



ISAFF Organization and objectives

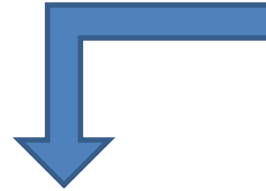
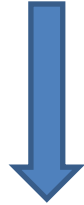
Ezio N. D'Addario
Isaff Secretary

FIRST ANNUAL WORKSHOP OF ISAFF
ROME, 4 NOVEMBER 2014

ISAFF FOUNDERS



WORLD ENERGY COUNCIL
CONSEIL MONDIAL DE L'ÉNERGIE



Official Birth
June 2013



PANORAMA: Civil Aviation Today

WORLD 2012

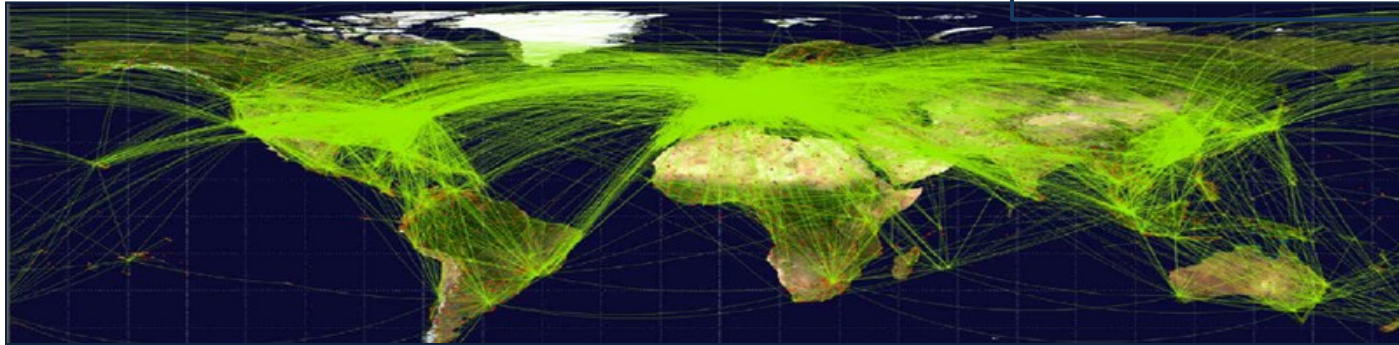
- 29 million flight¹
- 2,9 billion passengers¹
- 58 million jobs²
- 35% world value freight²

EU 28 2012³

- 9 million flight
- 600 million passengers
- 700 airports
- 9 million high level jobs

