



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

**WP6: Synthesis of Results and Recommendations,
Deliverable 6.1: Report on recommendations on
information sharing and alignment of initiatives**

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D6.1: Report on recommendations on information sharing and alignment of initiatives

SUBMITTED VERSION 1.0

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Work Package 6: Synthesis of Results and Recommendations
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WIP- WIP Renewable Energies, Germany



AGI – Airbus Group Innovations



EXECUTIVE SUMMARY

There is currently a large number of ongoing projects and initiatives related to alternative fuels development and in particular for aviation both in Europe and in third countries. It will be very important that the different initiatives share their learning from experience and in particular, the different barriers that are found in the implementation through actual deployment projects. For this reason, at European level, it would be beneficial that the different initiatives would have some sort of platform or a group with some continuity in time in order to share progress achieved and avoid duplicating efforts.

One of the items to be approached in a European strategy is how to pass from demonstration projects to actual use of alternative aviation fuels in order to create a more consolidated market. The creation of such a market will require the joint efforts of the different stakeholders and a more defined strategy if the intention in Europe is to reach a significant volume of alternative fuel use. The creation of a specific group could be part of such a Strategy.

The achievements of the national initiatives have been reviewed and their objectives analyzed in this report. CORE-JetFuel has also collaborated with non-European national and regional initiatives, which will also represent an important source of information and information exchange. These links need to be kept in the future.

European initiatives have at this point a good knowledge of the stakeholders and other initiatives but it is probably the time in which a step forward needs to be taken and solutions need to be found in order to achieve a higher level of deployment. It would therefore be recommendable to create a new group, similar to the Biofuels Flightpath initiative not only focusing on the stakeholder exchange work , but also on making more specific impact studies on the socio-economic effects of the implementation of specific policies, investments in R&D and incentives programs. In addition, a higher level of alignment would be required with related R&D activities, such as engines and fuel systems or agronomical investigation and biomass potential.

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LIST OF ABBREVIATIONS

Abbreviation / acronym	Description
ACARE	Advisory Council for Aviation Research and Innovation in Europe
CSA	Coordination and Support Action
DG AGRI	Directorate-General Mobility and Transport
DG CLIMA	Directorate-General of Agriculture and Rural Development
DG MOVE	Directorate-General Mobility and Transport
DG RTD	Directorate-General Research and Innovation
EU	European Union
FRL	Feedstock Readiness Level
R&D	Research and Development
SAFUG	Sustainable Aviation Fuels Group
TRL	Technology Readiness Level

Introduction

Deliverable 6.1 has a double objective: in first place, to present the national or regional initiatives that have been going on in Europe and other regions in order to identify best practices and secondly, it is intended to draw attention to the possible ways forward in terms of alignment of initiatives and information sharing to promote a more efficient implementation of biofuels in Europe. It has been detected through the project mapping performed for WPs 4 and 5 that there is currently a large number of projects and initiatives related to alternative fuels development and in particular for aviation alternative fuels which lack some sort of coordination, in particular, in the European context. It will be very important that the different initiatives share their learning from experience and in particular, the different barriers that are found in the implementation.

CSAs like Core-Jet fuel are offering project representatives the opportunity to get together in several workshops and events and present the progress made. However, from the discussions held in these workshops it became clear that the different initiatives require a platform or a group with some continuity in time in order to share progress and align different stakeholders of the value chain. This is especially relevant in a European context, in which the different stakeholders of a value chain are located in different member states.

One of the items to be approached in a European strategy is how to pass from demonstration projects to actual use of alternative aviation fuels in order to create a more consolidated market. The creation of such a market will require the joint efforts of the different stakeholders and a more defined strategy if the intention in Europe is to reach a significant volume of alternative fuel use. The continuation of the Flightpath, with some more specific objectives is considered important by the CORE-JetFuel consortium if the EU intends to develop an alternative aviation fuels industry, as well as a joint strategy with other industries what will require a significant biomass potential in the future.

