AMCHAM EU
AMERICAN CHAMBER OF COMMERCE TO THE EUROPEAN UNION
SPEAKING FOR AMERICAN BUSINESS IN EUROPE

AmCham EU position on the role of biofuels in addressing aviation's carbon emissions

INFORMATION PAPER

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Executive summary

Sustainable biofuels have the potential, over time, to enable the aviation industry to reduce its carbon footprint and become more energy sustainable. On this basis, AmCham EU would like to offer the following recommendations in relation to a series of EU policies that can support the development and commercialisation of sustainable alternative aviation fuels:

- Aviation ETS Directive – Workable European Commission's guidelines are needed to ensure a consistent application by the Member States of the purchase-based methodology to account for the use of aviation biofuels;
- Renewable Energy Directive – Member States should implement the Directive in a technology-neutral manner which would help ensure a level playing field for the aviation sector to compete for the volume of sustainable biofuels that is available. In addition, robust and globally harmonized sustainability standards are needed;
- A Resource-efficient Europe – EU policies part of this initiative should differentiate biofuels on the basis of the central role that they can play in addressing emissions from aviation.

The American Chamber of Commerce to the European Union (AmCham EU) believes that the transport sector must take part in efforts to reduce CO_2 emissions and tackle climate change. An integrated approach is required since a long-term solution will rest on innovations in fuel, vehicles and infrastructure technologies as well as non-technical measures. Any solutions envisaged should first take into account the cost-efficiency associated with decreasing the negative impact of CO_2 emissions from the transport sector.

As far as aviation is concerned, in October 2010 the United Nations International Civil Aviation Organization (ICAO) adopted a comprehensive resolution to reduce the impact of aviation emissions on climate change. This resolution is aligned with many aspects of the position supported by the entire aviation industry (from airport operators and air traffic control providers to airlines and aircraft manufacturers), such as a medium term goal of carbon-neutral growth from 2020, annual fuel efficiency improvements and CO_2 efficiency standards for aircraft engines, and explicitly supports air traffic management (ATM) improvements and sustainable alternative fuels.[1] As stated

[1] The 37th Session of the ICAO Assembly adopted an agreement providing a roadmap for action through 2050 for the 190 Member States of the Organisation: http://www2.icao.int/en/Assembly37newsroom-

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above, an integrated approach will be required to achieve this target, including designing and using new emissions-reducing technologies (such as new generation engines and composite materials), optimising air traffic efficiency and exploring new fuel technologies.

In this regard, sustainable biofuels will play a central role in addressing emissions from aviation. The aviation industry has no practical alternatives to liquid hydrocarbon fuels over the long-term because of range, weight, temperature and other safety and aircraft operating requirements.

Biofuels may provide aviation with the capability to partially replace carbon-intensive petroleum fuels, with increasing percentages over time. This has the potential, over time, to enable the industry to reduce its carbon footprint and contribute to the goals established above. Moreover, following the successful demonstration of the technology during a number of test flights between 2008 and 2010[2], approval of biofuels using the Hydrotreated Renewable Jet (HRJ) process for use in commercial aircraft was granted in July 2011 by the American Society for Testing and Materials (ASTM)[3] and some commercial flights using aviation biofuels have already taken place. With increasing use of HRJ and the Fischer-Tropsch (F-T) process, which is also an already approved pathway for alternative aviation fuels, and work being done to assess an alcohol-to-jet (ATJ) pathway, an array of aviation biofuels meeting the rigorous standards for drop-in jet fuels will be increasingly available.

From a policy perspective, AmCham EU welcomes that aviation biofuels are now firmly on the EU agenda, as exemplified by the 'European Advanced Biofuels Flighpath', launched in June 2010 by the European Commission (EC) and high level representatives of the aviation and biofuels producers industries, which is one potential avenue to scale up the production and commercialisation of sustainable aviation biofuels in Europe by 2020. However, major barriers to this objective remain. In response to these challenges and opportunities, AmCham EU would like to offer the following policy recommendations to simultaneously ensure technology neutrality and a level the playing field for the use of biofuels within the aviation sector, also with the goal to advance their development and commercialisation. While policies may come in different forms, AmCham EU is of the view that it is key that they be aligned and consistent on a global scale. Regional regulatory approaches may result in a patchwork-type of scenario that does not fit well with a global industry like aviation.

public/Documents/ICAO%20Member%20States%20Agree%20To%20Historic%20Agreement%20On%20Aviation%20And%20Climate%20Change.pdf

[2] A summary of the results of the biofuels flight tests can be found at: http://www.safug.org/docs/biofuel-testing-summary.pdf Participants in the tests included some AmCham EU members. Recent advances in fuel production technologies have resulted in jet fuel produced from bio-derived sources that meet the current specifications for jet fuels (http://www.atag.org/files/Biofuels%20guide-172853A.pdf and http://www.aiaa.org/agenda.cfm?lumeetingid=2196&viewcon=agenda&pageview=2&programSeeview=1&dateget=22-Sep-09&formatview=1).