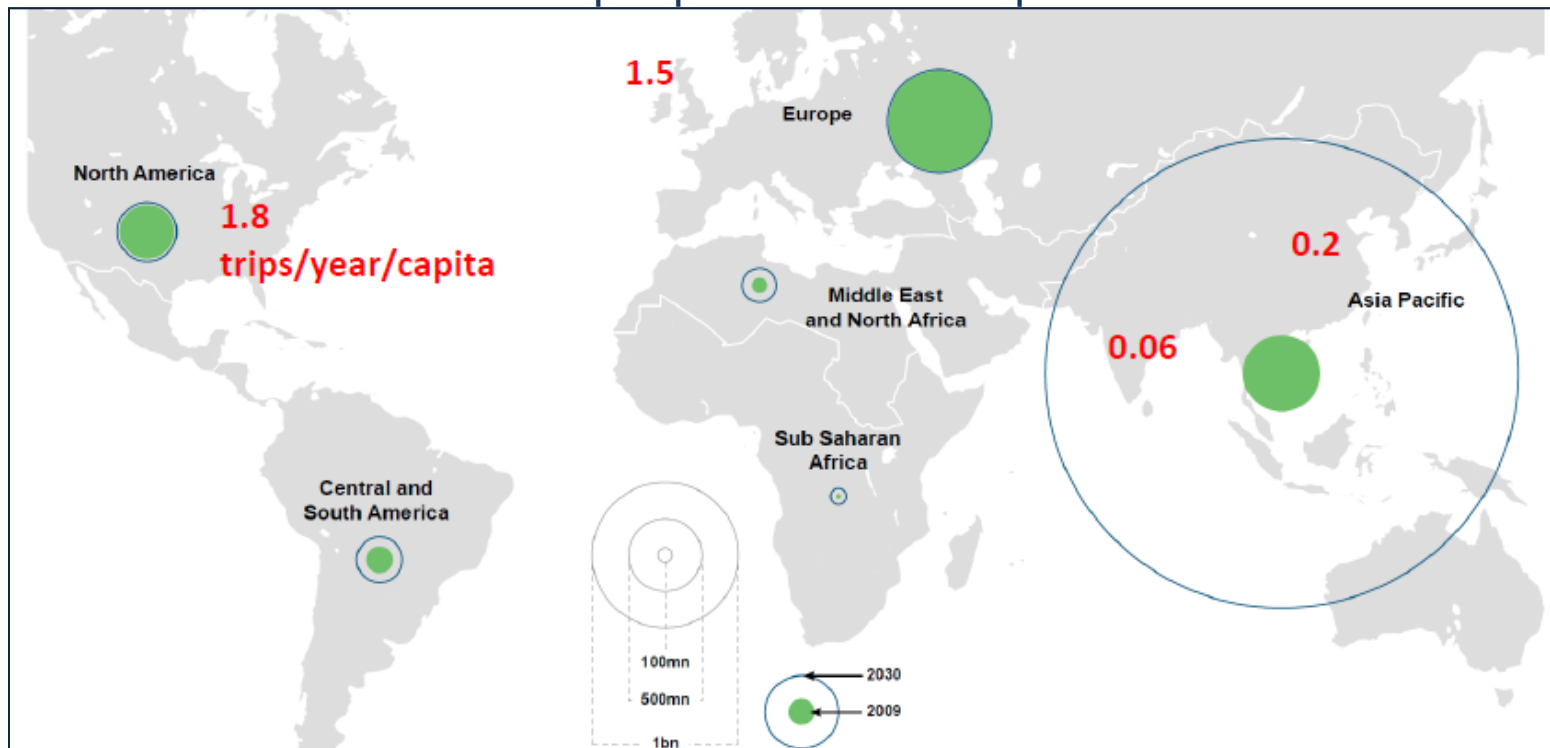
Italy 2013

- 1,3 million flight⁴
- 143 million passengers⁴
- 47 airports⁴
- 39,000 high level jobs only in industry, most in R&D⁵

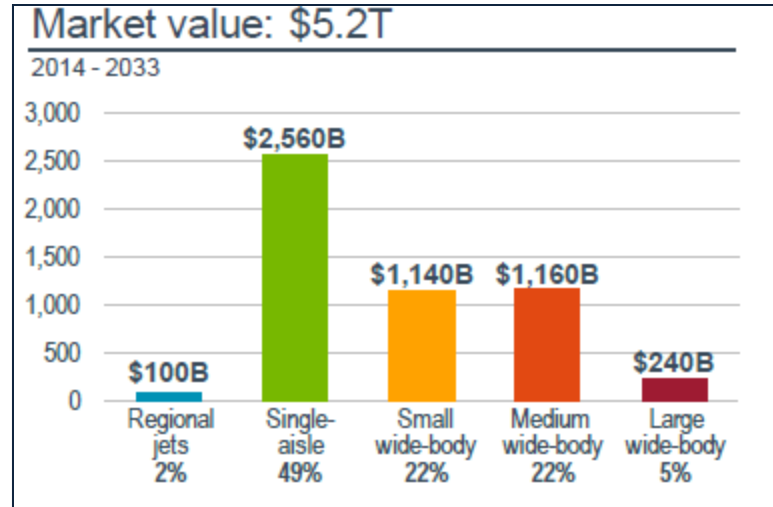
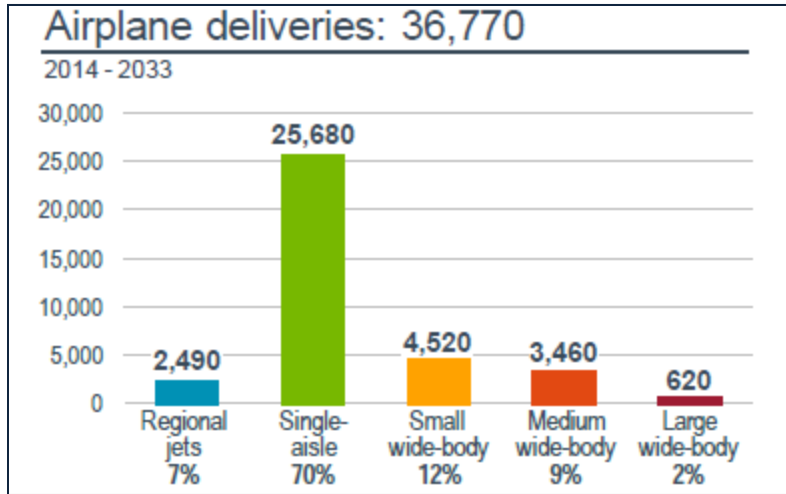


