OPPORTUNITY GREEN

Fuelling misconceptions: the legal risks of advertising ‘sustainable aviation fuel’

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Executive summary

The vast majority of fuel used in aviation is kerosene, a fossil fuel.[1] The CO_2 emissions associated with the burning of this fuel, together with high levels of short-lived climate forcers such as contrails and nitrogen oxides, have led the aviation industry to cause at least 4% of historic global warming to date[2] and potentially as much as 9% depending on the metric used to compare CO_2 and non-CO_2 effects.[3] As the aviation sector continues to grow, it is estimated it will account for nearly a quarter of global CO_2 emissions by 2050.[4]

Proposed solutions to decarbonise the aviation industry are emerging, with alternative fuels often being promoted as a critical flagship technology. Alternative fuels that could be used in aviation (either as a substitute or blended with kerosene)[5] include: crop-based biofuels; waste-derived biofuels produced from wastes and residues such as used cooking oils and animal fats; and e-fuels (synthetic kerosene produced using renewable electricity and CO_2). The aviation industry and policymakers have promoted the umbrella term 'sustainable aviation fuel' or 'SAF' to collectively refer to these alternative fuels, since they all have the ability to produce fewer – while not zero – CO_2 emissions on a lifecycle analysis compared to kerosene (although all still produce CO_2 at the tailpipe). However, the 'lifecycle' emissions of these alternative fuels vary significantly depending on how each fuel is produced. Greenhouse gas (**GHG**) emissions associated with certain fuels may be released in production, transportation, and in land use change effects which can cause displacement emissions.

The use of the term SAF, and the absolute term 'sustainable' in particular, simplifies the spectrum of environmental attributes of the different fuels included within the term and **risks misleading flyers, investors, and the general public.** This paper outlines:

1) The legal risks from a consumer protection and financial law perspective that exist when companies make sustainability claims in relation to alternative aviation fuels in the United Kingdom (**UK**) and the European Union (**EU**).

[1] In 2024, kerosene represented the majority share of global jet fuel use, with alternative fuels estimated to represent 0.3%, see IATA, 'Net zero 2050: sustainable aviation fuels (SAF)' (2025) <https://www.iata.org/en/iata-repository/pressroom/fact-sheets/fact-sheet-sustainable-aviation-fuels/#:~:text=In%20October%202023%2C%20the%20EU,of%20global%20jet%20fuel%20use.> accessed 9 July 2025.
[2] Milan Klöwer and others, 'Quantifying aviation's contribution to global warming' (2021) 16(104027) Environmental Research Letters, <https://iopscience.iop.org/article/10.1088/1748-9326/ac286e> accessed 9 July 2025, 4.
[3] Small World Consulting and Opportunity Green, 'Contrails: A policymaker's guide to reducing aviation emissions' (2025) <https://static1.squarespace.com/static/64871f9937497e658cf744f5/t/677d3b21b74b2a25aae4786e/1736260402382/Opportunity+Green+report+-+Final.pdf> accessed 9 July 2025, 6.
[4] Martin Cames and others, 'Emission Reduction Targets for International Aviation and Shipping' (European Parliament's Committee on Environment, Public Health and Food Safety (ENVI) 2015) <www.europarl.europa.eu/RegData/etudes/STUD/2015/569964/IPOL_STU(2015)569964_EN.pdf> accessed 9 July 2025, 9.
[5] At the time of writing, alternative fuels are only permitted to constitute up to 50% of a total flight's fuel blend due to safety reasons. Experimental flights which run on 100% alternative fuels are increasingly being granted on a case-by-case basis. To illustrate, the UK Civil Aviation Authority permitted Virgin Atlantic's transatlantic flight to run on 100% 'SAF', which was later found to be advertised in a way which was misleading to consumers by the UK Advertising Standards Authority, see ASA Ruling on Virgin Atlantic Airways, 7 August 2024 <https://www.asa.org.uk/rulings/virgin-atlantic-airways-ltd-g23-1224417-virgin-atlantic-airways-ltd.html> accessed 9 July 2025.

