

# Low carbon fuel strategy call for ideas: response from the Aviation Environment Federation



1st April 2022

---

The Aviation Environment Federation campaigns on aviation, for people and the environment. Our focus is on aviation policy (relating to climate change, noise and air pollution), and we have participated in numerous Government engagement groups over the years. We currently have a seat on the Jet Zero Council. Internationally, we are a lead member of the NGO grouping ICSA (the International Coalition for Sustainable Aviation) which has observer status to the UN's International Civil Aviation Organisation and engages actively in the Fuels Task Group.

We have submitted detailed responses to the Jet Zero consultation and to the SAF mandate consultation. We are pleased to have the opportunity to submit to this call for ideas. We have responded only to those questions that are most relevant to our work to date. We are keen to continue to engage with the Department on this topic as the work develops.

## Chapter 1: introduction

### **How can the low carbon fuels strategy best improve certainty about the deployment of low carbon fuels to support the decarbonisation of the transport sector and the growth of this industry in the UK?**

One important step towards providing certainty in relation to the role that the low carbon fuel strategy can play in delivering net zero in the UK would be to improve clarity around carbon accounting and around the kind of emissions 'savings' that are provided, perhaps using the term 'net low carbon fuels' rather than 'low carbon fuels'.

At present, the SAF mandate and other incentives schemes for low carbon fuels such as the RTFO are based on lifecycle analysis for each possible fuel, which will be based on a series of assumptions about possible counterfactuals. We are concerned about whether these values, however, are based on global assessments of the current 'business as usual' situation, or on the UK's net zero pathways. For example, companies converting waste into aviation fuel say that using their fuel can deliver 60-150% CO<sub>2</sub> reductions, with the higher numbers assuming that the production process includes an element of CCS.

There are a great many issues to unpack here, however, in determining whether the use of carbon from waste in this way represents a genuine emissions reduction, as opposed to an emissions displacement or avoidance. For example:

- The carbon component of waste does not straightforwardly represent ‘captured carbon’, given both the uncertain timescales of the biological processes involved and the emissions associated with the production of the products.
- If the waste were, by way of counterfactual, to be incinerated it would generate CO<sub>2</sub>. If instead it is first turned into SAF and then burned it will still generate CO<sub>2</sub> (and in fact some non-CO<sub>2</sub> impacts in addition).
- Sometimes avoided methane release is included in LCA analysis from wastes, but again this is an emission avoidance not a reduction.

Since all sectors need to achieve net zero in under thirty years, it is surely imperative to address both waste emissions and aviation emissions, not one or the other, so an LCA that allows for emissions avoidance to count as a reduction is problematic in our view. With airlines beginning to claim, the basis of LCA values, that they are cutting their emissions as a result of SAF use, despite their aircraft releasing as much CO<sub>2</sub> as from kerosene, these issues seem important to address.

Meanwhile, for policy purposes, SAFs are in some cases assumed to offer airlines a 100% emissions reduction, on the basis that all production emissions are accounted for elsewhere in the economy. It is unclear, however, whether this is actually happening, and the situation becomes murkier still in the case of imported fuels.

In order to see to what extent low carbon fuels cut emissions at the economy-wide level, much better transparency is needed. We are concerned that the benefits of certain fuels may be over-claimed and double counted, and that Government incentives for both the use and production of these fuels may be misplaced.

## Chapter 2: demand

**Does this chapter accurately capture key trends, opportunities and risks in terms of low carbon fuels demand? If no, please expand on any aspects that you think are missing or inaccurate, or require further exploration.**

There is a risk in our view that airlines’ use of fuel produced by displacing carbon in the economy, rather than removing it (as with waste-based fuel) could allow them to make misleading claims about the decarbonisation of flying which both perpetuate plans for unsustainable growth, and delay implementation of more expensive fuels such as synthetic kerosene produced from captured carbon together with green hydrogen and technologies such as zero carbon aircraft.