PANORAMA: Civil Aviation in the Future

Global middle class people in 2009 and prediction for 2030

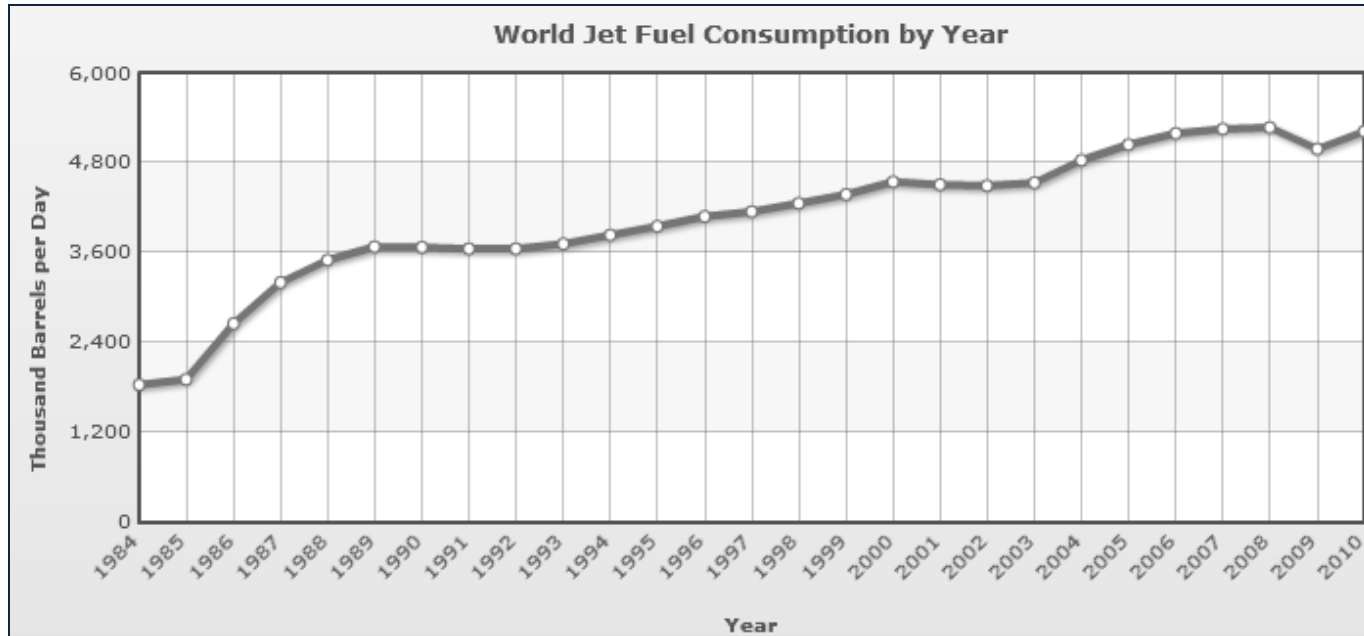


AIRPLANES NEEDED



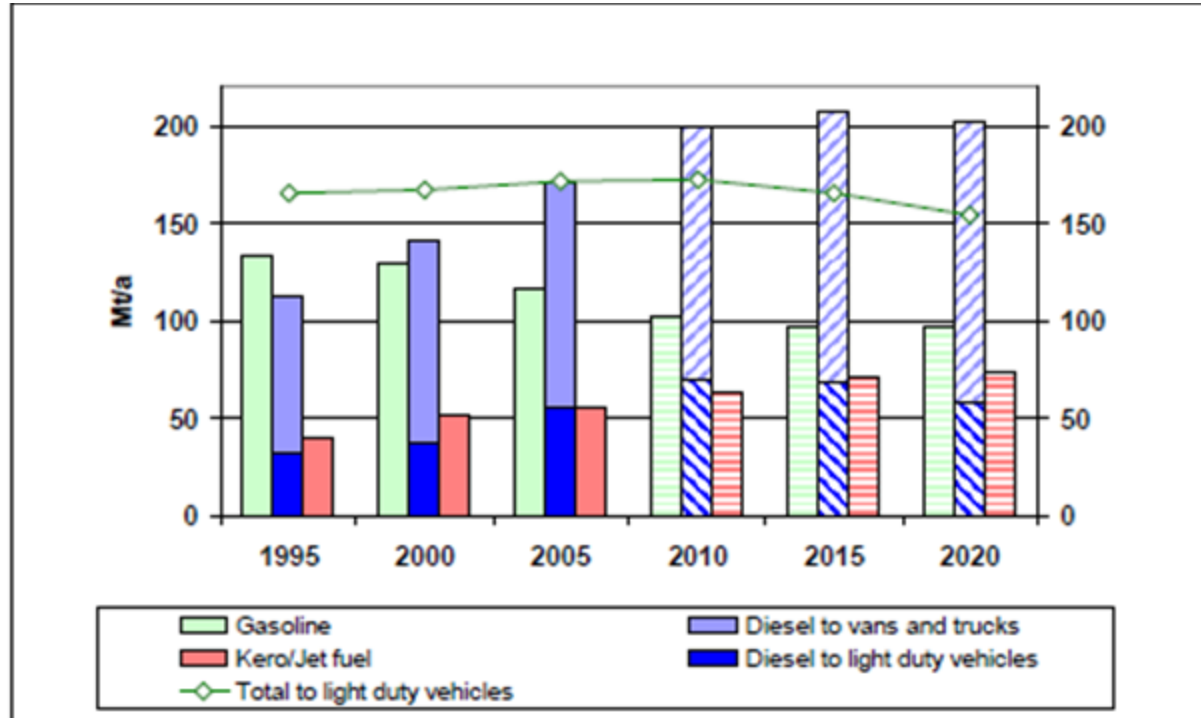
37,000 airplanes needed over the next 30 years

