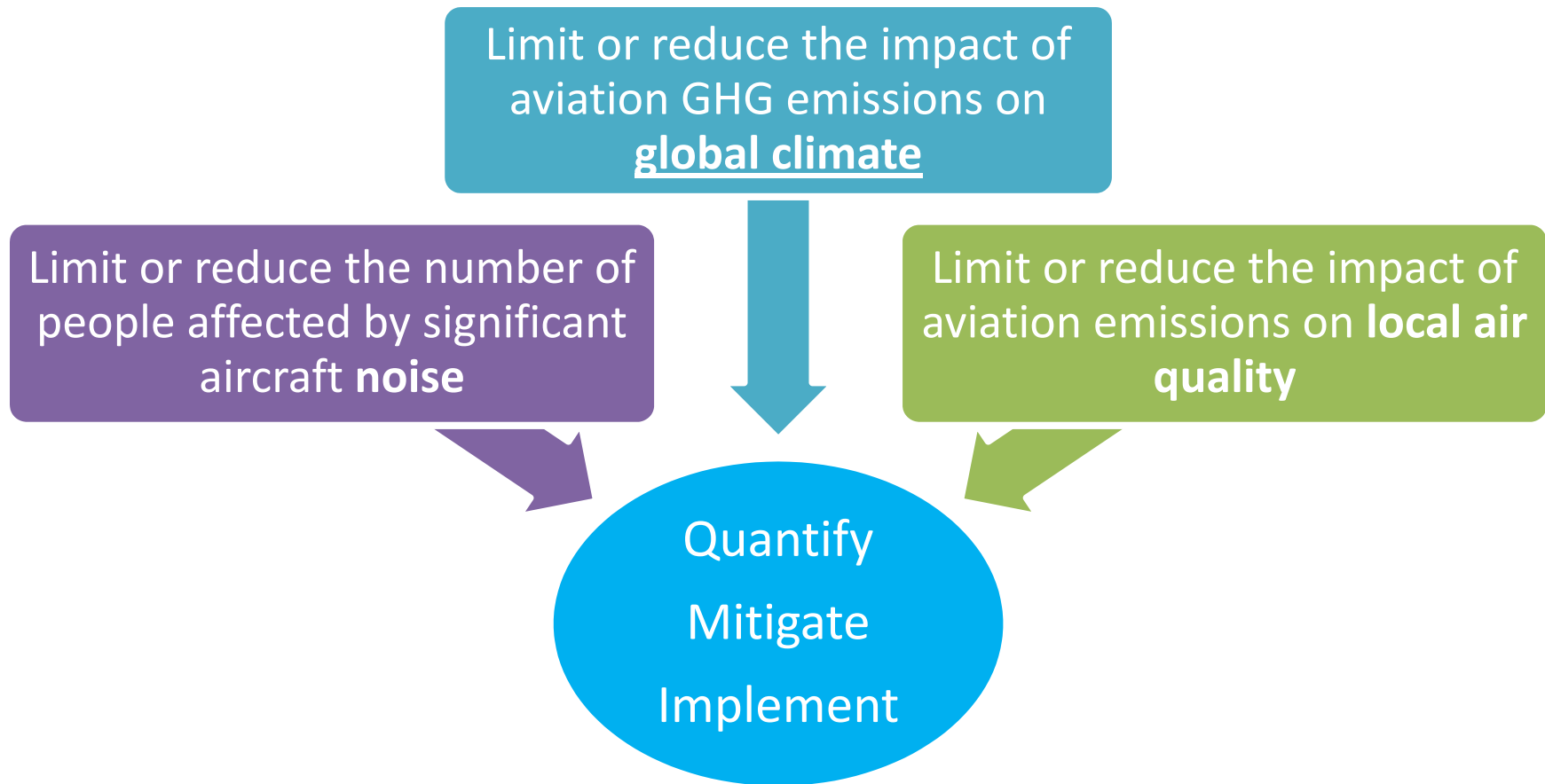




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# ICAO Environmental Goals





# Quantification, Mitigation and Implementation



## Approach to Quantification through:

- Data Collection and Compilation (RTK, Fuels and Emissions Reduction)
- Forecasting
- Modelling

