Sustainable aviation fuel policy in the UK

- ➔ The UK Government finalised its sustainable aviation fuels (SAF) mandate, which includes a sub-target for power-to-liquid (PtL) fuel, buy-out price and sustainability criteria to be met.
- ➔ The government is finalising its approach to a revenue certainty mechanism for SAF uptake following renewed consultation.
- ➔ There are several existing funds that the government has delivered in support of SAF, but the industry and its investors still require further financial certainty.

The Labour government in the UK is in the process of designing and delivering its policy framework for achieving net-zero aviation. The UK aerospace industry is the second largest in the world[1] and the government views the sector as a vital part of the UK's economy, alongside being an influential player in the global market. However, with international and domestic aviation accounting for around 8 per cent of the UK's greenhouse gas (GHG) emissions[2], there is an urgent need to implement policies that will ensure the sector aligns with climate targets.

The Jet Zero Strategy, launched in 2022, outlined the previous government's strategic vision and plan for reaching net-zero aviation by 2050. A Jet Zero Council -formed of senior industry representatives and policy-makers - was established, to provide strategic oversight of the government's plans as key stakeholders in the sector's transition, which has since been superseded by a Jet Zero Taskforce launched in November 2024[3]. Four sub-groups are being formed within the Taskforce to provide expert input on key enablers for sustainable aviation fuel (SAF), unlocking barriers for zero-carbon hydrogen aircraft, the role of GHG removals and implementing contrail avoidance.

SAF has been noted as 'one of the key levers available to government and industry to accelerate the transition to net-zero aviation'[4], with the aim to have 5 plants under construction in 2025. The UK's SAF industry could be worth £16.7 billion per year in exports by 2050, supporting approximately 130,000 highly paid jobs[5], and it is our view that the government has a leading role in delivering this huge opportunity by establishing a sustainable, high-integrity SAF market for the UK and beyond.

Since coming to power in July 2024, the government has made progress in sustainable aviation, including introducing a SAF Bill during the King's first speech to the House of Commons under the new Labour government on July 17, 2024[6]. The government has committed to delivering a

[1] United Kingdom - Aerospace and Defense
[2] AEF Analysis: The Seventh Carbon Budget's Implications for Aviation
[3] Revamped taskforce set to deliver a sustainable vision for aviation
[4] Pathway to net zero aviation: Developing the UK sustainable aviation fuel mandate - page 8
[5] UK set to lose out on £17bn global sustainable aviation fuel industry unless urgent action taken
[6] The King's Speech 2024 - GOV.UK.

Sustainable Aviation Fuel (Revenue Support Mechanism) Bill that aims to support SAF production by introducing a revenue certainty mechanism, crucial for alternative fuel projects to secure financing. Since entering 2025, the new government has also strengthened its SAF support which it sees as 'an important part of the strategy to decarbonise air travel', including investing an additional £63 million over the next year via the Advanced Fuel Fund[7]. This comes alongside the SAF Mandate entering into force as of January, but also in response to renewed government support for several airport expansions, including the highly contested[8] third runway at London Heathrow[9] - the 4th busiest airport in the world[10].

SAF Mandate

The UK SAF mandate was signed into law in November 2024, which as of this year now requires jet fuel suppliers to blend SAF into conventional aviation fuel at increasing concentrations, much like the European Union's ReFuelEU SAF mandate. These blend quantities increase from 2 per cent SAF as a percentage of total jet fuel demand by 2025, to 10 per cent by 2030 and 22 per cent by 2040. They also launched a 'SAF Clearing House', to provide technical support and funding towards the development, testing and qualification of SAFs[11].

Similarly to ReFuelEU, the policy has included a sub-mandate on 'power-to-liquid' (PtL) fuels - referred to as synthetic aviation fuels in the EU mandate - due to their 'high GHG emissions savings potential and low land use change risk'[12]. The government noted that this type of high-integrity SAF will require more support to get to market and help in bringing costs down for their inputs such as green hydrogen and renewable energy, therefore it was expected that the sub-target would be ambitious. However, the PtL target has fallen short of expectations and is lower than the counterpart target within ReFuelEU, requiring only 0.5 per cent PtL by 2030 and reaching a significantly lower target of 3.5 per cent PtL by 2040 as compared to the EU's 10 per cent target for the same year.