WORLD JET FUEL CONSUMPTION



- ❑ Consumption 2012: 280 million tons
- ❑ 30-40% of airlines cost is fuel
- ❑ 6% of fuel is burnt on ground

EU JET FUEL



Source Wood Mackenzie

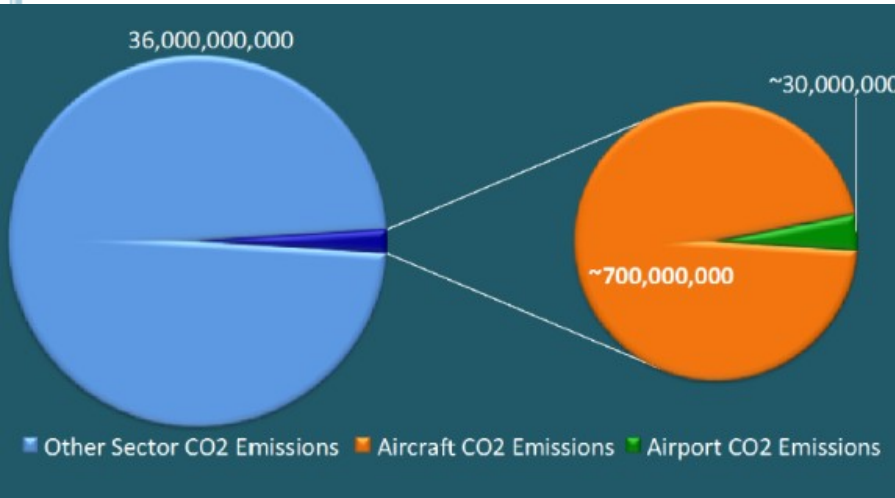
Average Jet fuel Growth rate: 4.5% per year until 2050 *