This deliverable intends to present the European initiatives with whom CORE-JetFuel has cooperated in the course of the project as well as to make recommendations regarding a potential future strategy that keeps these initiatives (and future ones) in contact to leverage the network that has been created as a result of the CORE-JetFuel project activities. It will be important for a comprehensive future strategy to maintain the linkage between the stakeholders in this list of initiatives to create some sort of European network. In this regard, the synergies and relationships created among participating entities will be maintained in the future, once the project is completed and has ended.

1 Ongoing initiatives and main achievements

The number of ongoing projects in Europe with technologies and feedstock with a higher or lower level of maturity is currently considerable. In addition, announcements of new projects worldwide come out almost every day. However, these announcements need to be taken with caution when trying to predict the production capacity in the EU in the near term, since some of the initiatives refer to value chains with very low FRL or TRL, meaning that although these initiatives may lead important steps forward, the immediate applicability for industrial upscale can be quite relative.

One of the strategies for the promotion of different projects and R&D activities is the support by national initiatives. These initiatives usually count with a direct support from governmental institutions, public companies or national administrations. This link and participation of the public sector is important in order for them to get to know the real barriers for implementation and help to overcome them, thereby facilitating national scale up, minimizing legal risk and working in the transposition of European legislation. In Europe, there are currently several initiatives with such characteristics, with varying degrees of activity. Some of them focus more on carrying out actual (test) flights with alternative aviation fuel in other cases the objective is to serve as platform for the relevant national stakeholders or to support R&D activities. As mentioned above, these initiatives usually have had periods of more or less activity during their lifetime, but were in all cases able to serve as a platform for relevant stakeholders of the bio jet value chain as well as for administrations, in order to discuss the possible applicability in the respective regions and to find resources for funding and to participate in more specific projects.

	Region	Stakeholder Action Group	Feasibility Study	Research and Development	Deployment
Aireg	Germany	✓		✓	
Nisa	Nordic Countries	✓	✓		✓
Bioport	Netherlands	✓	✓		✓
Bioqueroseno	Spain	✓	✓		✓
Lab'Line for the Future	France				✓
ISAFF	Italy	✓			

Table 1: List of national European initiatives

In other member states the strategy is carried out by specific projects that were also able to encourage a dialogue between relevant stakeholders in the field of alternative aviation fuels. Such is the case of the Greensky London project, directly supported by Solena Fuels and British Airways.

1.1 aireg

In June, 2011 the association “Aviation Initiative for Renewable Energy in Germany – aireg e.V.” was set up in Berlin. German stakeholders from research institutions, enterprises in the aviation field and bioenergy producers got together with the aim of pushing the exploration of climate neutral and sustainable aircraft fuels.

The objective of this association is to promote the use of regenerative energy sources in aviation in Germany and to create a sound basis for political decision-making with regard to the introduction of climate-friendly aviation fuels.

The creation of Aireg e.V. includes the creation of specific working groups to resolve key issues in alternative aviation fuels. The speakers of each working group and the Executive Board members come together in the Coordinating Committee. This committee is responsible for managing and harmonizing work in an interdisciplinary manner. The head office coordinates activities in political decision-making processes, organizes the work of the

committees and communicates their results. The following working groups are currently working on each thematic domain:

- Working group on Feedstock Provision
- Working group on Feedstock Conversion
- Working group on Fuel Utilization
- Working group on Quality and Certification
- Working group on Sustainability

Initiative	Aireg e.V.
Starting Date	2011
Main objective	Promotion, information exchange, networking and coordination
Stakeholders Involved	Airberlin, Bauhaus Luftfahrt e.V., Booz & Co., Condor Flugdienst GmbH, Deutsches Biomasseforschungszentrum (DBFZ), Deutsche Gesellschaft für Luft- und Raumfahrt e.V. (DGLR), Deutsche Lufthansa AG, Deutsche Post AG, Deutsches Zentrum für Luft- und - 3 - Raumfahrt (DLR), EADS, Flughafen München GmbH, Forschungszentrum Jülich GmbH, ISCC System GmbH, JatroSolutions GmbH, Leuphana Universität Lüneburg, MTU Aero Engines GmbH, Rolls-Royce Deutschland Ltd & Co KG, Technische Universität Hamburg-Harburg (TUHH), TUIfly, VERBIO Vereinigte BioEnergie AG
Specific Achievements	<p>Promotion of projects and research initiatives, coordination of working groups, communication and networking, organization of stakeholder events.</p> <p>The first years of activity were key in raising awareness. On a later stage, Aireg has supported several projects in Germany. In particular:</p> <ul style="list-style-type: none"> • the “AUFWIND” project coordinated by Forschungszentrum Jülich to prepare an industrial-scale algae production • Projects to demonstrate the economic viability of Jatropha as a feedstock for the production of alternative aviation