The current mandate includes a cap to hydroprocessed esters and fatty acid (or 'HEFA' fuels) which, though cheap and abundant, do not align with their commitment to only use waste residues for fuels whilst helping to create space in the market for newer SAF technologies to become competitive. The HEFA cap starts at 2 per cent in 2025 and rises to 7.8 per cent by 2040. The mandate also includes a buy-out price whereby jet fuel providers have a cost penalty should they not supply enough SAF. The buy-out mechanism for the main SAF obligation is £4.70 per litre and the PtL obligation is £5.00 per litre. Figure 1 compares the mandate targets within the UK's SAF mandate to those of ReFuelEU.

[7] Transport and growth update: airport expansion and transition to greener aviation - GOV.UK
[8] Mayor of London statement on Heathrow airport expansion
[9] Transport and growth update: airport expansion and transition to greener aviation - GOV.UK
[10] Busiest Airports in the World 2024 | OAG
[11] UK SAF Clearing House
[12] Pathway to net zero aviation: Developing the UK sustainable aviation fuel mandate - page 36

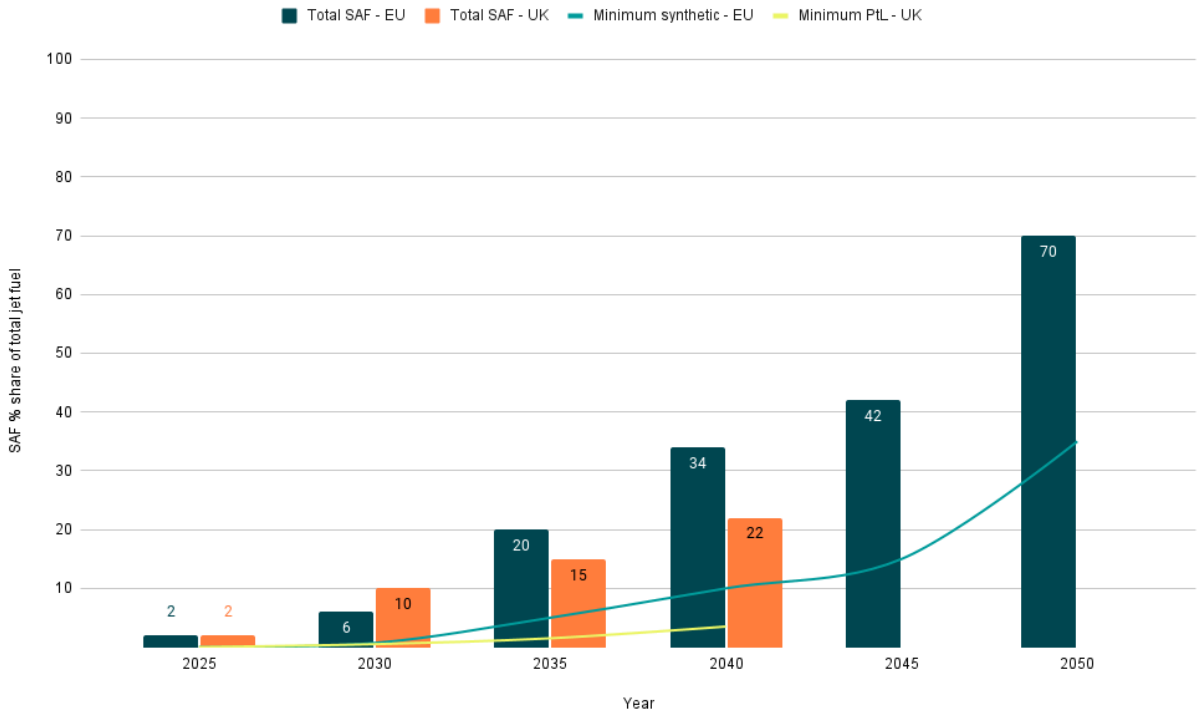

Figure 1: SAF blending targets in the UK SAF mandate compared to ReFuelEU Aviation mandate