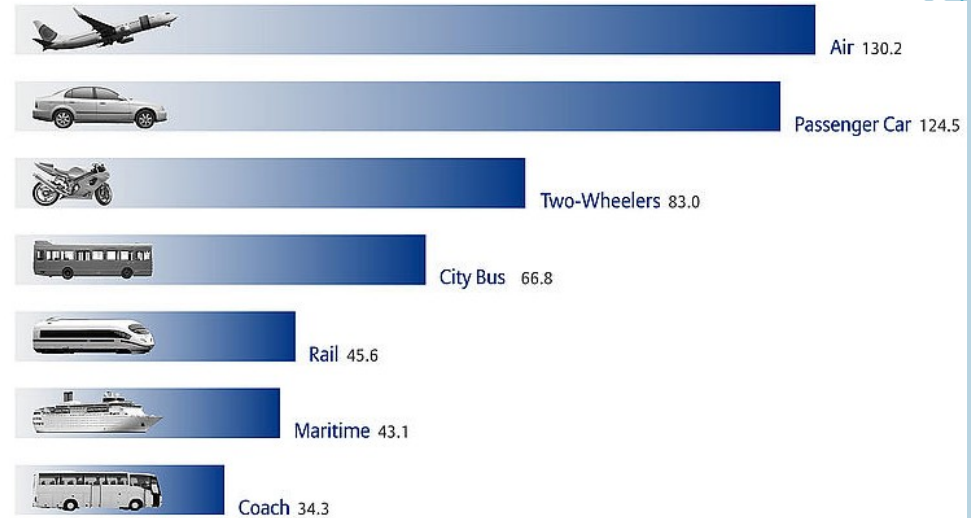
* EU Commission, Report: 2million tons per year – A performing biofuel supply chain for EU aviation

