3rd Bioenergy Week
Medan (Sumatra), Indonesia
28 May 2015

Advanced Biofuels
An overview on international discussions on Aviation Biofuels
ICAO global aspirational goals

Contribution of Measures for Reducing International Aviation Net CO₂ Emissions

- 2010 Fleet and Operational Efficiency
- ATM & Infrastructure
- Aircraft Technology
- Sustainable Alternative Fuels and Market-Based Measures

CO₂ Emissions Trends

“Basket of measures”

Carbon Neutral Growth from 2020
ICAO aspirational goals

Basket of measures

- Improve efficiency
  - Aircraft technology
  - Aircraft operations
- Economic measures ➔ “Market-based Measures”
- Introducing low carbon footprint fuels ➔ Sustainable alternative fuels
“Drop-in” fuels

• Alternative fuels for aviation need to be drop-in
  Biofuels used in road transportation are not suitable for use in aviation

• Severe constraints in use on aviation fuels
  – Freezing point (- 47 °C)
  – Energy content
  – Aromatics
  – …

• Compatibility with existing aircraft systems

• Aviation fuels need to be approved
  – ASTM, DEFSTAN,…
• Supporting Member States and stakeholders efforts through fostering exchanges, information sharing and further common work on sustainable alternative fuels

• Alternative Fuels task Force (AFTF)
  – Potential emissions savings from alternative fuels by 2050
  – Methodology to assess fuel life cycle emissions

• Information: Global Framework for Aviation Alternative Fuels (GFAAF)
  www.icao.int/environmental-protection/GFAAF
ICAQ ASSEMBLY REQUESTED MEMBER STATES TO:

- Development of coordinated national policy actions to accelerate the appropriate deployment of sustainable alternative jet fuels
- Measures to ensure sustainability of the fuels that should:
  - Achieve net GHG emissions reductions on a life cycle basis
  - Respect areas of high importance for biodiversity, conservation and benefits from ecosystems
  - Contribute to local social and economic development, and avoid competition with food and water
- Cooperation through ICAO to exchange information and best practices
- Need for increased harmonisation for sustainability
First commercial flights in 2011: More than 1700 flights to date

Key challenges on the road

- Bringing technologies to market
- Decreasing production cost
- Investing in conversion facilities
- Producing enough sustainable feedstock
- Ensuring sustainable deployment

⇒ Supportive policy frameworks required
⇒ Time before large market penetration
ICAO’s contribution to the COP/21 (Paris Dec 2015)

• “Environmental Global Aviation Partnerships (E-GAP) on Emissions Reductions”
  – Partnerships for Multiplying Environmental Action
  – Building new and strengthening existing partnerships involving Member States and other organizations
  – Preparation for COP/21

• E-GAP seminar at ICAO on September, 16-17th
  – Panel on Sustainable Alternative Fuels
  – Partnerships and Synergies among different stakeholders
Terima Kasih
Thank you