AEF Briefing: Aviation Biofuel and the Renewable Transport Fuels Obligation

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Background

Technical issues associated with the use of biofuel in aircraft have now been very largely resolved, and in January this year Oslo Airport became the first in the world to offer renewable aviation fuel for sale to airlines. But currently there are effectively no market or policy incentives for its use, not least the disparity in price as the cost of jet fuel has recently fallen.

Biofuels were at one time seen as playing a significant future role in decarbonising our power supply. But it soon emerged that production of biofuels from crops could have unwanted social effects such as displacement of farmers, and – when a full lifecycle analysis was undertaken – could in fact accelerate climate change, for example through deforestation and 'indirect land use change'[1].

Some standards have since been introduced to try to improve the environmental and social impacts of biofuels, and the focus for the UK Government has shifted on to production of fuel from waste that would otherwise go to landfill. Carbon Budget 4 under the UK Climate Change Act assumes that 8% of road transport fuel will come from biofuel but this will be a challenging target to achieve, the Department for Transport has indicated, if the fuel is to be sourced sustainably. We understand that the UK is resisting the setting of EU-wide renewable energy targets beyond 2020, instead favouring greenhouse gas reduction targets that can be met as member states see fit, given concerns about inappropriate incentives for biofuels.

Policy on aviation biofuel

Competition for sustainable biofuels is therefore high. While the aviation industry would like to cite biofuel use as a meaningful part of the answer to limiting the sector's emissions, having better green credentials is not currently a sufficiently strong motivator for airlines to pay a premium for their fuel and development of biokerosene production in the UK has stalled. The proposed BA/Solena project – showcased in the Aviation Policy Framework[2] as an example of industry rising to the climate challenge, for example – has not in fact materialised; the partnership has ended and Solena Fuels Company has filed for bankruptcy in the United States[3].

Some in the industry, including the UK industry coalition 'Sustainable Aviation' (SA) have called publicly for policy action by way of changes to the Renewable Transport Fuels Obligation (RTFO) to help address the current disincentive of high cost[4]. SA has also called for the financing of aviation biofuel development projects through Government underwriting of risk, and increased Research and Development funding.

Biofuels are currently 'zero rated' under the EU ETS, with the emissions associated with their use being exempt from carbon pricing. Airlines operating flights within the EU can already benefit from this incentive. But the cost of carbon under the EU ETS is small, and the future of the scheme as it applies to aviation is uncertain since it may be superseded, at least from 2020, by a global carbon offsetting scheme. The incentive is probably too small therefore to have any real bearing on investment decisions. To date, only 2 tonnes of aviation biofuel have been reported under the EU ETS according to European Commission sources.

[1] https://www.theparliamentmagazine.eu/articles/opinion/eu-biofuels-reform-meaningless-without-decarbonisation-target
[2] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/153776/aviation-policy-framework.pdf#page=52
[3] http://www.greenaironline.com/news.php?viewStory=2163
[4] http://www.sustainableaviation.co.uk/wp-content/uploads/2015/09/SA-SAF-Roadmap-FINAL-24-Nov-2.pdf

The Renewable Transport Fuels Obligation

The RTFO[5] was introduced in 2008 and places an obligation on owners of liquid fossil fuel for road transport to ensure that a certain amount of biofuel is supplied (or that a substitute amount of money is paid). Owners of biofuel at the duty point are awarded one Renewable Transport Fuel Certificate (RTFC) per litre of biofuel supplied. RTFCs may then be traded between participants in the scheme; their commercial value has been estimated at 200 – 300 USD per tonne of fuel.

SA has called on Government to allow producers of aviation biofuel to claim RTFCs. These certificates could then be sold to fuel users covered by an obligation to use a given proportion of biofuel, creating a commercial incentive for production of aviation biofuel, and thus reducing the cost of these fuels for airlines wishing to purchase them. No mandate or obligation would need to be imposed on aviation fuel users directly, and the UK aviation industry has so far opposed the introduction of sector-specific biofuel targets.

AEF's view

AEF considers that biofuel, if produced sustainably, may have a role to play in limiting aviation emissions growth, but that this role is likely to be very limited due to the limited availability of feedstock. The latest DfT forecasts predict that only 2.5% of aviation fuel will come from renewable sources by 2050[6]. We will be interested to see if the Government anticipates changes to the RTFO having a material impact on this forecast, but in order to make the right policy decisions on other areas such as airport capacity, it remains critical not to overplay the likely role of biofuel in solving the aviation emissions challenge.

It is worth noting that when the Committee on Climate Change produced its 2009 report on aviation emissions[7] (as requested by the then Labour government), it anticipated as much as 10% of aviation fuel coming from renewable sources by 2050 (with a corresponding 5% reduction in emissions) and that even allowing for this much more optimistic modelling assumption it concluded that passenger demand growth would need to be limited to 60% over 2005 levels in order to meet the requirements of the Climate Change Act – a recommendation CCC maintains to this day.

AEF also supports the recommendation of the Committee on Climate Change that given the scarcity of sustainable biofuel it should be used as efficiently as possible. To the extent, for example, that biofuel can be used together with Carbon Capture and Storage technology, such as in heat generation, this is likely to be preferable to its use in aircraft.

Similarly, we believe that the Government's investment priorities in relation to climate change measures generally should be evidence-based in terms of delivering maximum CO2 reductions, and that support for aviation biofuel development (rather than, for example, subsidising wind energy) would need to be assessed in this framework. Since aviation already pays neither fuel tax nor VAT we would be very cautious about supporting allocation of public money to help industry pay its climate costs. We nevertheless remain open-minded about possible aviation access to RTFCs.

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[5] http://webarchive.nationalarchives.gov.uk/20110407094507/http:/dft.gov.uk/pgr/sustainable/biofuels/rtfo/
[6] Section 3.13 https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/223839/aviation-forecasts.pdf#page=46
[7] https://www.theccc.org.uk/publication/meeting-the-uk-aviation-target-options-for-reducing-emissions-to-2050/