	<p>fuel, the project would serve as a reference for a subsequent expansion of Jatropha cultivation in the region.</p> <p>In addition Aireg has organized events with different stakeholders from other initiatives and promoted a direct partnership with CAAFI.</p> <p>Aireg has lately included in the association DNV Bank in order to develop financing options for alternative aviation fuels and provide financial expertise to la largely research-oriented organization.</p>
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1.2 NISA

The establishment of NISA was agreed in November 2013 by Nordic airlines, manufacturers, airports and related industry organizations, national authorities in the field of environment, climate and transport. The NISA initiative has intended to learn from the previous research experience in the Nordic countries, the efforts on green technology solutions for biogas, biofuel for road transport. NISA's objective is to facilitate and coordinate the opportunities in the Nordic countries to generate synergies across stakeholders and countries, and thus overcome the obstacles currently present in the supply chain and accelerate the commercialization of sustainable aviation fuels.

NISA and its members have relevant roles in different specific activities that have been developed in the Nordic countries. In particular:

- Finnair, Finavia and Ministry of Transport have performed a national study to address future solutions including the use of biofuel, to which also Neste Oil, as possible manufacturer, is affiliated.
- In 2014, Avinor produced a feasibility study and is prepared to support biofuel development for aviation in Norway.
- Swedavia has collaborated in three Master Thesis at the Lund University where the Swedish possibilities and barriers have been analyzed.

- The Danish Transport Authorities together with Danish Aviation, NISA and the consultant company NIRAS, have published the study “Sustainable Fuels for Aviation: An Analysis of Danish Achievements And Opportunities”¹

In addition, NISA, in cooperation with the national authorities of Nordic countries has established a cross-Nordic study, “Perspectives on the use of advanced biofuels for aviation – Nordic perspectives”, which is expected to be completed in summer 2016. The study is supported by Nordic Energy Research established under the Nordic Council of Ministers. The study will focus on climate impacts and consequences of fossil fuels for aviation, the applicable legislation in the Nordic countries and the EU, the accessibility to feedstock for aviation alternative fuels and the possible technological paths in the Nordic region. It will also intend to identify the possible crosscutting initiatives and collaborations (between Nordic companies, organizations and authorities) and see where are the competitive advantages for the region with regard to technology, R&D and feedstock. Other items to be analyzed are related to the socio-economic impacts, such as the consequences for business and the social economy as well as consequences for employment of the aviation alternative fuel deployment and elements related to jet fuel demand and price sensitivity. The final objective is to identify barriers and steps to take to remove them for a common Nordic approach to alternative aviation fuels.

Initiative	NISA
Starting Date	2013
Main objective	Facilitate, coordinate and push forward the development of sustainable and alternative fuel for the aviation industry, in particular, catalyzing the development of a business case by 2015-2016 for a project covering a full scale biofuel production for aviation in the Nordic Region.
Stakeholders Involved	SAS, Swedavia, Avinor, Copenhagen Airports, Airbus, Boeing, Finnair, Finavia, Atlantic Airways, Air Greenland, Icelandair, TUI Fly Nordic, Danish Confederations/BDL, NHO Luftfart, IATA, Svenskt Flyg, FlygBranschen, Ministry of Transport, Danish Transport Authority, Isavia, Reykjavík, Swedish Transport Agency,