Revenue Certainty mechanism

The government are in the design phase of developing a revenue certainty mechanism, which will 'provide an incentive for the production of SAF via price support'[13]. In January 2025, the government published its response to an initial consultation, stating that it recognised 'the importance of providing certainty to industry and investors on the allocation process to allow investment decisions to be made' and have committed to[14]:

- Upholding the HEFA cap, meaning these fuels will not be eligible for revenue support. The first tranche of contracts offered will be with UK SAF projects that produce using non-HEFA technology and feedstock.
- Pursuing a guaranteed strike price mechanism (GSP) which will require a private law contract to be concluded between the SAF producer and a counterparty.
- Developing 'a robust and effective allocation process that can be delivered as soon as is practicable' with stakeholders. This will be important as it will demonstrate a signal for which types of SAFs the government supports. The ambition would be for the highest integrity e-fuels fuels - produced with green hydrogen and additional renewable energy - to receive the most support.

[13] Sustainable Aviation Fuels Revenue Certainty Mechanism
[14] Government response to the consultation on Sustainable Aviation Fuels Revenue Certainty Mechanism - GOV.UK

A further consultation is currently underway regarding the approach to industry funding for the mechanism, with the current proposal being that fuel suppliers are levied based on their current market share[15]. The government is expected to continue engagement on the RCM this year to work out additional details, including scheme administration and contract allocation methods. They have committed to the RCM legislation being in place by the end of 2026[16].

Funding

The UK Government allocated significant but currently insufficient funds to support the growth of the SAF market. These funding mechanisms target activities across the TRLs, from the innovation stage through to demonstration. This mapping provides a snapshot of funding available as of February 2025:

Table 1: Mapping of UK funding mechanisms relevant to sustainable aviation fuels

Fund name	Organisation(s)	Description	Total fund
Currently closed			
Green Fuels, Green Skies	• DfT • Ricardo	Competition to support UK companies that pioneer new technologies to convert household rubbish, waste wood and excess electricity into SAF.	£15 million.
Hydrogen Innovation Initiative Demonstration	• Connected Places Catapult • Hydrogen Innovation Initiative (HII)	Connected Places Catapult, acting as a partner of the HII, is looking to procure results from near-term demonstrations.	A budget of up to £50,000 per project to contribute to the costs of the demonstration activities.
Jet zero: aviation's non-CO2 impacts on the climate	• DBT • DfT • Natural Environment Research Council (NERC)	Collaborative research which focuses on the underpinning science of aviation's non-carbon dioxide (CO2) impacts - including from SAFs - and how they interact with climate over time with the view to identifying benefits, mitigation options, informing industry and government policy decisions.	£10 million.

[15] SAF revenue certainty mechanism: approach to industry funding - GOV.UK
[16] Sustainable aviation fuel revenue certainty mechanism: approach to industry funding - GOV.UK.

Tomorrow's Engineering Research Challenges	• EPSRC	Funding opportunity supporting diverse teams from across disciplines to forge new research capabilities.	£7 million.
Accelerating research outcomes to deliver a prosperous net zero	• Engineering and Physical Sciences Research Council (EPSRC)	Provides follow-on funding to research outputs that are ready to move beyond fundamental research and need additional resources to be taken up as a solution by users.	£7.5 million.
Advanced Fuels Fund	• Department for Transport (DfT) • Ricardo • E4Tech	Grant funding to first-of-a-kind commercial and demonstration-scale projects in the UK at all development stages up to construction starting.	£135 million to March 2025 + an additional £0.63 million this year
Strategic Programme	• Aerospace Technology Institute (ATI) • Department for Business and Trade (DBT) • Innovate UK	Targeting innovators, this programme provides funding for research and technology development in the UK to maintain and grow the UK's competitive position in civil aerospace	~≈£1.7 billion to 2025, with industry co-funding taking the total to >£2 billion.
Future Flight Challenge Fund	• DBT • UK Research and Innovation (UKRI) • Innovate UK	This fund builds the aviation ecosystem needed to speed up the introduction of electric sub-regional aircraft, advanced air mobility vehicles and drones into the UK.	£300 million co-invested by government and industry.
Future Fuels for Flight and Freight Competition (F4C)	• DfT • Ricardo • E4Tech	A fund to promote the development of an advanced low carbon fuels industry within the UK, including supplier capabilities and skills in relevant technologies, while maximising value for money for the taxpayer.	£20 million.
Live			
UKRI SME innovation loans	• UKRI	Funds businesses to develop innovative products, processes or services that can maximise return on investment to the UK's economy and society.	Not specified.