2) The growing focus by regulators and civil society on false or misleading environmental and climate claims by the aviation industry (hereinafter, 'greenwashing').

3) Guidance for consumer-facing companies and financial institutions wanting to promote alternative aviation fuels.

The lexicon adopted to support aviation's decarbonisation has the potential to influence its direction of travel. This paper shows that the necessity of accurate sustainability language is not just ethical in nature but derives from clear legal obligations under consumer protection and financial law. As the term 'SAF' enters the mainstream, regulators and courts have made it clear: green labels cannot mislead and should not be used as a shortcut to public trust. The aviation industry should put an end to the use of 'sustainable aviation fuel' as a green label for a broad range of alternative aviation fuels and provide accurate, substantiated information to consumers about the environmental impacts of flying.

Recommendations

✗ **Fuel producers, airlines and investors should not use the absolute term 'sustainable aviation fuel'.**

'Sustainable aviation fuel' refers to a range of fuels with different sustainability profiles. Under both consumer and financial laws, companies and financiers should refrain from making absolute claims about the "sustainability" of alternative fuels, given the high level of substantiation required for such claims and the implication that such fuels can meet this threshold. The term "sustainable aviation fuel" was found by the District Court of Amsterdam in *Fossielvrij v KLM* to be "too absolute and not concrete enough" and therefore misleading to consumers. The same legal reasoning can be applied to using the term "sustainable aviation fuel" on the financial market.

✓ **Aviation stakeholders should instead use the term 'alternative fuel' alongside complete information about the full lifecycle impact of the specific fuel and aviation's overall negative climate impacts.**

Stakeholders should use the term 'alternative fuel' and provide accurate information concerning the feedstock used and environmental impacts when advertising aviation fuels to consumers and on the financial market.

When advertising alternative fuels, claims must be in accordance with consumer and financial laws, verifiable with robust evidence in a manner reasonably understood by its intended audience and that does not obscure the overall harmful climate impacts of aviation.

✗ Airlines should not advertise alternative fuels credit purchases as a viable option to offset the emissions of a flight

Airlines must stop offering the option to customers to "offset" emissions from their light by purchasing 'SAF' on top of their ticket price. This practice has been found to be misleading by courts because it gives the wrong impression that the purchased 'SAF' is invested in the plane they are using and that the consumer can essentially make their flight "climate-neutral" with their payment.

✗ Financiers should not advertise biofuels as a green investment and must back up sustainability claims around alternative aviation fuels with robust evidence.

Emerging anti-greenwashing rules and ESG-related disclosure requirements regulate the use of sustainability labels on the UK's financial market and provide that such labels must be backed by robust evidence. Given the significant environmental and climate impacts from biofuel arising from land use change, it is unlikely such fuels could be labelled as sustainable by financiers or be included in sustainable funds.

Public companies may be exposed to significant financial risk as compensation can be sought against losses incurred due to misleading green claims through statutory remedies.

Sustainable Aviation Fuel – doesn't always do what it says on the tin

The generalised term 'sustainable aviation fuel' ('SAF') gives the impression that all fuels falling under the term are (i) sustainable, and (ii) have the same, or a very similar, environmental profile. However, the sustainability of each fuel type is highly dependent on the direct and indirect emissions that occur during the production of the organic or synthetic feedstock used for that fuel. Therefore, the term 'SAF' disguises the environmental risks that some alternative aviation fuels carry. This section will demonstrate why companies should therefore stop using the term and take into consideration the entire lifecycle emissions of each fuel. Doing so will ensure they are not promoting, investing in or producing fuels which are not truly 'sustainable' and may potentially cause environmental harm.

For the purposes of clarity, this briefing will use the terms 'sustainable aviation fuel' and 'SAF' in inverted commas when analysing the use of the term against applicable legal frameworks. Elsewhere, this briefing will use the term 'alternative aviation fuel' in line with the recommendations above.