¹ Sustainable Fuels for Aviation: An Analysis of Danish Achievements And Opportunities: http://www.trafikstyrelsen.dk/~media/Dokumenter/06%20Center%20for%20groen%20transport/Groen_transport/Forsogsordningen/2013/Bioeraendstoffer%20fly/Rapport%20biofuels%20til%20luftfart.ashx

	Energimyndigheten, Energistyrelsen
Specific Achievements up to date	<ul style="list-style-type: none"> • Execution of a national study to address future solutions including the use of biofuel • Feasibility study to support biofuel development for aviation in Norway. • Support to University Studies on the Swedish possibilities and barriers • Publication of the Danish study on Sustainable Fuels for Aviation. • Specific flights such as the ones performed by Finnair and SAS on biofuel produced from UCO (2014) • Support to the Fly Green Fund initiative, that aims to enable organization and individuals to fly on bio jet fuel in the Nordics by financing the extra cost of alternative fuel and supporting local production. • Currently working on the Avinor's Oslo Airport bioport with the objective of receiving regular deliveries of bio-fuel in the hydrant system of the airport.

1.3 Bioport Holland

The Netherlands has opted for a strategy that supports alternative fuels for aviation through the Bioport initiative. The interest showed by some Dutch companies such as KLM and SkyNRG has helped and pushed to move forward in this strategy. The Ministry of Infrastructure and Environment, SKYNRG, KLM, the Port of Rotterdam, Neste Oil and Schipol Airport signed in 2013 a letter of intent, thereby setting the ambitions in this regard and defining individual efforts from stakeholders mentioned above.

The result has been the Bioport Holland initiative with the objective of converting the Netherlands in a biofuel logistics centre in Europe and fostering an increasing production and commercial use of bio jet fuel. In particular, the goal of Bioport is to work as a demand centre in the form of an airport and its airlines that is supplied by a dedicated regional supply chain.

The airport is intended to be logistically supported by the Port of Rotterdam, creating an integrated system that allows for regular supply of aviation alternative fuels.

Initiative	Bioport Holland
Starting Date	2013
Main objectives	<ul style="list-style-type: none"> - To create a Biofuels logistics centre in the Netherlands using the existing resources of the Port of Rotterdam, create a biofuels market and incentivise regional development and employment. - Current short term goal: supplying 30,000 ton of HRDjet to Schiphol airport, once HRD is certified for use in aviation and increasing that goal to 100,000 ton in 3 years
Stakeholders Involved	SkyNRG, KLM, Schiphol, Port of Rotterdam, Neste, Dutch Ministry of Economic Affairs, Dutch Ministry of Infrastructure and Environment
Specific Achievements	<ul style="list-style-type: none"> - MoU signed between SkyNRG, KLM, Schiphol Airport, Port of Rotterdam, Neste Oil, Dutch Ministry of Economic Affairs, Dutch Ministry of Infrastructure and Environment - Detailed out the supply logistics using NATO pipeline and identification of hurdles for delivery - Work carried out to account biojet fuel under the RED specifications. - Current ongoing work to structure additional incentives to bridge the gap in the short term - Current work to set up a government/industry program of 80M Euro to help scaling up the Dutch bio jet industry - Current work to professionalise the Bioport Holland organisation

1.4 Bioqueroseno

The Spanish initiative for production and consumption of bio-kerosene in aviation was set up in 2011 with the support of Ministry of Industry, the Ministry of Public Works and Transport and the Ministry of Agriculture, Food, and Environmental Affairs. The initiative counts with the economic, technical, and institutional support of the European manufacturer Airbus and has managed to engage relevant national stakeholders of the bio-jet production value chain. The main objective of this Initiative has been to give support to the development of an industry of sustainable bio-kerosene in Spain. To do so several project phases were established in the beginning phase of the initiative:

- Phase 1.a – Feasibility study: The feasibility study was performed during the year 2011. It performed a pre-analysis of the environmental, social, and economic feasibility of the value chain of production and consumption of bio-kerosene, taking as a starting point the data given by individual members of the initiative.
- Phase 1.b – Demonstration: the objective of this part is to carry out the processes that could be implemented regionally based on the results of the prior phase. The initiative is currently at this stage.
- Phase 2 – Implementation: during this phase the implementation and temporal scale of the process of of bio-kerosene production will be developed. For this phase to start, production capacity will need to be further developed in the country.

