

# Developments in the EU in the Advanced Biofuels Sector

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Europe should be the first climate neutral continent in the world.

"ALL OF US AND EVERY SECTOR WILL HAVE TO CONTRIBUTE TO REDUCE EMISSIONS, FROM AVIATION TO MARITIME TRANSPORT TO THE WAY EACH AND EVERYONE OF US TRAVELS AND LIVES. EMISSIONS MUST HAVE A PRICE THAT CHANGES OUR BEHAVIOUR."





![](_page_3_Picture_0.jpeg)

## **Development of GHG emissions in transport**

Greenhouse gas emission in the EU in percentage change since 1990:

![](_page_3_Figure_3.jpeg)

![](_page_4_Picture_0.jpeg)

![](_page_4_Picture_1.jpeg)

#### SECTORIAL RENEWABLE ENERGY SHARES (2004-2017)

![](_page_4_Figure_3.jpeg)

![](_page_5_Picture_0.jpeg)

# **GHG emission trajectory for 1.5 °C**

![](_page_5_Figure_2.jpeg)

![](_page_6_Picture_0.jpeg)

### Contribution of bioenergy to emissions reductions in 2DS and B2DS, (IEA 2018)

![](_page_6_Figure_2.jpeg)

Energy

![](_page_7_Picture_0.jpeg)

## **Transport sector**

![](_page_7_Figure_2.jpeg)

![](_page_8_Picture_0.jpeg)

35% 30% 25% 20% 15% 10% 5% 0% 2055 2030 2050 2005 2010 2015 2020 2025 2040 2065 2000 20352 2045 2060 2070 Electricity R&D Demonstration Scale up Saturation

% of Total Final Energy Consumption

Electricity in Transport

![](_page_9_Picture_0.jpeg)

25% 20% 15% 10% 5% 0% 2030 2050 2005 2010 2015 2020 2040 2045 2000 2057 2060 2067 2025 20352 2070

% of Total Final Energy Consumption

Biomass in Transport

Biomass R&D Demonstration Scale up Saturation

![](_page_10_Picture_0.jpeg)

### TARGETED POLICY ON PROMOTING RENEWABLES IN TRANSPORT

![](_page_10_Figure_2.jpeg)

- Indicative trajectory
- Scope: biofuels, res electricity, RFNBOs, recycled carbon fuels
- Contribution of conventional biofuels optional and limited.

#### Multipliers

![](_page_11_Picture_0.jpeg)

## Conclusions

- The transport sector, and in particular aviation, is specifically challenging in terms of decarbonisation and the ambition of making the EU the first climate neutral continent by the middle of this century
- There are no single solution to decarbonising mobility: all options have to be explored and different modes of transport will – in all likelihood – require different technological solutions
- On renewables and biofuels, the current EU regulatory framework offers clear guidance on the way forward – but additional measures are needed if we are to deliver the Green Deal.
- The role of bioenergy and liquid biofuels will remain very strong for the next decades.

![](_page_12_Picture_0.jpeg)

# Thank you for your attention!

More information:

http://ec.europa.eu/energy/renewables/

![](_page_13_Picture_0.jpeg)

# **Biokerosene Critical Issues: Cost**

Sustainable Aviation Fuels depend on the cost of the raw material.

They will always remain more expensive than fossil kerosene unless carbon tax will be adopted by the EU.

The cost of kerosene is very critical in the operations of an airline, +/- 33%

![](_page_14_Picture_0.jpeg)

## **Biokerosene Critical Issues: Sustainability**

**REDII** proposes a CAP for High ILUC Risk based biofuels and their subsequently gradual elimination by 2030.

This includes palm oil Hydrotreated Vegetable Oil (HVO) which at present is the cheapest resource to produce bio-kerosene.

Compatibility between REDII and CORSIA.

Conclusion: Sustainable Aviation Fuels come at a premium and this has to be recognised by all stakeholders

![](_page_15_Picture_0.jpeg)

# Smart Airport H2020 Call

The Call aims to foster the utilisation of low carbon renewable fuels (in particular biokerosene) in the EU market.

Efforts with airlines or biokerosene producers have proven difficult to unlock the present stalemate.

Using airports seems a way to avoid the chicken-egg situation by placing the emphasis on the hen house.

![](_page_16_Picture_0.jpeg)

# Advanced Biofuels FlightPath in Aviation

It all started in the EU in 2011 (World Biofuels Markets, Rotterdam March 2011) when the Commission invited Airbus, some airlines and some biofuel producers and agreed to coordinate their actions to promote biofuels in aviation.

The FlightPath policy position was announced via a Press Release on 22 June 2011 aiming to achieve a target of 2 million t/y biokerosene by 2020.

First actions were very intensive....

Then the EC established the *"Coordination of Renewable Fuel Stakeholders Strategy in the field of Aviation"* to support the Core Team of the FlightPath.