[3] ASTM, a fuel specification body, approved the use of up to a 50% blend of hydroprocessed (treated with hydrogen), renewable jet fuels and conventional kerosene.

- *Aviation ETS Directive – Accounting biofuels in a practical and consistent way across member states*

As of 1 January 2012, the aviation sector has been included within the EU Emissions Trading Scheme (ETS)[4]. Under the ETS, aircraft operators will be required to purchase allowances for the emissions produced by their fleets (15% of the allowances between 2012 and 2020 will be auctioned). With the tremendous fuel efficiency record the aviation industry and aircraft operators have obtained, it is recognised that there is limited scope for minimising ETS costs even though the sector will continue to maximise the efficiency of their operations. Aviation biofuels offer the sector an opportunity to reduce emissions in a different and complementary way and, if properly credited, to reduce the need to purchase allowances under the ETS. The ETS monitoring, reporting, and verification (MRV) system was intended to give airlines credit for biofuels consumed by deeming emissions from sustainable biofuels to have a 'zero rating'. As a result, if implemented in a practicable way, aircraft operators would have an incentive to use biofuels, as they would not need to purchase the equivalent volume of CO_2 allowances.

However, the original accounting methodology for biofuels described by the aviation ETS Directive ('a separate calculation shall be made for each flight and for each fuel') is unworkable for the aviation industry. This methodology can hardly be applied to aviation because of the specificities of the aviation fuel supply system. In order to comply, an operator would be required to distinguish the quantity of biofuels consumed from the quantity of fossil-based fuel consumed during each individual flight. Aircraft operators cannot meet this requirement due to the co-mingling of fuels in the aviation fuel supply chain. Aviation fuel is homogeneous in its physical characteristics, such that any given volume of fuel could have been derived from multiple primary sources. A key reason for this homogeneity is the need for all aviation fuels to meet the same quality specifications. As a result, airport fuel supply infrastructure is designed to accommodate one fuel for aviation. For aviation biofuels to become economically and practically viable, they need therefore to be 'drop-in' fuels. This will mean fuel sourced from biomass will become indistinguishable from fuel sourced from fossil resources. Therefore, with this original accounting methodology, the potential CO_2 reduction represented by the 'zero rating' cannot be used without a significant investment in building new fuel handling systems and complex administration.

In this regard, AmCham EU fully supports the methodology based on 'fuel purchase records' to account for the use of biofuels that the EC and Member States' representatives in the Climate Change Committee eventually endorsed in December 2011 in the draft Regulation on ETS Monitoring and Reporting (article 53), which is now undergoing scrutiny by the European Parliament

[4] While significant opposition to the inclusion of international aviation in the ETS exists, the ICAO Council has set up an ad-hoc working group to deal with market-based measures (MBMs) in order to address aviation emissions. The ICAO Council aims to get options for MBMs narrowed down to one by the end of 2012, in order to be able to present this option and a framework on MBMs to the ICAO Assembly in 2013. AmCham EU continues to support ICAO as the ideal and only proper platform to draft global solutions for aviation emissions.

(EP)[5]. In order for aircraft operators to fully exploit the potential CO_2 reduction of the 'zero rating' provision, AmCham EU would like to make the following recommendation:

- **Make the purchase-based methodology operable** – As the draft Regulation foresees, we urge the EC to issue workable guidelines, to be defined in consultation with the relevant stakeholders, for consistent and uniform application of this methodology across the member states. As the 'zero rating' is currently the only incentive for aircraft operators to use biofuels, guidance from the EC on the process and the details on how to account for their use is urgently needed.

In addition:

- **Earmarking the auctioning revenues -** Regarding the revenues coming from auctioning, AmCham EU considers that they should be used to fight climate change. Therefore, Member States should be encouraged to use revenues for this purpose in an efficient, accountable and transparent form, without creating competitive distortions. As such we believe that R&D into biofuels used in aviation should be considered within any scheme to reinvest auctioning revenues.

- *The Renewable Energy Directive (RED) – A level playing field for aviation biofuels*

Under the RED, by 2020, 10% of all energy in the transport sector must come from renewable energy sources. Aviation is excluded from this target for the purpose of calculating the total amount of energy consumed. However, any renewable energy used, for example including for aviation and rail, still counts towards meeting the RED target.

