BRIEFING - July 2025

# SAF bill: Future-proofing the UK's e-SAF production

Using the revenue certainty mechanism to make the UK a leader in clean aviation fuel

# Executive Summary

To reduce aviation emissions, Sustainable Aviation Fuel (SAF) has a key immediate role to play, alongside other longer-term measures. SAF covers a range of lower-carbon alternatives to conventional aviation kerosene. Unlike hydrogen or battery powered aircraft, SAF can be used immediately in existing aircraft as a 'drop in' fuel, without needing to adapt fuel delivery infrastructure.

To support the shift to SAF, the UK Government has already created a SAF mandate. From January 2025, this requires fuel suppliers to use a minimum proportion of SAF in the UK aviation fuel mix, rising from 2% in 2025 to 10% in 2030 and 22% in 2040. The EU has a similar mandate, and China is considering introducing its own too.

However, there is very limited production of SAF in the UK and globally. The Climate Change Committee says this lack of production means a risk of missing the mandate targets. Major oil companies remain largely absent from the sector, which is dominated by start-up projects, often viewed as high-risk by private investors. To address these barriers, in May 2025 the UK Government introduced the Sustainable Aviation Fuel Bill to parliament.

The bill will create a 'revenue certainty mechanism' (RCM) to provide financial reassurance to investors in UK SAF plants, by creating a guaranteed price for SAF, known as the strike price. If the market price falls below this strike price, the SAF producer receives a top-up payment to cover the difference. Conversely, if the market price exceeds the strike price, the producer pays back the difference. The RCM is the first of its kind in the world and is a welcome innovation, especially as it will be funded by a levy on fuel suppliers under the 'polluter pays' principle, rather than by taxpayers.

**However, not all SAF types are equally sustainable or scalable, and the Government's legislation should be amended to reflect this.**

E-SAF offers the greatest potential of all types of SAF to decarbonise the sector. This 'synthetic fuel' is made by combining carbon captured from the air with hydrogen electrolysed from water using renewable energy. E-SAF can reduce lifecycle emissions by over 90%, and avoids the land-use impacts, indirect emissions, and insufficient feedstock constraints associated with other types of SAF made from used cooking oil or biofuels made from wastes and residues. The Government has acknowledged that e-SAFs 'are less reliant on scarce feedstocks and subject to other potential negative environmental impacts' than SAF produced through other pathways.

Only e-SAFs can meet the demands of the aviation industry in the long-term and are truly sustainable and scalable. But proposed UK e-SAF projects require government support to get to a final investment decision stage.

As drafted, the SAF bill rightly excludes fuels made from used cooking oil, which have been subject to instances of mislabelling and fraud and are limited in supply. But the RCM does not differentiate between other types of SAF. To ensure that the mechanism is effective at supporting e-SAF it is crucial that the bill is amended to **earmark part of the RCM support to e-SAF**. Otherwise there is a very real risk that all RCM funding will flow only to less sustainable or scalable biofuel projects.

Airlines in the UK and elsewhere will soon be looking for sources of e-SAF to meet their legal requirements under the UK SAF mandate and the EU's equivalent ReFuelEU Aviation mandate. T&E analysis forecasts a global competition for a limited supply of e-SAF, meaning we cannot rely on imports alone. Therefore the RCM is an opportunity to ensure airlines have access to **UK-produced e-SAF to ensure the SAF mandate targets are met and to meet market demand outside the UK**. As the UK currently imports over 60% of its jet fuel, shifting to e-SAF also could keep value within the UK instead and reduce dependency on foreign petrostates..

The ensure the RCM is effective, the government should implement the following measures:

- Amend the SAF bill so that it explicitly **commits a proportion of RCM support to e-SAF projects** - at least enough to enable production to meet the SAF Mandate e-SAF quota of around 60,000 tonnes of e-SAF in 2030, equating to one large plant.[1]
- Consider e-SAF production as a key energy-intensive industry, as outlined in the recent industrial strategy, and eligible to **benefit from lower electricity costs**.

