



Department
for Transport

Guidance

The SAF Mandate: an essential guide

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What is sustainable aviation fuel?

Sustainable aviation fuels (SAF) are fuels that reduce greenhouse gas (GHG) emissions from aviation over their lifecycle when compared to standard jet fuel. SAF can be made from a variety of feedstocks and can be easily blended with conventional jet kerosene for use in existing engines, with no modification for engines needed. There are 3 main pathways to create SAF:

1. HEFA – HEFA (hydroprocessed esters and fatty acids) is a fuel developed from oils or fats, such as used cooking oil.
2. Non HEFA – this pathway includes various methods of making advanced fuels from wastes and residues, such as fuel made from municipal solid waste.
3. Power to liquid – this pathway includes fuels made from low carbon power sources, such as from renewable energy.

Different SAF pathways, and different feedstocks provide varying levels of GHG emission saving. However, all SAF must achieve a minimum GHG emissions reductions of 40% under the SAF Mandate. When fully replacing kerosene, SAF can achieve an average of over 70% greenhouse gas emissions savings on a lifecycle basis.

What is the SAF Mandate?

The SAF Mandate is the UK's key policy mechanism to secure demand for SAF. It delivers GHG emission savings by encouraging the supply of SAF within the aviation industry. It does this by setting a legal obligation on fuel suppliers in the UK to supply an increasing proportion of SAF over time. Suppliers will receive certificates for the SAF they supply. The number of certificates they receive will be issued in proportion to the level of GHG emission reductions that fuel delivered. That is, the greater the savings, the greater number of certificates they will receive.

The SAF Mandate could deliver up to 6.3 megatonnes of carbon savings per year by 2040.

How does the SAF Mandate work in practice?

The SAF Mandate has 2 obligations – the ‘main obligation’ and a ‘Power-to liquid obligation’. The power-to liquid (PtL) obligation is designed to accelerate the development of power-to liquid fuels, which are less reliant on scarce feedstocks and subject to other potential negative environmental impacts.

In 2025, the main obligation is set at 2% of the total fossil jet fuel supplied, which is approximately equal to 230,000 tonnes of SAF. This will increase annually to reach 10% in 2030 and 22% in 2040. The power-to liquid obligation will be introduced from 2028 at 0.2% of total jet fuel demand and will reach 3.5% of total jet fuel demand in 2040.

To demonstrate compliance against meeting their obligations, fuel suppliers must apply for certificates from the Administrator and provide sufficient evidence that the fuel is eligible and sustainable. They can either use these certificates to show they have met their obligation, trade them to other parties, or pay a buy-out price.

Buy-out mechanism

Both obligations will include a buy-out mechanism. This will provide a method of compliance where suppliers are unable to secure a supply of SAF. The buy-out prices are set at a level to encourage the supply of SAF over the use of the buy-out and effectively set a maximum cost for the scheme, thereby delivering GHG emissions reductions at an acceptable cost.

HEFA cap

To ensure that space is left for the more advanced fuels to develop, the SAF Mandate will also include a cap on the amount of HEFA that can be used to meet the main obligation. HEFA can contribute a maximum amount (100%) of SAF demand in 2025 and 2026, decreasing to 71% in 2030 and 35% in 2040.

Administration and enforcement

The SAF Mandate scheme is overseen by an Administrator within the Department for Transport (DfT). They are responsible for enforcing the

scheme and supporting fuel suppliers to comply. If necessary, the Administrator can revoke certificates or issue civil penalties.

To ensure the design of the SAF Mandate reflects the latest technological and commercial developments, there will be continuous monitoring of trends and impacts of the SAF Mandate, including on consumers. Formal reviews will be conducted and published at least every 5 years with the first formal review in 2030.

How much jet fuel from SAF is being used currently?

In 2023, 97 million litres of jet fuel from SAF were used.

Will SAF still be eligible under the RTFO?

As of 1 January 2025, fuel suppliers are no longer able to claim for support for SAF from the [Renewable Transport Fuel Obligation \(RTFO\)](https://www.gov.uk/government/collections/renewable-transport-fuels-obligation-rtfo-orders) (<https://www.gov.uk/government/collections/renewable-transport-fuels-obligation-rtfo-orders>).

Removing support for SAF from the RTFO better adheres to the polluter pays principle so that the obligation falls on the jet fuel supply chain rather than the road fuel supply chain.

The SAF Mandate has been designed in a way which will align with the RTFO where possible.

What kinds of fuels are obligated under the SAF Mandate?

Fossil aviation turbine fuel (avtur) is subject to an obligation to ensure that the carbon intensity of this fuel decreases over time across the UK. Fossil aviation gasoline (avgas) and fossil hydrogen are not obligated.

What fuels are eligible for certificates under the SAF Mandate?

Certificates are rewarded for low carbon avtur, low carbon avgas and low carbon hydrogen, providing they meet the eligibility and sustainability criteria. SAF must meet the relevant technical specification (such as Jet A1) for avtur, avgas or hydrogen.

Eligible SAF must be made from sustainable, wastes or residues derived from:

- biomass (e.g. used cooking oil or forestry residues)
- fossil wastes that cannot otherwise be avoided, reused or recycled (such as unrecyclable plastics)
- renewable or nuclear power

SAF produced from food, feed or energy crops is not eligible.

SAF must achieve a minimum GHG emissions reductions of 40% relative to a fossil fuel comparator of 89gCO_{2e}/MJ.

Where hydrogen is used as a fuel precursor or is the final fuel, it must be biohydrogen derived from:

- residual wastes or residues
- recycled carbon fuel hydrogen
- hydrogen derived from low carbon (renewable or nuclear) energy

What happens after 2040?

The SAF market is currently in its early stages of development. As a result, there is considerable uncertainty about its long-term development, and the evidence and data reaching out to 2050.

The 2040 targets are currently set to remain at the same level beyond 2040 but will be kept under review and updated to reflect how the market develops in time.

More about the SAF Mandate

For more detailed information, read the [SAF Mandate compliance guidance](https://www.gov.uk/government/publications/saf-mandate-compliance) (<https://www.gov.uk/government/publications/saf-mandate-compliance>).

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