



Department for Transport

Advanced fuels: Call for Evidence

Aviation stakeholder workshop

16 January 2014

Structure of the workshop

- 14.00 Welcome
- 14.10 Overview of the call for evidence
- 14.20 Legal context
- 14.50 Deployment potential
- 15.20 Concluding remarks

The call for evidence is a first-stage, evidence-gathering document.

We are keen to receive as much evidence as possible about advanced fuels. This data will feed into new policy development, so we value all contributions.

The call for evidence will run until **21 February**.

Structure of the call for evidence

1. Transport sectors
2. Feedstocks and fuels – what is ‘advanced’?
3. Policy mechanisms

These areas were addressed at the general workshop on the 15 January.

Today, we wish to focus on the particulars of aviation and its unique considerations.

The government has legal obligations that increase biofuel deployment, but not yet in aviation

Renewable Energy Directive

UK has target of 15% of energy from renewable sources, with **10% transport sub-target**. Biofuels are our main mechanism to meet this target.

Fuel Quality Directive (FQD)

Biofuels are important for this second target. The FQD requires us to **reduce by 6% the carbon intensity of transport fuels by 2020** (aviation also not included).

This means that biofuels used in aviation cannot be used in road transport, **increasing the cost of compliance** for that sector.

These are implemented through an **obligation on fuel suppliers**.

The exclusion of aviation from these targets means that biofuel deployment in this sector is not the most effective option.

But this will change over the longer term

2050 – Carbon Budgets

Globally agreed target to reduce emissions by **80% by 2050**.

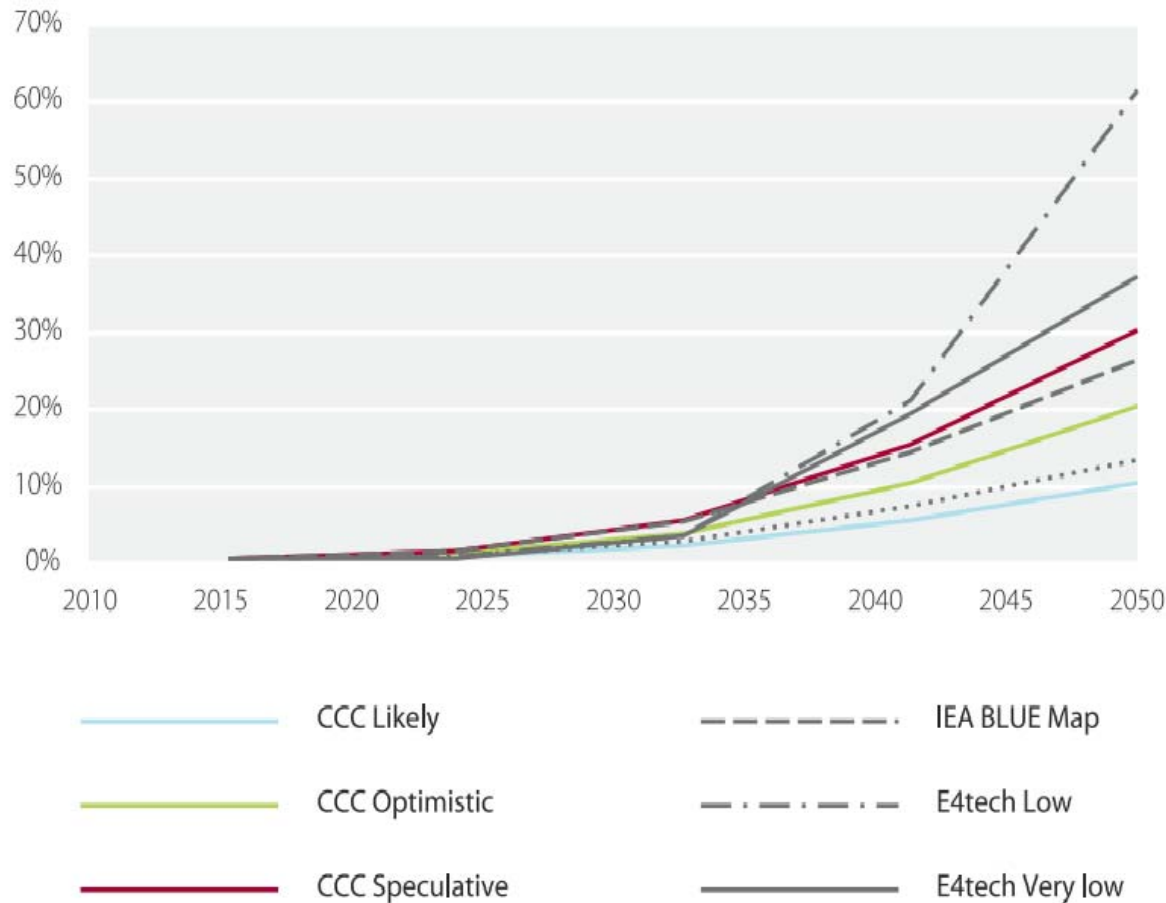
International aviation is currently not included in UK net carbon accounts.

