



Coordinating research and innovation in the field of sustainable alternative fuels for aviation

WP3: International Expert and Stakeholder Exchange

Due date: 30.11.2015
Actual submission date: 14.10.2016



Grant Agreement no.: FP7-605716
Call identifier: FP7-AAT-2013-RTD-1

Information submitted on behalf of CORE-JetFuel

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This project has received funding from the European Union's Seventh Programme for research technological development and demonstration under grant agreement No 605716



Deliverable 3.5
Minutes of Stakeholder Telephone Conference
Working Group 4 on Policies, Incentives and Regulation

SUBMITTED VERSION 1.0

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Work Package 3: International Expert and Stakeholder Exchange
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EXECUTIVE SUMMARY

Following up on the panel discussion held in context of the project's final conference on 16 and 17 June 2016 and the final conclusions extracted on the topic on Policies, Incentives and Regulations throughout the project, this deliverable summarizes the final conclusions obtained from both sources.

Successful deployment of biojet fuels will be difficult to accomplish in the current market without specific policy action and integrating aviation alternative fuel in the general bioenergy policy. Stakeholders involved in the Core-JetFuel Policies, Incentives and Regulation WG shared their views on how deployment could be encouraged and the following suggestions were proposed and discussed in the Final Stakeholder Workshop:

- There exists a large willingness of airlines to support alternative aviation fuels in order to ensure public support for the growth of the aviation sector.
- Airlines fear market distortions caused by e.g. mandates applicable only to certain regions. Additional costs should be shared by all sectors and players.
- The existing price gap may be addressed by de-risking investment, appropriate credits for environmental benefits, and public money/investment.
- Developments on alternative aviation fuels will not happen without preference over other applications due to stricter standards (i.e. level playing field is not sufficient).
- Counting alternative aviation fuels towards the obligation of fuel suppliers in Member States (as done in the Netherlands) is a viable option.

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Document Information

Project Title	CORE-JetFuel
Deliverable nature	R
Dissemination Level	PU
Start Date of the Project	01.09.2013
Duration	36 months
Contractual Delivery Date	30.06.2016
Actual Delivery Date	12.10.2016
Status	Submitted
Contractual	Yes
Version	1.0
Total Number of Pages	10
Work Package Number	3
Work Package Leader	WIP
Lead Beneficiary of Deliverable	SENASA

Revision Table

Issue	Date of issue	Author
0.1	12.10.2016	María de la Rica

LIST OF ABBREVIATIONS

CAEP	Committee for Aviation Environmental Protection
C-JF	CORE-JetFuel - Coordinating research and innovation in the field of sustainable alternative fuels for aviation
CO ₂	Carbon Dioxide
e.g.	for example
EC	European Commission
EU	European Union
GHG	Greenhouse Gas
GMBM	Global Market Based Measure
HEFA	Hydrotreated Esters and Fatty Acids
HVO	Hydrotreated Vegetable Oil
ICAO	International Civil Aviation Organization
MBM	Market Based Measures
MS	Member State
RED	Renewable Energy Directive
RFS	Renewable Fuel Standard
RIN	Renewable Identification Number

1 Introduction

Following up on the panel discussion held in context of the project's final conference on 16 and 17 June 2016 and the final conclusions extracted on the topic on Policies, Incentives and Regulations throughout the project, this deliverable compiles the final conclusions obtained from both sources.

Potential policy measures to promote biojet fuels include regulatory measures such as specific mandates for aviation biofuels, ICAO/CAEP Market-Based Measures (MBM), stimulation of innovation and projects in the supply chain through direct financing mechanisms, the promotion of voluntary initiatives and cooperation between major airports and airlines. It is clear that no single mechanism will promote alone the deployment of alternative fuels, but rather a combination of several initiatives can contribute to produce and consume significant levels.

In general, the project partners agree on the fact that there is a need to have clear objectives (in terms of volume of production) for aviation alternative fuels, including specific transport objectives for post 2020, which will be a first step in order to propose and implement specific policies and initiatives, both at EU and state level. From the policy analysis and input received during the project, we can select a number of items for which some recommendations can be given that have been reviewed below.