## Approach to Mitigation through a **Basket of Measures**:

- Technology and Standards
- Operational Measures
- Market-based Measures
- **Alternative Fuels**

## Approach to Implementation through:

- States' action plans and Assistance to States



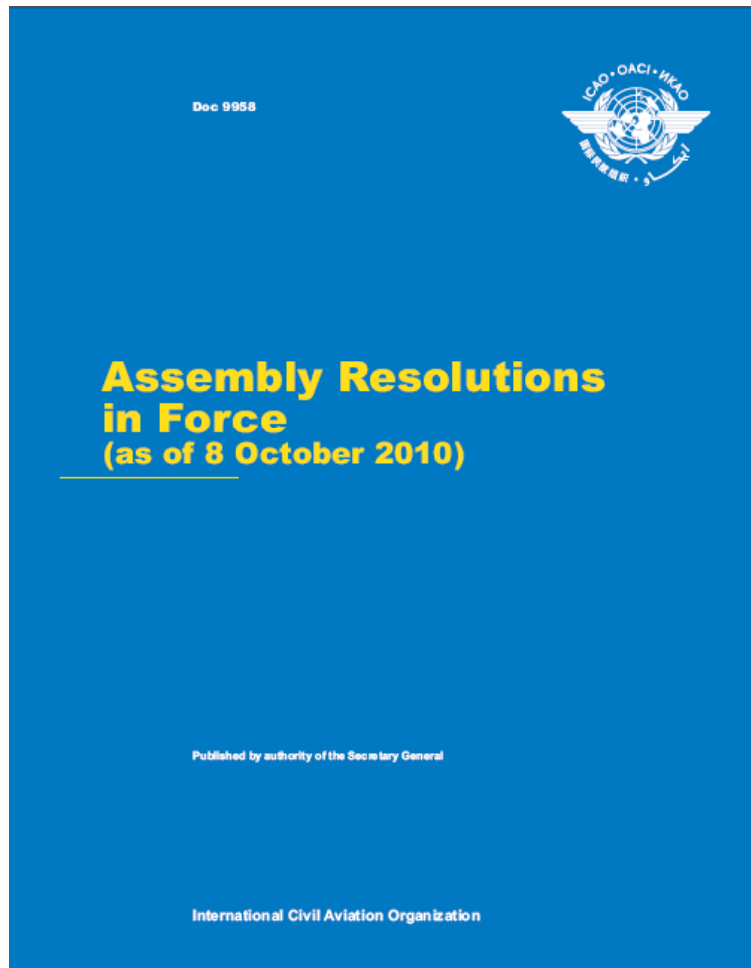
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# ICAO Climate Change Policy



## **A37-19: Consolidated statement of continuing ICAO policies and practices related to environmental protection – Climate change, adopted by 37th ICAO Assembly in October 2010**



ICAO requested to facilitate the  
development , deployment and use of  
sustainable alternative fuels for  
aviation



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## Resolution A37-19



Resolution A37-19 adopted by 37th ICAO Assembly in October 2010 requests the Council to

“Encourage member States and invite industry to actively participate in further work on sustainable alternative fuels for aviation”



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# ICAO



ASSEMBLY - 37<sup>TH</sup> SESSION

28 SEPTEMBER - 8 OCTOBER 2010  
ICAO HEADQUARTERS, MONTRÉAL

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## ICAO is a Facilitator



Outreach  
Information exchange  
International collaboration  
Broader view  
Globally

ICAO CONFERENCE  
AVIATION AND ALTERNATIVE FUELS  
RIO DE JANEIRO, BRAZIL  
16 - 18 NOVEMBER 2009  
Hosted by the  
National Agency of Civil Aviation (ANAC) Brazil

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# GFAAF



## ENVIRONMENT BRANCH



- Foreword
- Why sustainable alternative fuels for aviation are important
- The objectives of using sustainable alternative fuels for aviation
- ICAO's role in sustainable alternative fuels for aviation
- Summary of accomplishments and projected activities on sustainable alternative fuels for aviation\*
  - Biofuels activities
- Key ICAO activities on alternative fuels





