



WORKING PAPER

CONFERENCE ON AVIATION AND ALTERNATIVE FUELS

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Agenda Item 3: Measures to support development and use

**POLICY MEASURES IN EUROPE TO SUPPORT DEVELOPMENT AND USE OF
SUSTAINABLE FUELS IN AVIATION**

(Presented Sweden, on behalf of the European Community and its Member States² and by the other States Members of the European Civil Aviation Conference³)

SUMMARY

This paper describes the most relevant policy measures in the European Community to support the exploration and development of new aviation fuels. It describes the context of the general policy on biofuels and concludes with some recommendations for activities at international level.

The conference is invited to approve the conclusions/recommendations in paragraphs 3 and 4.

1. INTRODUCTION

1.1 Air transport needs effective measures to reduce its emissions, otherwise the expected traffic increase will not only produce more emissions, but likely also a higher share of aviation in overall greenhouse gas emissions, in particular as other sectors successfully reduce theirs. The European Community considers that binding reduction targets for international aviation would form an important part of the overall strategy to achieve the climate change mitigation targets consistent with limiting the global average temperature increase to not more than 2°C above pre-industrial levels, as agreed by the G8 and Major Economies Forum.

1.2 The use of alternative fuels, notably from renewable energy sources, could contribute to achieving such objectives and to reducing or closing the gap between the anticipated aviation growth and the impact of technological, operational and market-based measures, by additionally reducing the dependency on fossil-based fuel.

¹ French and Spanish provided by Sweden

² Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and United Kingdom. All these 27 States are also Members of the ECAC.

³ Albania, Armenia, Azerbaijan, Bosnia and Herzegovina, Croatia, Georgia, Iceland, Monaco, Montenegro, Norway, Republic of Moldova, San Marino, Serbia, Switzerland, The former Yugoslav Republic of Macedonia, Turkey and Ukraine.

2. RELEVANT POLICY MEASURES IN THE EUROPEAN COMMUNITY

2.1 The role to be played by policy makers with respect to the use of alternative fuels, and biofuels in particular, in aviation should be addressed in the light of increasing confidence in the technical feasibility of alternative fuels and the development of new technical standards for alternative "drop-in" fuels. With a view to facilitating the recognition and use of such new fuels it would be desirable to work towards harmonisation of such standards at international level, taking into account technical requirements including safety and environmental aspects.

2.2 The European Community has put in place measures to support the development and use of biofuels in transport in general, which are of relevance also in view of new sustainable aviation fuels. They can be summarised as follows:

- a) Funding support for industry-driven research and development of alternative fuels in the current 7th Framework Programme for research and technological development (2007 - 2013): The projects include work specifically on aviation fuels, funding is also provided to support the preparation of pilot plants for the production of 2nd and 3rd generation biofuels. The EU Strategic Energy Technology Plan includes a roadmap towards provision of production capacity for biofuels in Europe and the European Commission is currently preparing a plan for the financing of investments. With progressing results on the perspectives of biofuels for aviation it is expected that the question of fuel provision for aviation will receive increased attention in this context.
- b) Policy targets and sustainability criteria: The European Community has established a target of 10% for the use of renewable energies in transport in Europe by 2020, supporting the objective to reach an overall market share for the use of renewable energy sources of 20% and to reduce EU greenhouse gas emissions by 20% in 2020. This objective should be reached with sustainable biofuels and in order to be counted towards this objective as well as to benefit from national support schemes biofuels have to comply with sustainability criteria, including minimum greenhouse gas emission savings, as defined in Directive 2009/28/EC on the promotion of the use of energy sources from renewable sources.

2.3 From a European perspective, biofuels for use in aviation will therefore need to demonstrate compliance with these sustainability criteria in order to be eligible for public support schemes. Further research is ongoing to address indirect "knock-on" effects such as on land use. Arrangements are in place to monitor and keep under review the relationship with food markets, social factors and so on.

2.4 Also the economic feasibility should be demonstrated, taking into account scalability aspects and the costs of sustainable fuel production, the market environment on the supply side (including the availability of feedstock and production capacities, relationship with other markets competing for land or other resources, crops, etc.), demand side (for example the utilisation of capacities for other markets or fuels) and related price developments, including for fuels. Further research and analysis of these issues is needed as input for large scale decisions as well as consideration of the potential role of policy options in stimulating a market.

2.5 The European Commission has launched the study SWAFEA (Sustainable Way for Alternative Fuels and Energy in Aviation) with the objective of establishing a comparative analysis of

different promising fuel options in the short to medium term, including their technical feasibility, their environmental impact and their economic dimension. Cooperation with other projects and international initiatives is part of the work. SWAFEA will integrate results from international projects as available and the Commission will communicate the results of the SWAFEA study. The final results will be available in the first half of 2011, at the end of 2010/early 2011 an international conference is foreseen to discuss the findings.

2.6 Relevant work is also being undertaken within the European Civil Aviation Conference (ECAC), following the December 2008 ECAC Forum. The ECAC Directors General established a Task Force to analyse the implications for civil aviation of pressures on future supplies of oil, including the role of alternative fuel sources. The report from the Task Force is intended to be submitted to ECAC Directors General in December 2009, with a view to the issues subsequently being addressed at the international level, particularly in ICAO.

3. CONCLUSION

3.1 For Europe the development and possible future use of alternative fuels, in particular including biofuels, in aviation constitutes an attractive option for the development of the aviation sector, provided that technical requirements, including safety aspects, as well as sustainability criteria are fulfilled. Europe encourages ICAO to work with the appropriate fora on the development of consistent sustainability criteria for the production of biofuels and the development of schemes to certify that the production of biofuels meets those standards. The work undertaken by the European Community to define sustainability criteria is presented in the Information Paper on sustainability criteria for the use of biofuels in the EU and life-cycle assessment for the agenda point on environmental sustainability and interdependencies.

3.2 Policy decisions with respect to alternative fuels should be based upon a comprehensive assessment, including studies, development and testing of the technical feasibility, the environmental- and social-sustainability dimension and economic aspects. Europe invites the Contracting States when considering policy measures aimed at promoting the use of alternative fuels for aviation to combine these with other technological measures (such as the SESAR air traffic management modernisation programme), operational measures and market-based measures, such as the Emission Trading Scheme. Such a comprehensive approach will ensure a genuine reduction of the environmental impact of aviation.

3.3 Policy measures should have the objective to avoid unwanted and negative side effects, compromising the environmental benefits of biofuels. Europe invites the Conference to note the need for further research and development of alternative fuels for aviation to prepare the industry as well as policy makers for the decisions to be made.

3.4 Europe invites the Contracting States to work together, to exchange information and best practices, and in particular to reach a common definition of sustainability requirements, taking into account existing criteria and the work in relevant international bodies.

4. **RECOMMENDATION**

4.1 The conference is invited to recommend that:

- a) The ICAO Council and Contracting States build their policy decisions and roadmaps on a comprehensive analysis of environmental, social and economic sustainability aspects, also taking into account technical requirements including safety aspects;
- b) A common definition of sustainability requirements for biofuels should be elaborated at international level; Europe is ready to support ICAO (as one facilitator among others) to work towards this and to contribute to this endeavour; and
- c) Promising perspectives for biofuels should not lead to any relaxation or reduction of efforts related to other measures to reduce the environmental impact of aviation.

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