Emerging Energy Technologies Fund (EETF)	• Scottish Government	Funding to accelerate low carbon infrastructure projects that will be essential to deliver net-zero.	£180 million.
SAF Testing Grants	• DfT • SAF Clearing House • University of Sheffield • Ricardo	Grant funding to support the cost of primarily pre-screening testing, and ASTM D4054 Tier 1 and Tier 2 targeted testing.	Not specified.
Advanced Biofuels Demonstration Competition	• DfT	Funding to enable the construction of up to three demonstration biofuel plants, the first of their kind in the UK.	£25 million.
Aerospace Technology Institute (ATI) Programme	• UK Government	Funding for the ATI will help the next generation of aerospace innovators to thrive, through programmes such as the ATI Hub and the SME Programme.	£975 million.

Possible government interventions

- Changes to the UK Emissions Trading Scheme (ETS): Where use of eligible SAF is reported on UK ETS routes, it is currently 'zero-rated' and aircraft operators can claim a corresponding reduction in their UK ETS obligations. This is intended to help bridge the cost differential between SAF and conventional aviation fuel as the industry develops. When an airline uses eligible SAF, they can claim an "Emissions Reduction Claim (ERC)" under the UK ETS, meaning they can count that portion of their fuel as having zero emissions, reducing their overall emissions liability
    - The UK ETS Authority will develop proposals on how the UK ETS should treat the use of SAF by aircraft operators in the light of the SAF Mandate and are set to consult on this. The Authority will consider full alignment with the SAF Mandate sustainability criteria. The UK ETS Authority has said it is working to align the sustainability criteria of the SAF mandate with the UK ETS to ensure that only truly sustainable SAFs are eligible for emissions reductions. While SAF will continue to be zero-rated under the UK ETS in the short-term, the Authority will continue to explore alternative options to SAF being zero-rated in the future.

- A consultation[17] was held in May 2024 to evaluate necessary changes to the enforcement and sanctions policy of the UK ETS in light of the establishment of the Carbon Offsetting and Reduction Scheme for Aviation (CORSIA). Decisions are expected within 2025 ahead of the next allocation period from 2026-27.The outcome of the consultation remains pending.
- The non-CO2 impacts of SAFs may also be introduced, which vary vastly between different fuels but with research ongoing[18].
- Long-haul flights which account for most of the UK's aviation carbon emissions aren't yet included in the ETS, only domestic and those departing to the European Economic Area[19].

- Kerosene tax: At present, aviation is the only transport sector that doesn't have to pay a duty on its fuel. Implementing a kerosene tax of 9p per litre from 2025[20] would help to level the playing field between the cost of conventional jet fuel and SAFs, and particularly PtL fuels. Many advocates for this policy - including the Committee on Climate Change[21] - also see it as necessary from an equity and just transition perspective, arguing that airlines should not be spared fuel tax when truckers and motorists are not. By some estimates, the revenues generated could be 'between £0.4 to 5.9 billion annually depending on the routes covered and tax rate applied'[22], with a precedent set via increases to Air Passenger Duty (APD) in the 2024 Autumn Budget Statement[23].
- Safety regulations via Civil Aviation Authority (CAA): SAF can currently be used in jet engines to a maximum blend of 50 per cent with traditional kerosene without the need for any modifications. In late 2023, the CAA granted a permit to Virgin Atlantic to fly on 100 per cent SAF between the UK and US[24], which took place without incident. Safety is paramount within the aviation industry and therefore shouldn't be compromised, yet there are still regulatory barriers that need to be overcome for SAF to be used in higher percentage blends and eventually at 100 per cent. In February 2025, the CAA announced the expansion and extension of the Hydrogen Challenge, which alongside the newly forming hydrogen aircraft expert group under the Jet Zero Taskforce, reinforces their ambition to "prepare the aerospace industry for the adoption of hydrogen as a zero-carbon aviation fuel"[25].
- Carbon pricing measures: The UK Government has planned to implement a new import carbon pricing mechanism from January 2027[26], similar to the EU's 'CBAM', on