In June 2025 T&E, along with NGOs, investors and e-SAF producers, representing over 130 organisations, wrote to the government asking for the RCM to support e-SAF production. This support would give the UK a 'first mover' advantage, enhancing energy security and supporting economic growth, exports and UK jobs in the production of a fuel of the future. Lacking this support for UK e-SAF production, the bill and RCM would be a huge missed opportunity.

[1] The projected volume of e-SAF required in 2030 was updated on 4 August 2025.

# 1. Why do we need Sustainable Aviation Fuel?

UK domestic and international aviation currently accounts for around 7% of UK greenhouse gas emissions. According to the UK Government's independent advisors, the Climate Change Committee, project that this will rise to 16% in 2035, as the aviation sector grows and other sectors decarbonise.

Alongside other measures, Sustainable Aviation Fuel (SAF) has a key role to play in reducing these emissions. SAF is not a zero carbon option, but its lifetime emissions can be up to 80% lower than those of conventional aviation kerosene over the course of the fuel's life cycle. Unlike hydrogen or battery powered aircraft, SAF can be used immediately in existing aircraft as a 'drop in' fuel, without needing to adapt fuel delivery infrastructure.

**What is SAF?**

SAF is a broad term that encompasses a range of fuels made by different methods, some of which are more sustainable and scalable than others. The types of SAF broadly fall into three groups:

1. **HEFA (hydroprocessed esters and fatty acids)** are fuels developed from oils or fats, such as used cooking oil (UCO). HEFA is already produced in the UK, at the Phillips 66 refinery in Immingham, Lincolnshire, the UK's only industrial-scale SAF facility. Imported UCO has been subject to instances of mislabelling and fraud. Sources of HEFA feedstocks are also limited meaning HEFA will be unable to satisfy the entirety of the UK's SAF mandate.
2. **Non-HEFA biofuels** (also called advanced biofuels) are fuels made from wastes and residues, such as municipal solid waste. UK Government SAF rules say these biofuels can be made from sources like forestry residues or unrecyclable plastics but not from food, feed or energy crops. The sustainability of such biofuels can vary dramatically depending on their sourcing. Truly sustainable biofuels are expected to be scarce and will not be enough to meet SAF demand in the long run.
3. **Power to liquid (PtL) fuels**, also known as 'e-fuels', 'e-SAF' or 'synthetic fuels', are usually made by combining carbon captured from the air with hydrogen electrolysed from water using renewable energy. Only these 'third generation' PtL fuels are truly sustainable and scalable. If made with additional renewable electricity and $CO_2$ captured directly from the atmosphere, it can

be highly scalable. It avoids the land-use impacts, indirect emissions, and feedstock constraints associated with other types of SAFs, such as biofuels, and can reduce lifecycle emissions by over 90%.

In addition to its sustainability credentials, e-SAF presents a compelling industrial case for the UK. Its production relies on green hydrogen and captured $CO_2$, making it **a key driver for the UK's growing hydrogen economy** and a catalyst for scaling electrolysis capacity and carbon capture infrastructure. At the same time, by enabling domestic fuel production, it supports the government's mission to reduce dependency on imported fossil fuels and **become a 'clean energy superpower'.** As the UK currently imports over 60% of its jet fuel, shifting to e-SAF also could keep value within the UK instead and reduce dependency on foreign petrostates.