2 Specific Conclusions from the Policies Analysis and Stakeholder Workshops

Successful deployment of biojet fuels will be difficult to accomplish with market forces alone. The price gap is still high, especially for aviation biofuels, due to the fact that the production requires the latest available technologies and there is a lack of experience at all levels of its implementation (feedstock production phase, production and logistics). In addition, aviation is very stringent on final product quality and is willing to use a more restricted set of feedstock than other ways of transport in order to target only the most sustainable ones. Due to the immaturity of the market, the barriers for the production and use of aviation fuels are comparatively higher for other sectors such as road transportation or fixed installations.

One of the main requests coming from stakeholders is the need for policy stability and clear messages regarding the European and national position regarding aviation alternative fuels. In order to show such institutional support at national level it would be important to implement some basic measures such as counting biojet fuels towards the obligation of fuel suppliers in all Member States. Counting of biojet fuels towards the fuel suppliers' obligation is not a measure that will result in a strong impact in terms of deployment of fuels but it is, however, a necessary measure for putting aviation alternative fuels at a level playing field with other alternative fuels and it gives a positive signal to producers and other stakeholders. It is therefore a necessary first step before taking other measures which shows support and compromise from the individual national administrations. Counting with a strong institutional support, which is well reflected in the decision-making is essential for aviation alternative fuels deployment.

Policy stability is very linked with the sustainability requirements and all the related legislation. One of the main barriers for not adopting stronger policies is the lack of certainty that alternative fuels can be produced at large scale in a way that can guarantee sustainability, mainly due to previous experience with road transport fuels. The precautionary principle is important when there is a lack of scientific

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knowledge on the possible consequences of a certain policy but it is also important that those alternative fuels for which good environmental performance can be guaranteed are supported and incentivized. It is important to point out that the sustainability of the agricultural phase does not depend entirely on the type of feedstock but also on the practices used for the production. For this reason, environmental integrity safeguards are important, but it is important that they are established in a way that there is a benefit for the better performing fuels. The lack of harmonized sustainability criteria is also an issue for airlines. It would therefore be important to dedicate efforts in working towards a higher level of harmonization at ICAO level where this discussion can be approached at a global level in order to reach a common understanding of the sustainability criteria.

Another way of institutional support can be carried out by establishing partnerships between the public and private sector that offer security for investment in the long term avoiding the effects of possible legislative changes. It is important that the national administrations get involved in alternative fuel uptake, dedicating efforts and promoting voluntary off-take agreements. The implication of the administration in the promotion of voluntary off-take agreements is a key element to create small local or regional value chains. Public-private partnerships can start the establishment of value chains with small volumes to build a higher level of confidence in terms of supply, technical performance of the biofuels and airport logistics and distribution. This will allow generating technical progress and better knowledge of the flaws in the supply chain to try to overcome the barriers and improve the logistics.

Such initiatives are very linked to the fact that the risk of investment needs to be reduced in order to make alternative jet fuel production attractive, otherwise competing uses for the feedstock will always be more attractive since they offer lower risk levels. Other options to lower the risk are the inclusion of specific incentives, similar to the systems established in the US through the RINs system or the biotickets in the Netherlands.

Finally, there is a need to have greater level of integration of the aviation alternative fuel policy in a general transport alternative fuel strategy. Developing a common integrated strategy along with other ways of transport which could also be the target for alternative fuel use would be important in order to prioritize uses. The current availability of feedstock is limited and therefore it is important to have a strategy to define where this feedstock could be used, either for its environmental benefit or for economic reasons.

Main Outcomes of the Policies discussion in the Final Core-JetFuel Workshop

The final discussion on the Policies topic during the final workshop allowed to present the outcomes of the work carried out during the project and the last opportunity for stakeholder exchange.