A key element of the RED is the sustainability criteria for biofuels. Only those biofuels complying with the sustainability criteria set by the EC can qualify for the targets and incentives and in the end can be unconditionally accepted in all 27 Member States. One of these criteria is that biofuels must have a minimum 35% GHG reduction (increasing to 50% by 2017, and further thereafter). The draft Regulation on ETS Monitoring and Reporting formally links aviation biofuels to the sustainability criteria of the RED.

In this regard, we would like to take the opportunity to stress our support for strong and stringent sustainability criteria for aviation biofuels. The aviation industry is looking at second- and next-generation biofuels that are sustainable. This new generation of biofuels is derived from non-food crop sources[6]. Second-generation biofuels can also be mass grown in a range of locations, including deserts and salt water. Because they are grown regionally, second-

[5] The draft Regulation was transmitted to the EP on 1 March 2012. Therefore, the EP formal scrutiny period will run to 1 June 2012.
[6] Potential second-generation biofuels feedstock include jatropha, camelina, algae and halophytes.

generation feedstock have the potential to bring socio-economic benefits at local level and be the basis for the establishment of regional fuel supply chains.

While the RED is currently being implemented, AmCham EU would like to make the following recommendations:

- **A level playing field -** The RED should be implemented by individual Member States in a technology-neutral manner, in which all users of biofuels meeting the sustainability criteria are treated equally. For example, aviation biojet suppliers should qualify for tradable certificates within incentive regimes provided for by national applications of the RED, such as Renewable Transport Fuel Certificates in the UK. This will help ensure that all sectors, including aviation, can compete equally for the volume of sustainable biofuel that is available. It will also contribute to support the emergence of a European aviation biofuels industry and ensure that aviation is not disadvantaged when it comes to alternative/renewable energy sources.

- **Globally harmonised sustainability standards –** As aviation is a global business, it would need harmonised standards to ensure that sustainability criteria are equally applied across the industry. This, for instance, to avoid a situation in which an aircraft operator uses biofuels deemed sustainable in the US for which it cannot get credit in the EU ETS. A patchwork of standards would inhibit the development of a commercially viable market. AmCham EU strongly encourages the EC and its international partners to work together in a flexible manner towards achieving the objective of an approach that can be globally recognized.

- *A Resource-efficient Europe – Recognising the role of aviation biofuels*

The EU flagship initiative for a 'Resource-efficient Europe', under the Europe 2020 Growth Strategy, aims at supporting the shift towards a resource-efficient, low-carbon economy to achieve sustainable growth. As the EC points out, this initiative provides a long-term framework for actions in many policy areas, supporting policy agendas including for climate change, energy and transport, in order to increase certainty for investment and innovation and ensure that all relevant policies factor in resource efficiency in a balanced manner.

The implementation of certain proposals part of a 'Resource-efficient Europe', such as the Future of Transport White Paper (March 2011) and the Low Carbon Economy 2050 Roadmap (March 2011), could guide EU policy-making towards redesigning transport and energy policies in such a way as to recognise the role that sustainable aviation biofuels can play.

AmCham EU fully supports the White Paper's recognition that sustainable biofuels will play a central role in addressing emissions from aviation. The target of 40% use of sustainable low carbon fuels in aviation by 2050 reflects the progress being made by aviation biofuels. This target provides a sense of urgency and direction and will help the EC and the Member States put in place

the policy measures needed to remove the existing barriers to aviation biofuels development and commercialisation. Sustainable biofuels feedstock production is still in the early stages of development. It needs to advance further with respect to improving sustainability and becoming commercially viable.

AmCham EU would like, therefore, to make the following recommendations:

- **Integrate R&D and incentives** - The 'Resource-efficient Europe' can support the emergence of policies to integrate the existing instruments (including R&D and incentives into low carbon vehicles and fuels) into a consistent framework that allows all carbon reduction technologies to compete on an equal basis. This would enable the business and investment communities to respond to demand for sustainable aviation biofuels.

- **Differentiate aviation biofuels** - Initiatives stemming from the White Paper, such as the Clean Transport Systems and the related upcoming Communication on an Alternative Fuels Strategy, should recognise the critical role that biofuels can play in addressing emissions from aviation and ensure that aviation is not disadvantaged when it comes to access the amount of biomass that is available.

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AmCham EU speaks for American companies committed to Europe on trade, investment and competitiveness issues. It aims to ensure a growth-orientated business and investment climate in Europe. AmCham EU facilitates the resolution of transatlantic issues that impact business and plays a role in creating better understanding of EU and US positions on business matters. Aggregate U.S. investment in Europe totaled $2.2 trillion in 2010 and directly supports more than 4.2 million jobs in Europe.

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