Initiative	Bioqueroseno
Starting Date	2011
Main objectives	To get together a group of national stakeholders in order to define the barriers for implementation at national level and work together to facilitate the development and implementation of an alternative aviation fuel value chain.
Stakeholders Involved	AESA (Spanish Air Safety Agency), Airbus, SENASA, IDAE, OBSA, MAGRAMA (Ministry of Agriculture and Environment), UOP, Kurata Systems, Repsol, Tecnia, Cepsa, Camelina Company España, Tecbio, RSB, Ciemat, CLH, Pullmantur, Iberia,
Specific Achievements	- Preliminary study carried out with the collaboration of the different participating entities regarding economic,

	<p>industrial and environmental viability.</p> <ul style="list-style-type: none"> - Identification of key points for development of aviation biofuels at national level. - Ongoing demonstration at feedstock level through Camelina Oil production.
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1.5 Lab'Line for the Future

Lab'Line is an initiative of Air France in partnership with technical, industrial, commercial partners as well as the French DGAC (Civil Aviation Authority). The initiative was launched in 2014 with the objective of performing a weekly flight between Toulouse and Paris Orly for one year. The lab'line is a platform to present the good practices being taken by Air France and its partners regarding sustainable development in aviation. At the time when this report was written, 48 flights had been performed and feedback from these first flights has been obtained for its analysis.

Initiative	Lab'Line for the Future
Starting Date	October 2014
Main objective	<ul style="list-style-type: none"> - To get together the French industrial actors and Air France's customers and create a partnership between them and the French civil aviation authority. - To launch a one year long program to use a 10% farnesane blend on the route Toulouse to Paris-Orly and perform a weekly flight - Validation of the supply chain and the logistics, according to the industry standards
Stakeholders Involved	DGAC, Safran-Snecma and Total-Amyris, but also Aéroport de Toulouse Blagnac, Airbus, BETC, Coca Cola Entreprise, EDF, HERTZ, Orange, Région Midi-Pyrénées, Thalès, Veolia and Zodiac Aerospace

Specific Achievements	<ul style="list-style-type: none"> - Creation of a partnership between Air France and the main French industrial partners with the participation of the Civil Aviation Authority - Weekly flights between Toulouse and Paris Orly for one year (48 flights performed up to the elaboration of this report) using TOTAL-Amyris renewable jet fuel using the Direct Sugar to Hydrocarbons technology (DSHC). No incidence on piloting, consummation, or microbiological contamination were found. The engines used where followed without any differences in terms of behaviour and as a result, no visible difference between conventional fuel and fuel with Farnesane was found.
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1.6 ISAFF

The Italian Civil Aviation Authority (ENAC) and the World Energy Council Italy launched the Italian Sustainable Aviation Fuel Forum -ISAFF- open to stakeholders operating in the Italian aviation and related energy industries with the prospect of being involved on a voluntary basis in similar institutions in Europe. The forum was created for collecting, monitoring and disseminating relevant information in the aviation field and in complementary energy areas. The initiative organized its first event in June 2014 with the objective of getting together the different stakeholders and presenting the work that had been carried out by their organizations regarding alternative fuels.

Initiative	ISAFF
Starting Date	June 2014
Main objective	<p>Collection, monitoring, selection and dissemination of relevant information for aviation and complementary energy areas. In particular, regarding alternative fuels, two topics have been selected:</p> <ul style="list-style-type: none"> - Development of sustainability policies and support for new aviation fuels (e.g. policies for sustainable biofuels)

	<ul style="list-style-type: none"> - Development of a production, handling and distribution system for new aviation fuels fully compatible with the systems currently in use and approved
Stakeholders Involved	Aeroporto di Firenze, Biochemtex, Chimec, ENAC, ENI, ENEA, Marina Militare, Ministero dell'Ambiente e della Tutela del Territorio e del Mare, Ministero delle Infrastrutture e dei Trasporti, Milano Linate Airport, Sunchem, TotalErg, Università degli Studi di Firenze- Record, Università di Roma, Unione Petrolifera, Assocostieri, Word Energy Council
Specific Achievements	ISAFF organized its first stakeholder event on 5 June in Rome. The event was attended by stakeholders of the association as well as by Italian government ministries, and other international stakeholders working on aviation alternative fuels.