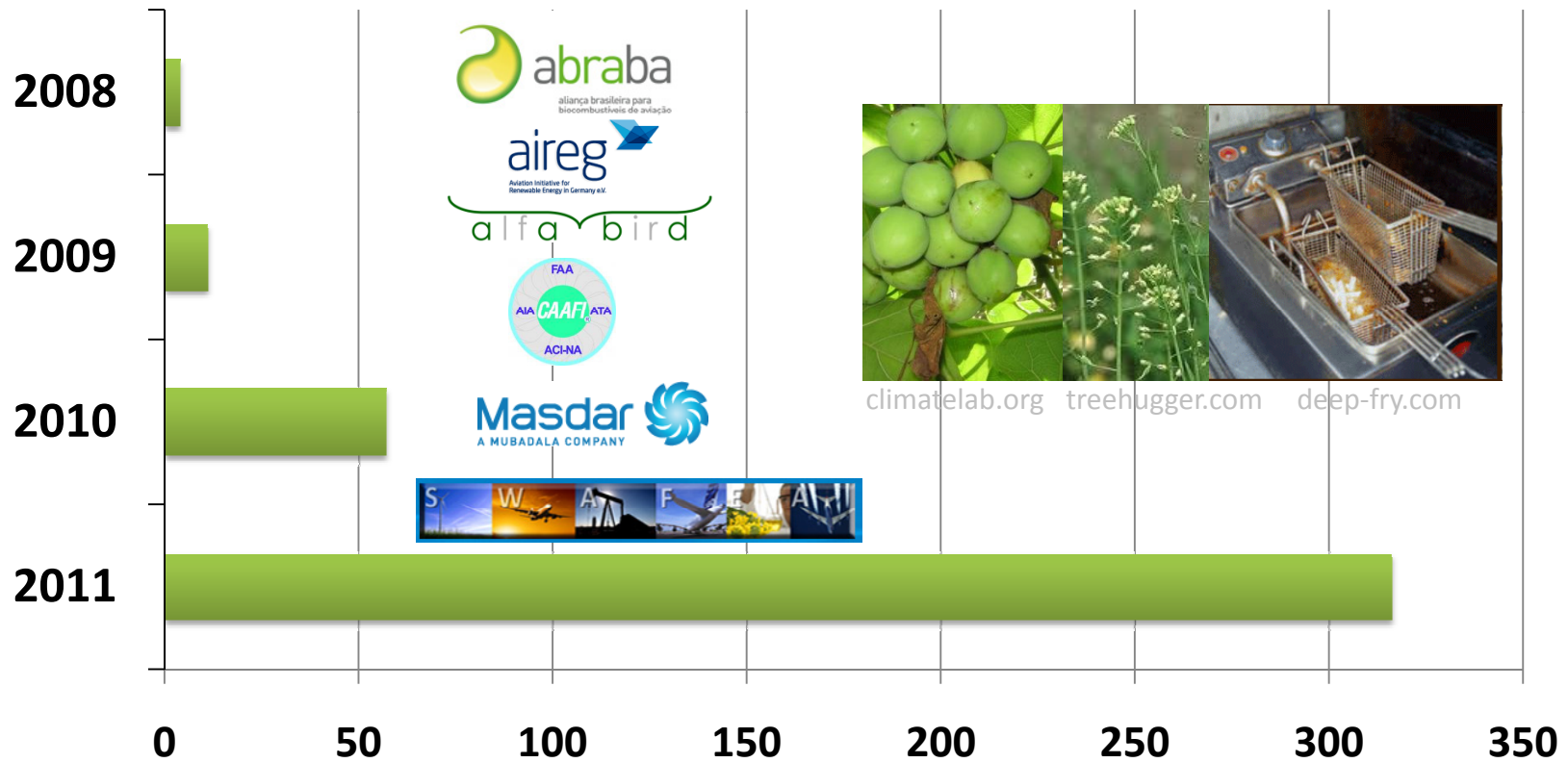
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# GFAAF