We understand the argument for low carbon fuels – to the extent that they are available - shifting increasingly towards sectors such as aviation which have few good emissions

abatement options. On the other hand it is worth considering carefully whether makes sense (and in particular whether it is a good investment of public money) to build plants specifically for converting waste into SAF if there are alternative uses for this waste as an energy source. In cases where producing SAF requires more energy than is required for other uses this inefficiency of resource use should be weighed in the balance.

**In your view, what are the key challenges relating to demand in the future transition of the sector?**

The aviation industry sometimes argues that if only supply of SAF could be increased then demand would surely follow as it is bound to become more affordable. We see little chance of price parity between SAF and kerosene for the foreseeable future however. Alongside consideration of a SAF mandate, the Government should pursue options for increasing the cost of fossil kerosene to better internalise the climate cost of generating CO<sub>2</sub> emissions.

## **Chapter 3: supply**

**Does this chapter capture key trends, opportunities, and risks in terms of low carbon fuels supply? If no, please expand on any aspects that you think are missing or require further exploration.**

We note that this and other DfT documents quote figures published by the industry association Sustainable Aviation about the number of jobs they believe could be created in the production of SAF. While we strongly support the principle of the green jobs transition, clearly environmental policy must be based on evidence of genuine environmental benefit towards net zero (and other) goals. Airports have a history of over-promising in relation to jobs, with the number of people actually employed often being very much lower than was suggested at the time of planning applications. We would therefore urge the Government to commission its own research into employment opportunities taking into account the full range of jobs that will be required to deliver a UK energy transition before making policy.

While it may appear convenient to convert UK waste into SAF, we would question whether this is an appropriate focus for industrial development, not least given the UK's commitment to reduce waste. Meanwhile, the production of net zero e-fuel would require extremely large quantities of additional renewable electricity and of captured carbon. It seems likely that this fuel may be easier and cheaper to produce in other parts of the world. Nevertheless a focus on increasing the production of UK renewable electricity would seem to be a no-regrets option that will be necessary for a range of low carbon fuels including green hydrogen. While it falls outside the scope of this work, the UK should also be focusing on how to deliver carbon removal technologies including CCCs.

**Are there any other actions the government should consider as part of the strategy development to address uncertainties and identify opportunities on the supply side?**

For the low carbon fuels strategy to provide certainty in terms of the total available quantity of given fuels, an economy-wide vision is needed for the appropriate deployment of scarce resources such as green hydrogen. The latest modelling published as part of the Jet Zero strategy indicates that the Government is hoping for very large quantities of SAF to be used by UK airlines by 2050 and the aviation industry in the UK has indicated its hope to move towards the use of e-fuel as soon as practicable.

The extent to which this can be produced domestically will depend on the appropriate deployment of limited energy resources however, underlining the importance of an economy-wide perspective. It will be important to ensure that sectors on which everyone relies, such as domestic heat and electricity, do not end up paying over the odds to access renewable electricity as a result of aviation making use of scarce renewable resource.

## **Chapter 5: policy framework**

**Does this chapter capture key trends, opportunities, and risks in terms of policy framework? If no, please expand on any aspects that you think are missing or require further exploration.**

In addition to policies focused specifically on supply and purchase of SAF, there is an urgent need for clarity about the Government's wider policy plan for delivering net zero aviation. While the Government is in the process of developing a net zero 'strategy' for aviation, including a number of ambitious scenarios for the reduction of aviation emissions, the development of policy to deliver these outcomes is being treated as a separate piece of work, the scope and timetable for which is unclear to us.

In particular we are concerned that the mechanisms through which airlines are required to account for their emissions are inadequate. UK ETS and EU ETS have only partial coverage of flights and CORSIA only addresses emissions above a 2020 baseline. The Government has committed to including international aviation emissions in the sixth carbon budget and the jet zero strategy indicated the possibility of for annual emissions targets for the sector in the interim. So far no detail has been provided however of how such targets would be set or delivered. The majority of UK aviation emissions face no tax or carbon charge.

These policy gaps are seem likely to represent a barrier in the creation of any market confidence in the future demand for low carbon fuels in the sector.