CO₂ EMISSIONS

CO₂ World emissions 2013, tons *

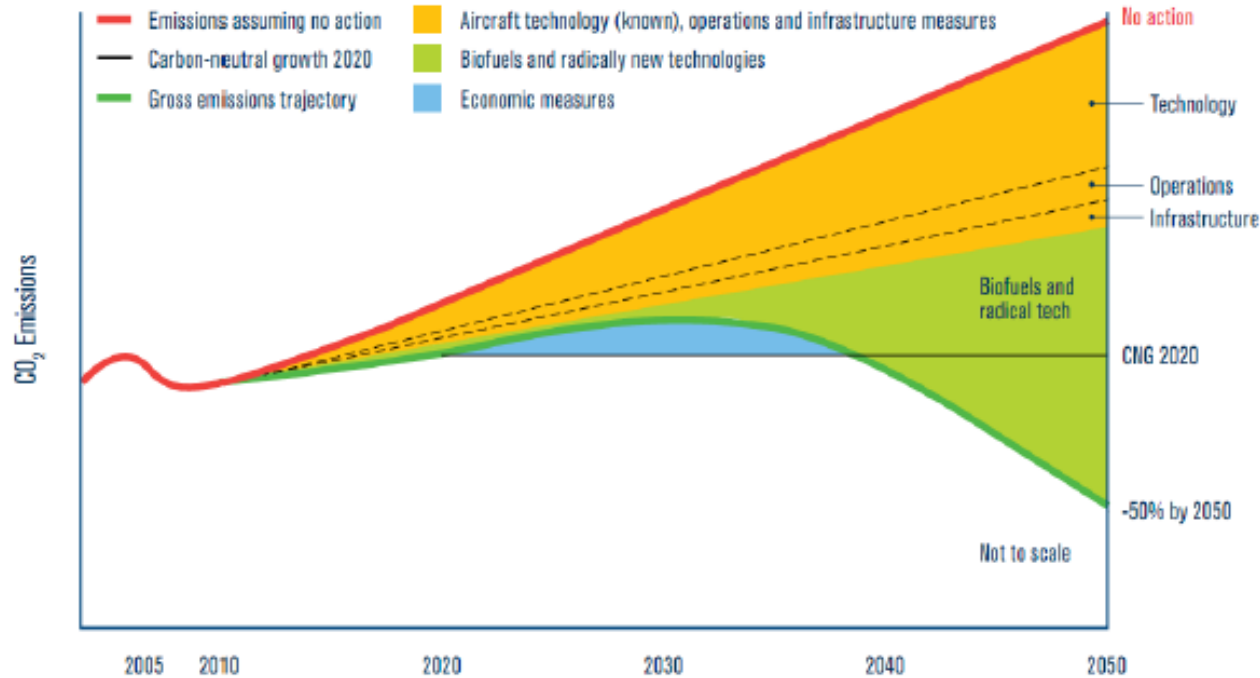


CO₂ Emissions per passenger, grams/km **



Transportation accounts for more than 23% of all global CO₂ emissions **
Civil aviation emission: around 10% of the entire transport sector

INDUSTRY INITIATIVES



TARGETS Industry international

- 2010: 1.5% per year fuel efficiency improvement
- 2020: Carbon neutral growth
- 2050: 50% GHC reduction over 2005 baseline

CARBON NEUTRAL GROWTH

- ❑ Capping Net Emissions at 2020 Levels
- ❑ Using a Combination of
 - ❑ Technologies i.e. Propulsion systems, Engine systems, Silencers, included Biofuels, Energy harvesting, Fuel cells
 - ❑ Operational Efficiencies i.e. Future ATM, Innovative cockpit, Formation Flight, Avionics
 - ❑ Infrastructure Improvements
 - ❑ Economic Measures



Regulations for GHG emission reduction

- ❑ Introduction of ETS for carbon trading to intra-extra European flight starting from 2012 initially adopted by EU
- ❑ Opposition of many powerful countries: USA, China, Russia, etc.
- ❑ Introduction of global CO2 trading scheme (Market Based Mechanism) postponed to 2016 (38° ICAO general Assembly Sept. 2013, Montreal) single state free national initiatives
- ❑ Iter for approval of ETS to intra-European flight ended last April
- ❑ EPA, pushed by NGOs, is cooperating with CAEP (ICAO) for MBM development

ISAFF Objectives

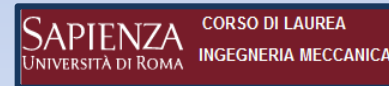
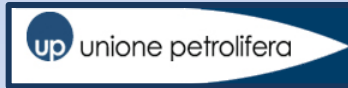
- ❑ To monitor, select and disseminate relevant information in aviation and complementary energy areas, particularly on: propulsion technologies and energy efficiencies, emissions regulations, quality fuel standards, **sustainability policies and support to alternative fuels**, supply chains, airport technologies and ground systems
- ❑ To assist members and individuals in the process of identification and transmission of new instances to authorities and institutions engaged on energy, environment and transportation topics
- ❑ To identify Italian supply chains and coordinate activities related to economical analysis and environmental, and social impact
- ❑ To act as a trait d'union among members and facilitate campaigns aiming at promoting practical initiatives on new jet fuel

ISAFF MEMBERS

ADVISORY COMMITTEE



ORDINARY MEMBERS



CONTACTS: 34

ORGANIZATION



**ADVISORY
COMMITTEE**

**EXTERNAL
RELATIONS**

SECRETARIAT

**WORKING GROUP
TECHNOLOGY**

**WORKING GROUP
LEGISLATION**

**WORK PACKAGE 1
Fuel Specification**

**WORK PACKAGE 2
Sustainability
Certification**

**WORK PACKAGE 4
2nd Generation Jet
Fuel**

**WORK PACKAGE 3
Carbon Trading**

**WORK PACKAGE 5
Transportation
Ground Structures**

JET FUEL SUSTAINABILITY



Sustainable Aviation Fuel Users Group

SAFUG associates represent approximately 32% of commercial aviation fuel demand

“Jet fuel plant sources should be developed in a manner which is non-competitive with food and where biodiversity impacts are minimized; in addition, the cultivation of those plant sources should not jeopardize drinking water supplies.”



BioJet Fuel Bottlenecks

Feedstock Demand

Feedstock Availability

Sustainability

Costs

Political Measures

Technologies

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This Workshop