## Number of Initiatives





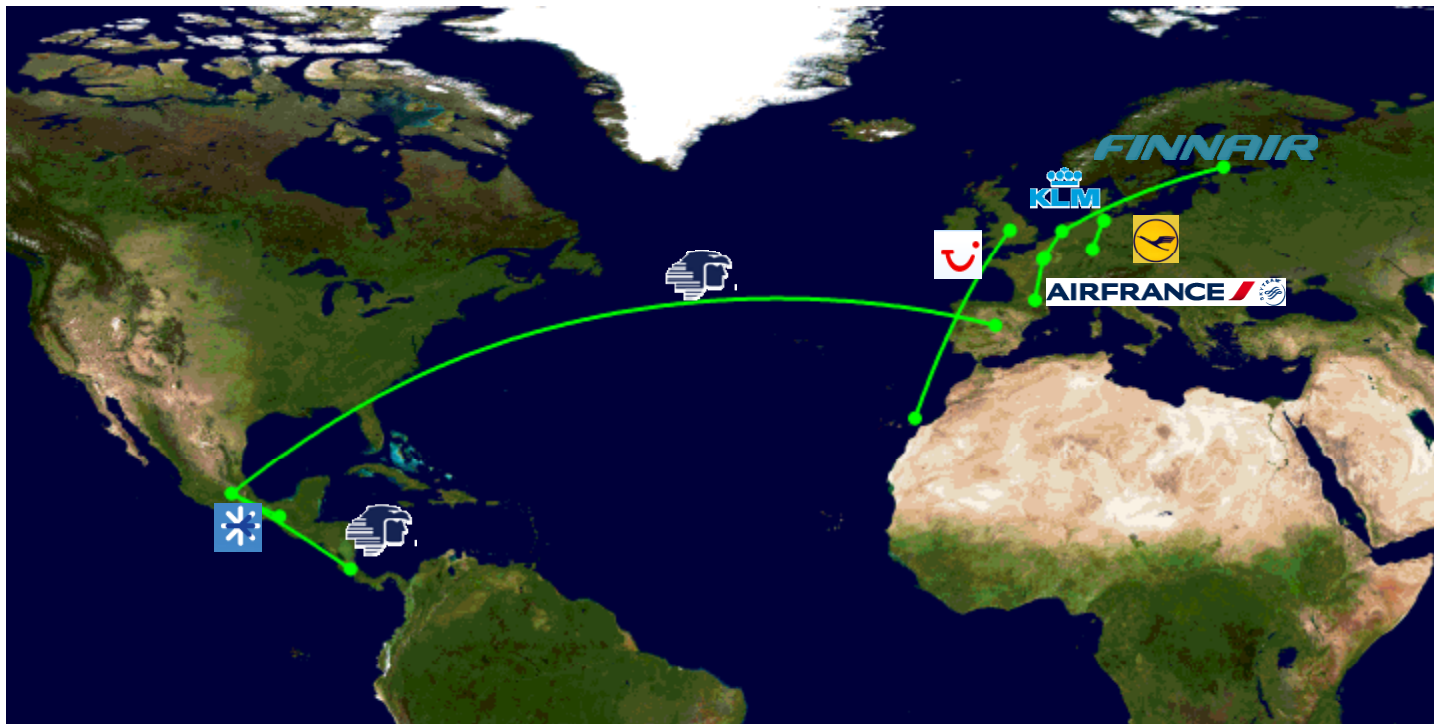
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# Commercial Flights!



- Since July 2011 it has been possible to fly on a commercial flight fuelled by an alternative fuel





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## Challenges





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**We are on the right path**





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# Workshop Programme



1. Setting the scene

2. Vision for the sustainability of alternative fuels for aviation

3. Consortia

4. Research

5. Qualification

6. Deployment

7. Partnership and Cooperation

8. Legal and Regulatory Framework

9. Accounting, Life-cycle analysis, Sustainability

10. Financing alternative fuels



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# For the Next Generation





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# Thank you

## To find out more:

- ICAO Alternative Fuels website [www.icao.int/AltFuels](http://www.icao.int/AltFuels)
- Report of the ICAO Conference on Aviation and Alternative Fuels (Doc 9933) - Nov. 2009
- ICAO Environmental Report 2010, Chapter 5