Decision whether to include has been deferred until the conclusion of negotiations over EU ETS. Aviation's inclusion has resulted in 'stop the clock' etc.

So when is an appropriate time to begin deployment in aviation?

So when is the best time to deploy?

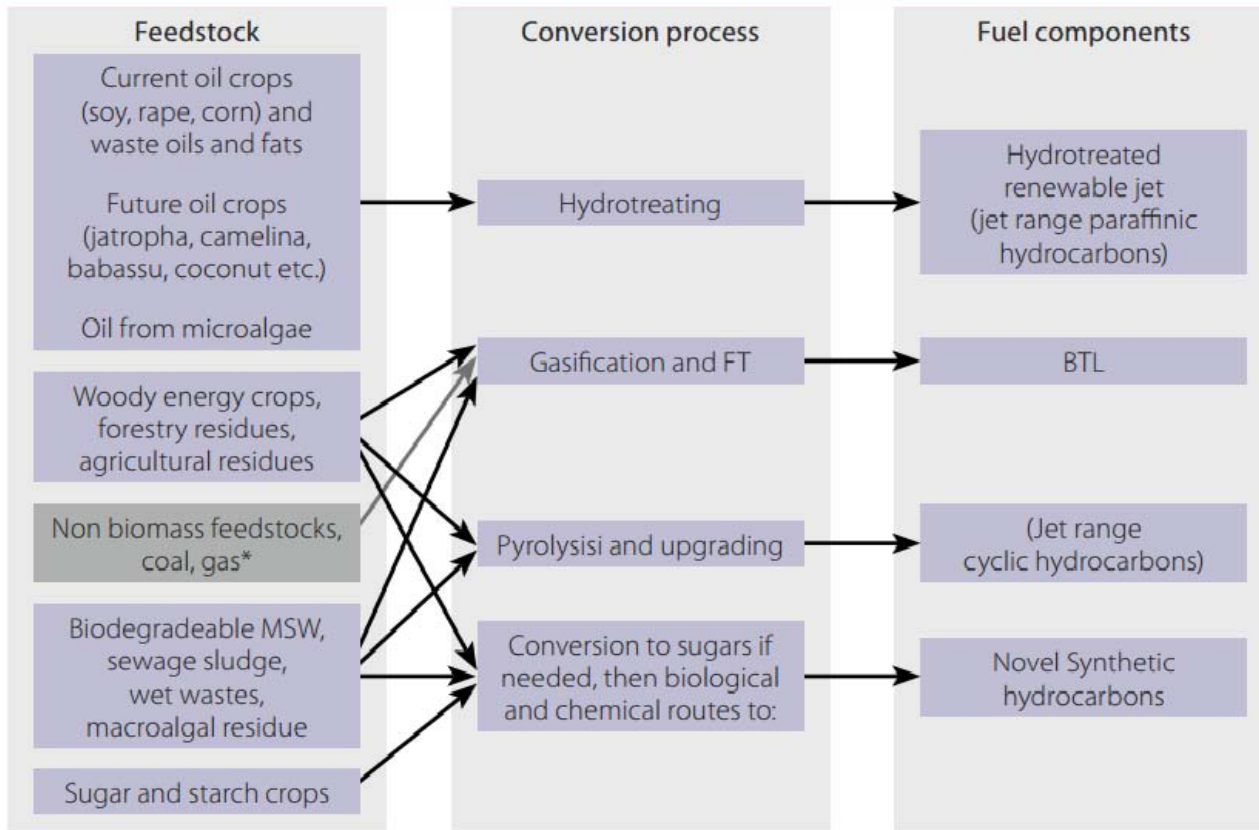
Figure 5.6 Proportion of biofuel penetration in aviation: CCC scenarios and comparable scenarios from E4tech and IEA



Analysis by Committee on Climate Change, IEA and E4Tech sees limited biofuel penetration in aviation until well after 2030.

Biofuels in aviation will be advanced

Figure 5.1 E4tech representation of potential biofuels routes



E4Tech analysis shows a range of technology pathways for aviation biofuel.

To the extent that those fuels are drop-in i.e. compatible with current engine designs, there is no risk of technological lock in.

The deployment of these fuels at commercial scale is still some way off.

So we believe that biofuels in aviation are not an immediate priority. Do you agree?

How would deployment work?

If we were to decide to incentivise biofuel use in aviation, what would work best?

In road transport, the Renewable Transport Fuels Obligation (RTFO) puts an **obligation on suppliers**.

Taxation of fuel for international aviation is effectively banned by treaty, so we need to look at other options:

Subsidise biofuel use in aviation

- Does not place an obligation/tax on international aviation fuel;
- Removes price differential between fossil and low-carbon fuels;
- The call for evidence contains several examples of how subsidy schemes could work.

Technical considerations

- Under such a scheme, what would be the technical challenges?
- Are advanced, low-carbon fuels generally drop-in?
- What is the attitude of engine manufacturers?
- Would be the logistical/operational considerations?