2 Links to Other International Initiatives

European stakeholders are involved in international initiatives either through direct collaboration with industrial partners or through information-sharing initiatives such as meetings and conferences. For this reason it is important to include in this document the current ongoing initiatives. In this regard, the ICAO Global Framework for Aviation Alternative Fuels (GFAAF) is a platform that has provided a continuously updated database of international initiatives and developments in the field of alternatives for aviation. As ICAO and CAEP members, European states should support and engage in the work carried out at ICAO level, since it represents an international body that can give recommendations to its member states and push for international agreements and collaboration. In this regard, the information exchange with the GFAAF has been a useful source for the CORE-JetFuel consortium in the course of the project work.

In addition to the European multi-stakeholder initiatives, it will be important that the European strategy for biofuels deployment collaborates with other international initiatives that have made progress in the different parts of the aviation alternative fuel value chain. The initiatives that are listed below have been a source of stakeholders for information exchange and are

still ongoing, which means that will have the potential for future collaboration and information exchange with future European projects and initiatives.

Project	Country	Purpose
CAAFI	USA	Promotion, information exchange, networking and coordination
Australian Initiative for Sustainable Aviation Fuels (AISAF)	Australia	
Queensland Sustainable Aviation Fuel Initiative (QSAFI)	Australia	R&D for the development of a value chain
ABRABA	Brasil	Promotion of public and private action that streamline the development, certification, and commercial production.
Farm-to-Fly	USA	Coordination and Supporting programme for the development of aviation alternative fuel industry, including R&D
Masdar's Sustainable Bioenergy Research Consortium	United Arab Emirates	Research Consortium is to for R&D to study the commercial viability of halophyte-derived jet fuel and bioenergy.
Northwest Advanced Renewables Alliance (NARA)	USA	Creation of a sustainable industry to produce aviation biofuel overcoming key obstacles that prevent wood-based jet fuel and petrochemical substitutes from being economically viable.
Brazilian Biojetfuel Platform (BBP)	Brazil	Stakeholders Action Group biomass production, logistic optimization and distributed processing.
Green Aviation Initiative	Indonesia	National plan for the development of biojet fuel
Initiatives for Next Generation Aviation Fuels (INAF)		Production and supply of biofuels, elaboration of a roadmap for performance of commercial flights.

In addition to these multi-stakeholder initiatives, specific commercial agreements between airlines and fuel producers, public grants from governments and administration support agreements are coming up every day. In this regard the CORE-JetFuel consortium has

observed that the implication from the side of the administration is key for development and deployment, both by putting in place incentives for production and facilitating legislative support and eliminating administrative barriers.

3 Information Sharing Alignment of Initiatives Recommendations

European and other international initiatives have organized a large number of meetings, workshops and events in order to gather together other initiatives and projects and see presentations on their proposals, projects and progress. These events serve as a platform, not only for publicly supported initiatives but also for getting to know companies and institutions with whom the initiatives can collaborate. One of the objectives of these events is to create networking relationships between the different stakeholders, find the possible synergies between them and impulse actual demo and deployment projects. The CORE-JetFuel project itself has been working in the organization of working group events in which European and non-European stakeholders have explained the progress of their projects, the outcomes of the R&D activities and the barriers for deployment. This information sharing has been a key element in understanding the barriers for deployment and has helped in understanding the causes that delay the deployment of alternative fuels.