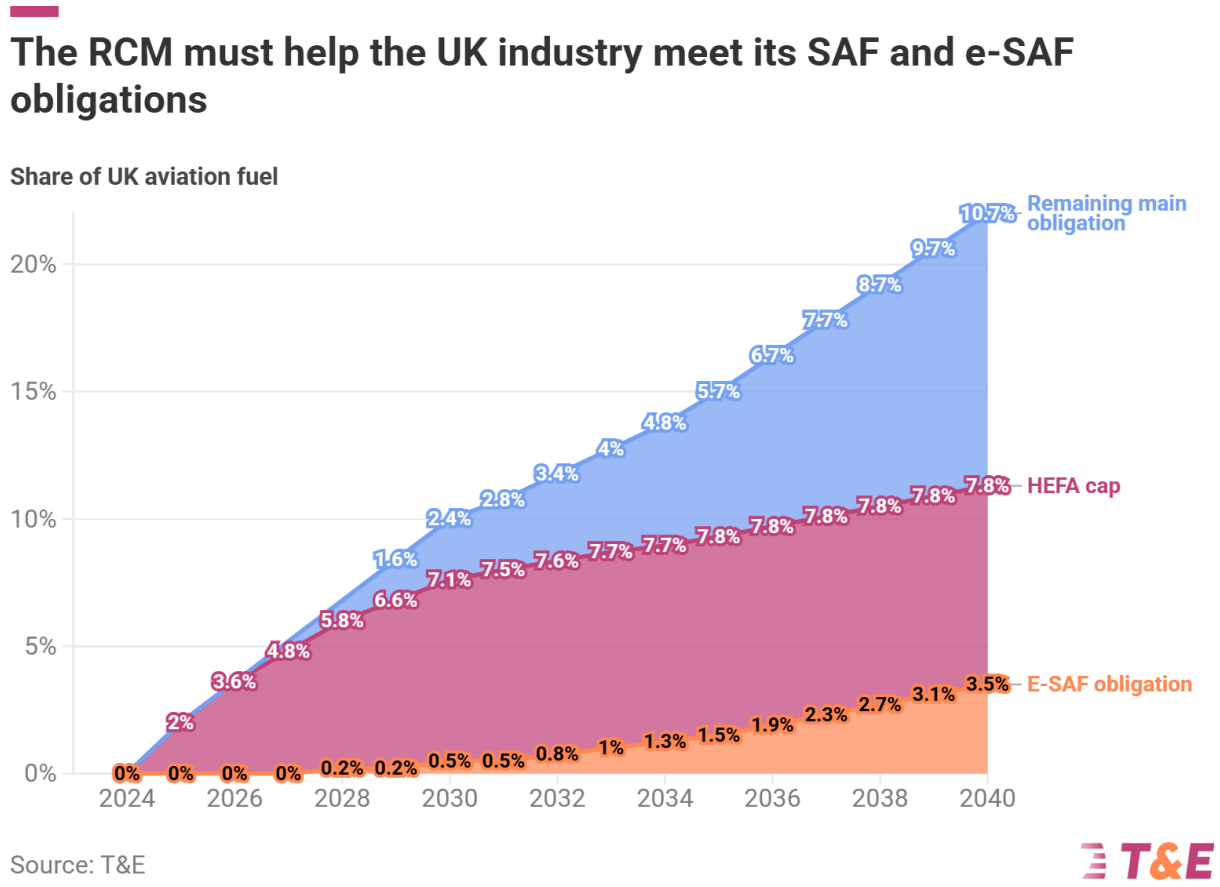
## Government SAF policy

SAF has enjoyed bi-partisan political support in the UK. The Government, under both the Conservatives and Labour administrations, has made SAF a key part of its strategy to reduce aviation emissions. There are two main parts of the UK government's policy to create a SAF market:

- a **SAF mandate** that focuses on guaranteeing demand;
- a **revenue certainty mechanism** that focuses on increasing UK SAF production and supply.

### SAF Mandate

The SAF mandate, in place since 1 January 2025 aims to guarantee demand for SAF and provide market predictability. Under the mandate, SAF should account for 2% of aviation fuel for flights within and departing the UK in 2025, rising to 10% in 2030, and 22% in 2040. There is also a 'sub-mandate' requiring the following proportions of e-SAF: 0.2% in 2028, rising to 0.5% in 2030 and 3.5% in 2040. From 2027, the amount of HEFA that can be used to meet the SAF quotas is capped, to incentivise a shift to more scalable types of SAF. Imports of SAF are permitted.