The CORE-JetFuel activities in the field of policies, incentives and regulation included an analysis of the existing legislation and their impacts on the different regions as well as differences between different legislations (in particular EU RED and US RFS (Renewable Fuel Standard)), and recommendations on actions to be taken by the EU in the future. The main barriers were presented before the discussion:

- Limited supply due to lack of production capacity: Production capacity is mainly based on the HEFA route, lack of production facilities in Europe. HVO plants already exist or decided/under construction, but still mainly dedicated to biodiesel production.

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- High feedstock and production costs: Production costs of biojet fuel are more expensive than the production costs for fossil kerosene. It is not realistic for airlines to unilaterally support these additional costs.
- Lack of direct sectorial policy support: Existing biofuel policy measures are geared towards the use of biofuel in road transport rather than in aviation. Currently the RED and the ETS together do not provide a sufficient incentive to bridge the cost gap between fossil and biojet fuels.
- Concerns about sustainability: Legislative frameworks and voluntary schemes aim at ensuring sustainable biofuels, but differ in scope and details of the sustainability criteria that they cover

In order to tackle these barriers, the participants and public raised some possible solutions and points that need to be considered from the policy perspective:

- The existing price gap may be addressed by de-risking investment, appropriate credits for environmental benefits, and public money/investment. Off-take agreements or setting a steady demand are good means to de-risk investments.
- Counting alternative aviation fuels towards the obligation of fuel suppliers in Member States (as done in the Netherlands) is a viable option.
- Europe needs to look at the results of the policies that have been proposed in other regions of the world, such as Indonesia, where a 2% biofuels blend in 2016 and 5% in 2025 has been set as an objective. This initiative will be a very interesting lab case for market deployment of alternative aviation fuels.
- Aviation can be a driver for sustainable development as it is a market with higher sustainability constraints. A strong sustainability framework needs to be established on a global scale, due to its international nature.
- There exists a large willingness of airlines to support alternative aviation fuels in order to ensure public support for the growth of the aviation sector.
- Airlines fear market distortions caused by e.g. mandates applicable only to certain regions. Additional costs should be shared by all sectors and players.
- Although mandates are difficult to implement at this stage, setting targets with a specific roadmap would be necessary. After 2020 no sectoral targets are foreseen within RED, and allocation of targets to sectors will be up to MS.

3 Appendix I: Workshop Questions

In order to kick-off the panel discussion the following questions were proposed to the panelists:

- Price gap is, among other factors, one of the main barriers for deployment. If the strategy in the EU is to increase the deployment and the level of use of alternative fuels, what policy options do you consider more interesting to help closing such a gap?
- What can we learn from the experience in other countries/regions on the policies for the promotion of alternative fuels?
- The establishment of Public-Private-Partnerships is seen as one of the key instruments to create small local value chains and learn about the barriers to overcome. An example of this kind of partnership is the cooperation between major airports, airlines, and national administrations. This is important to establish small-scale/regional value chains that could later on evolve towards a higher level of use. What good practices could be implemented in this regard? Can we learn from previous experiences?
- Currently, the policy status in alternative fuels in Europe is under transition, with the objective of moving towards renewable fuels that minimize land use change. This will require an update of the objectives set in the Biofuels Flight Path and therefore the continuation of the stakeholder collaboration. What should be the priority when setting up such objectives and goals?
- The GMBM ICAO discussion includes the consideration of biofuels use as a possible way of reducing emissions for the regulated parties. What should be the European position in this regard? Should Europe have a stronger and common position in this negotiation? What should the European position be for the near future regarding aviation alternative fuels in the international discussions? How can market distortion be prevented in a GMBM when biofuels are unequally available in airports around the world?
- Can the current low oil prices have an influence on the inertia of the initiatives currently going on in Europe? What measures should be taken to keep the current initiatives ongoing?
- Stakeholders have generally agreed that a stable policy framework that creates market stability along with the appropriate institutional support is fundamental to incentivize investments. How can this positive atmosphere for investment be created in Europe? What additional steps are needed in this regard?