European initiatives have at this point a good knowledge of the stakeholders and other initiatives but it is probably the time in which a step forward needs to be taken and solutions need to be found in order for achieve a higher level of deployment. It would therefore be recommendable to create a new group, similar to the Biofuels Flightpath initiative not only focusing on the stakeholder exchange work, which is always necessary, but also on making more specific impact studies on the socio-economic effects of the implementation of specific policies, investments in R&D and incentives programs. The stakeholder input will have a relevant role in this respect so the continuation of a strong European network must be kept in this regard. This work can avoid duplicating efforts at European level since the lessons learnt in the different initiatives will be valuable in making a faster progress in deployment.

It has been observed, that different initiatives show caution when communicating their progress when there is uncertainty of the final outcomes of the work carried out. Publicly funded and FP7 projects do carry out a high level of dissemination and information sharing activities and are an important source of information in this regard that help to learn from previous experiences. We can say that the existence of public funding derives in a higher level of transparency, which facilitates information sharing and alignment of initiatives. For

this reason, if a pan-European network is to be created, it would be useful that this network would promote the signature of some sort of collaboration agreement between the different European initiatives to get to a compromise of sharing their progress through specific meetings or reports. The ACARE SRIA included the objective of creating an excellence group so this initiative would help to comply with that objective. Although it can be very difficult to get the initiatives to share strategic or industrial information, it is also true that there are some areas, in particular those related to logistics that are common to all initiatives where solutions could be discussed and shared. Acquiring a compromise and having a specific group in charge of gathering the information from the different initiatives, projects and stakeholders can lead to a higher efficiency in the future work.

Another issue is that some stakeholders have shown concerns between the lack of connection between publically funded alternative fuel demo projects and other R&D projects concerned with the investigation of engines and fuel systems. Having this connection would be of great importance since it would be useful to carry out tests of the new engine technology, not only with conventional fuels but also with the new alternative fuels. In theory, the drop-in alternative fuels should by definition behave the same to the their fossil counterpart, but in some projects we are talking about technologies or tests that are significantly different from the standards up to date. In fact, in the ongoing projects for deployment of alternative aviation fuels in Europe (i.e. ITAKA, Biorefly), the possibility of using a sample of the produced biofuel for its test in other fuels projects (i.e. SAFUG) has not been foreseen in advance. There is currently a lack of knowledge of the effects of the variability in the fuels composition that can be introduced with alternative fuels on the aircraft fuels systems and the alignment of these two types of initiatives could help in getting further knowledge and understanding the properties of different types of fuels. In this regard, it would be important that the topic of alternative aviation fuels is placed on the ACARE future agenda.

The same principle would apply R&D activities related to agronomical investigation and biomass potential. Feedstock sourcing is one of the most important barriers that alternative aviation fuels are facing, accounting for the major share in the costs of bio-kerosene. It would be important to connect the results that are obtained from R&D activities related to biomass policies in order for decision makers to decide which would be the most efficient way to use the European biomass potential. There is a competence for resources for alternative fuels among the different transport sectors and aviation biofuels is in a disadvantageous position due to the low level of development and the high level of technical requirements and certification. This competence is uneven due to the specific regulatory and structural

characteristics of the different sectors (i.e. the existence of specific certification requirements for the aviation sector).

Therefore, taking into account the interest of the different stakeholders that have been involved in the project, and with the objective of preserving a continuous communication channel with the European Commission, the Consortium proposes the creation of a permanent European Network for the support and promotion of alternative fuels for aviation in the EU. This network would also work to identify the projects in which a specific link needs to be established (such as the link between demo projects, engine/fuel systems projects and feedstock-related projects). In this regard, DG MOVE has the Expert group on future transport fuels, but the idea would be to create an inter-sectorial group (with DG CLIMA, DG AGRI and DG RTD) that would be specific to aviation. This group would allow the stakeholders to maintain the key links established with all the relevant players in the European alternative fuel scenario and create a link with the Expert Group on Future Transport Fuels and ACARE.

The plan will focus on the establishment of a stable framework in order to not only maintain the activities carried out within the CORE-JetFuel project, but also to take advantage of the information and influence generated to create a platform that serves as the leading focal point of research, innovation, and implementation activities in the area of alternative fuels for aviation in Europe.