[17] Enforcement and sanctions policy updates to include UK ETS and CORSIA | UK Government
[18] Non-CO2 Climate Impacts of Aviation: Contrails
[19] Participating in the UK ETS
[20] https://green-alliance.org.uk/wp-content/uploads/2024/05/Kerosene-tax-briefing.pdf
[21] Committee on Climate Change | Seventh Carbon Budget
[22] Jet fuel duty and possible revenues from 2023
[23] UK Autumn Budget | HM Treasury
[24] Virgin Atlantic granted Permit to Fly for historic transatlantic 100 per cent Sustainable Aviation Fuel flight
[25] UK on course to lead world in hydrogen fuel as aviation regulator expands Hydrogen Challenge
[26] Introduction of a UK Carbon Border Adjustment Mechanism | HM Treasury

carbon-intensive products including steel and hydrogen, which will have an impact on aviation value chains, and apply to scope 1 and 3 emissions.

- Jobs and skills: The UK Government is looking to the aviation industry to create high quality jobs and invest in apprenticeships in the sector, as seen from their Reach for the Sky programme in 2024, which aimed to encourage young people from under-represented groups to pursue a career in aviation.
- Airport expansion: There are several airports - primarily in the south of England - that are being considered or have gained expansion approval including London Heathrow, London Gatwick, London Luton, Farnborough Airport and London City Airport. This comes contrary to the advice within the CCC's Seventh Carbon Budget advice which advocates for limited airport expansion[27]. The UK Chancellor has used SAF as the justification for how these expansions could be delivered sustainably and in support of economic growth, which has been widely criticised by NGOs[28] and the fuels industry itself[29]. The debate surrounding airport expansion is ongoing and it remains to be seen if they will proceed.

Key recommendations

The UK Government is taking positive steps to support the growth of the SAF market as part of an evolving global industry, but further action is needed:

1. The RCM should strongly incentivise high-integrity e-fuels over biofuels, which in some cases, should be penalised (as seen via HEFA caps and exclusions). Longest term lengths should be allocated to e-fuels to ensure sufficient certainty from debt finance.
2. The RCM should be industry funded in light of the historical benefits aviation has incurred through not paying tax on fuel use, which is a position the government shares. On a just transition pathway, the levy should fall on the fuel suppliers - most of which are Big Oil companies - in light of their position in the aviation fuel value chain and environmental impact to date.
3. The RCM should have a limit to the amount of financial support available and be established for a set period of time to respond to the failure in the market but so as not to provide ongoing subsidy.
4. The government could consider permitting double stacked incentives i.e. Hydrogen Production Business Model. This would still meet Subsidy Control rules as they contribute to the development of separate supply chains.
5. Free allowances for aviation should be phased out via the UK ETS, preferably in line with the EU ETS timeline of 2026.
6. The government should consider how to prioritise access to critical feedstocks like green hydrogen through the UK Industrial Strategy and UK Hydrogen Strategy for use in e-fuel production and to facilitate the acceleration of zero emission flight.

[27] Committee on Climate Change | Seventh Carbon Budget
[28] Airport expansion would cancel out carbon savings of clean power plan | New Economics Foundation.
[29] Shell boss questions Reeves's optimism on green aviation fuels

7. In line with ensuring the aviation sector has a viable pathway to achieving net-zero and that the UK is able to keep to its climate commitments, no airport expansion should be permitted without assurance that it is compatible with hydrogen and battery-electric flight.
8. Growth in aviation demand is at odds with a sustainable and viable pathway to net-zero for the sector and as such, the UK Government must enact significant demand management measures such as banning private jets, a frequent flyer levy, kerosene taxation and subsidised rail travel.

Activities from the public sector alone will not be enough to see this market take off, and we are working closely with the investor community to accelerate action. To find out more, visit our website or get in touch.