

Advanced Biofuels FlightPath Initiative:

Progress & hurdles of getting biofuels in the air

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The European Biofuels FlightPath

2 MTons of Aviation BioFuels in 2020 = 4% of EU fuel consumption



NESTE OIL

AIRFRANCE



BRITISH AIRWAYS



http://ec.europa.eu/energy/renewables/biofuels/flight_path_en.htm

What have we learned so far?

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Pathways, value chains and conversion technologies

Focus on Conversion Technology

- Proof of Concept
- Pilot plants, Demo plants, Commercial plants
- Test Flights
- Standards

Started with emphasis on Fisher-Tropsch (FT) & Hydrotreated Esthers and Fatty Acids (HEFA)

Now in addition we have pyrolysis oils, alcohol to jet, direct sugar conversion to jet, catalytic sugar conversion to jet, microbial conversion etc....

What have we learned so far?

A key barrier to large-scale roll-out: Financing!

Estimated financing needs 510 billion USD worldwide

Bank financing will require a viable business model

- **Proven and reliable technology**
- **Long term feedstock supply contract**
- **Long term sales contract**

Which factors must be addressed to facilitate bank financing of next generation biofuel facilities?

- **Experience of banks with first generation biofuels**
- **Regulatory risk, sustainability issues**
- **New supply chains; unproven feedstock and technology**

What have we learned so far?

Importance of sustainable supply of feedstock

The industry needs certainty and clarity...

- **ILUC**
- **Chain of Custody**
- **Verification**
- **Economics**

What have we learned so far?

Need for incentives

- **Need long-term policy stability**
e.g. grandfathering of incentives, bankability, mandates will not work for the airlines...
- **Need for cross ministerial discussions**
e.g. agriculture, energy, transport, industry
- **Government support for scaling-up and deployment of biojet production capacity**
- **Additional funding for R&D**

What is DG ENER doing?

1. Tender "**High Biofuel Blends in Aviation**"
(Contract with Lufthansa & Bundeswehr WIWeB)
2. 2013 FP7 ENERGY Call Topic "**Pre-commercial industrial scale demonstration plant on paraffinic biofuels for use in aviation**"
Contracts with BioChemtex and with Swedish Biofuels to be signed soon
3. Tender on "**Condensation trails**"
4. BioJet Map in coordination with the Core Team

What are the Flightpath industry members doing?

BRITISH AIRWAYS 

GreenSky project (high temperature waste gasification)

**KLM**

Rotterdam bioport

NESTE OIL

Microbial oils

 **Lufthansa**

burnFAIR, QuaNaBioL

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