

Executive Summary

Alternative Fuels for Aviation

Results of a Workshop

held at the University of Sheffield (USFD), UK, on January 24, 2007



The workshop concluded that efforts on “alternative fuels” should be focussed on viable options for aeronautics use in terms of energy density, technical property limitations, supply issues and best use of resource. Overall emissions life cycle analysis of the fuel is necessary.

Next generation “bio-fuel” (biomass to liquid) development presents a clear advantage with regard to other options. Despite some unsolved problems (e.g. land usage) Biomass To Liquid (BTL) kerosene seems to be promising.

The workshop identified open questions where specific research is needed:

- What are the potential benefits of XTL (anything to liquid) fuels in terms of environmental performance: need of a well to wing analysis with a quantification of the benefits over the whole life cycle?
- How could you optimise an engine / airframe for 100% Fischer Tropsch fuels?
- How can we break the “chicken and egg” problem of special fuel / special engine combination?
- How to best deal with the specification issue for new fuels (e.g. in cooperation with US)?
- What would be an ideal fuel?
- What are the costs for BTL fuels (e.g. power plants)?