[2]

The mandate creates quota obligations for fuel suppliers, not airlines. If fuel suppliers exceed, or cannot meet, these required proportions then SAF certificates can be traded between suppliers. Failing that, there is also an option for suppliers to "buy out" of their obligations by paying a penalty to the government. The buy-out price for the main SAF obligation is £4.70 per litre, and £5.00 per litre for e-SAF. The mandate is less strict than the EU's ReFuelEU Aviation mandate, which contains a follow-up obligation requiring fuel suppliers to compensate for any shortfall in SAF delivery in the following year.

**Revenue Certainty Mechanism**

The Revenue Certainty Mechanism (RCM) aims to incentivise domestic SAF production and supply. It will be legislated through the Sustainable Aviation Fuel Bill, introduced to Parliament in May 2025.

[2] The percentages of SAF in the graph were updated on 4 August 2025.

Under the RCM, a guaranteed strike price is set for SAF. If the market price falls below this strike price, the SAF producer receives a top-up payment to cover the difference. Conversely, if the market price exceeds the strike price, the producer pays back the difference. This approach mirrors the 'Contracts for Difference' model used in offshore wind production, and is intended to enhance investor confidence, ensure revenue stability for producers and reduce financing costs for SAF projects. The RCM will be funded through a levy on UK aviation fuel suppliers.

## SAF mandates elsewhere

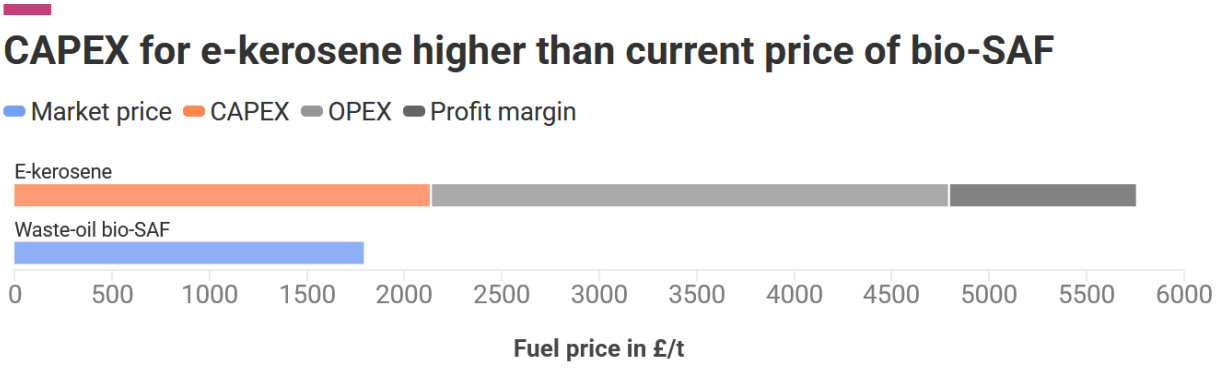
Other administrations around the world are also mandating the use of SAF. The EU already has a SAF mandate through its ReFuelEU Aviation scheme, while China also has plans to introduce its own SAF mandate.

This means that in the coming years there will be greater global demand and competition for SAF, creating pressure on airlines to source enough SAF to meet their legal requirements, whilst also creating a **commercial opportunity for new UK producers** to meet this demand in an emerging growth industry. The RCM is an opportunity for the UK to gain a 'first mover' advantage for SAF producers, which can support exports and jobs in SAF production, whilst enhancing energy security. Missing this opportunity might mean China or the USA take the lead instead.

## UK SAF industry potential

The airline industry forecasts the potential for around 60,000 jobs to be created from a UK SAF industry by 2050 and £10 billion of Gross Value Added per annum. There are a range of UK SAF projects at varying stages of development, some of which have received grant funding from the government's Advanced Fuels Fund.

However, attracting investment is difficult, especially for e-SAF projects, which face much higher CAPEX costs than HEFA projects (see graph below). Major oil companies remain largely absent from the sector, which is dominated by start-up projects, often viewed as high-risk by private investors. The RCM can help overcome this investor hesitation and allow proposed UK e-SAF projects to get to a final investment decision stage.




Source: T&E, based on cost model for grid-connected FT 50kta e-kerosene plant in Norway (SkyPower) and average HEFA price (EASA, 2025), assume 0.86 £/€.

E-SAF also has high OPEX costs largely due to its requirement for electricity in the electrolysis process. In its recent industrial strategy, the government has suggested lowering electricity costs for certain key energy-intensive industries. E-SAF production should be considered such an industry and also receive this support.

### The RCM can help the industry meet its e-SAF Mandate targets

The Government has said that it will decide the number and duration of contracts made under the RCM and limit support to a certain (as yet unknown) volume of SAF, and negotiate strike prices to a level it considers acceptable. Because the RCM will be industry-funded it is clear that financial RCM support will be limited. Therefore it is crucial that, at a minimum, **enough RCM support is reserved to help domestic production of the UK SAF Mandate e-SAF quota of around 60,000 tonnes of e-SAF in 2030, equating to one or two new plants.** Any additional capacity could then be exported.

## 2. Recommendations to improve the Bill

### What is good?

It is welcome that, by creating a RCM through the bill, the government is creating a guaranteed **return on investment for SAF producers** in a nascent industry.

One of the most positive features of the scheme is that it will be industry-funded, primarily through **a levy on aviation fuel suppliers,** in line with the 'polluter pays' principle.

It is also positive that HEFA SAF is excluded from the mechanism. HEFA production is at a mature stage but has very limited supplies, so it is welcome that the mechanism seeks to promote more scalable and sustainable SAF types.

## What needs improving?

Apart from excluding HEFA, the SAF bill does not differentiate between other types of SAF. Biofuels are eligible in the same way as e-SAFs, which could undermine the efficacy of the mechanism for e-SAF. To ensure that the mechanism is effective at supporting e-SAF it is crucial that the bill is amended to **to reserve some of the RCM support to e-SAF**.

The government has not said exactly how many contracts or projects might be supported by the RCM, but as the RCM is industry funded it is clear that support will be limited. Therefore it is crucial that, at a minimum, enough RCM support to help domestic production of the UK SAF Mandate e-SAF quota (around 60,000 tonnes of e-SAF in 2030, equating to one or two new plants) should be reserved. Additional capacity could be exported.

Without dedicated RCM support for e-SAF, the mechanism risks only supporting biofuel based SAF only, which is far less scalable and sustainable. This would be a huge missed opportunity and would lead to two key risks.

Firstly, without domestic production of e-SAF, UK fuel suppliers and airlines may simply import supplies from abroad. Already, International Airlines Group (IAG) - owners of British Airways - has recently committed to buy US-produced e-SAF.

Secondly, without enough production of e-SAF, the mandate quotas risk not being met at all, which could lead to industry lobbying for them to be weakened or scrapped.

## Policy recommendations

The ensure the RCM is effective, the government should implement the following measures:

- Amend the SAF bill so that it explicitly commits a proportion of RCM support to e-SAF projects - at least enough to support one e-SAF plant final investment decision.
- Consider e-SAF production as a key energy-intensive industry, as outlined in the recent industrial strategy, and eligible to benefit from lower electricity costs.

The RCM is a world-first. It must be targeted towards support for the UK e-SAF industry and give the UK a 'first mover' advantage, supporting exports and UK jobs in the production of a fuel of the future.

***Footnote:****The briefing was corrected on 04.08.2025 to reflect the correct SAF and PtL obligations in the chart on page 6 and that the 2030 UK PtL obligation is around 60,000 tonnes instead of around 65,000 tonnes.*

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## Further information

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