Different lifecycle emissions from different SAFs

'Sustainable aviation fuel' or 'SAF' is used by the aviation industry to describe a wide spectrum of alternative fuels that can substitute or blend with conventional kerosene jet fuel. The term covers three main subgroups with distinct emissions saving potentials:

1. Crop and virgin oil-based biofuels.
2. Waste-derived biofuels.
3. E-fuels (produced using hydrogen from renewable electricity and a source of renewable CO_2).

Assessing the climate impact of alternative fuels requires undertaking lifecycle assessments (**LCA**) which consider emissions from feedstock extraction, processing into fuels, through to final combustion, as well as displacement emissions from global land expansion and feedstock substitution. LCA methodology is not standardised amongst policymakers and industry.[6] A comprehensive methodology known as 'well-to-wake' accounts for emissions from feedstock production (upstream supply chain emissions) to exhaust emissions from the aircraft (direct emissions). This method is recommended by the Science Based Targets initiative (**SBTi**).[7] Conversely, 'tank-to-wake' reporting only considers emissions from fuel combustion. No methodology currently requires reporting of non-CO_2 emissions[8]; this is a sizable omission given their significant warming effects, particularly in respect of the aviation sector where non-CO_2 emissions represent two thirds of the sectors overall climate impacts.[9]

It is essential that supply chain emissions from direct land use change (that occur during the feedstock extraction and production process) and indirect land use change (**ILUC**, the consequential emissions that occur from the diversion of a feedstock away from its existing uses, otherwise known as displacement effects[10]) are accounted for to accurately reflect the environmental effects of alternative fuels. This is because CO_2 is emitted at the point of combustion for all alternative aviation fuels; how and when this carbon was sequestered dictates whether it constitutes a net addition to the atmosphere.[11]

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[6] Nikita Pavlenko and Stephanie Searle, 'Assessing the sustainability implications of alternative aviation fuels' (International Council on Clean Transportation (ICCT), 2021) <https://theicct.org/sites/default/files/publications/Alt-aviation-fuel-sustainability-mar2021.pdf> accessed 9 July 2025.

[7] Science Based Targets initiative (SBTi), SAF Rulebooks, Version 1 and 2, found here: https://sciencebasedtargets.org/sectors/aviation and https://sciencebasedtargets.org/resources/files/Call-for-Evidence/038_Bart-Hutchinson-and-Ehirim-EDF-and-Rocky-Mountain-Institute_2023_SAFc-Registry-Rulebook-Version-2-draft-for-public-consultation.pdf.

[8] Yet such effects can be measured, and the EU has introduced monitoring, reporting and verification requirements for non-CO_2 effects (initially from intra-EEA flights and flights from the EEA to the UK and Switzerland) in Directive (EU) 2023/958 of the European Parliament and of the Council of 10 May 2023 amending Directive 2003/87/EC.

[9] Transport & Environment, 'Airline contrails warm the planet twice as much as CO_2, EU study finds' (2020) <https://www.transportenvironment.org/articles/airline-contrails-warm-planet-twice-much-co2-eu-study-finds> accessed 9 July 2025.

[10] Nikita Pavlenko and Stephanie Searle, 'A comparison of methodologies for estimating displacement emissions from waste, residue, and by-product biofuel feedstocks' (ICCT, 2020) <https://theicct.org/wp-content/uploads/2021/06/Biofuels-displacement-emissions-oct2020.pdf> accessed 9 July 2025, 3.

[11] Nikita Pavlenko and Stephanie Searle, 'Assessing the sustainability implications of alternative aviation fuels' (n 6), 3.

While LCA variations can impact results, studies that have employed a robust methodology have found the following:

1. **Crop and virgin oil-based biofuels** can produce up to 10% more GHG emissions than a fossil fuel baseline[12] (when accounting for the associated land use changes), if the feedstock originates from high-risk regions associated with deforestation and/or drainage of peat lands.[13]

2. **Waste-oil and fat-derived biofuels** can deliver some of the highest GHG reductions of any assessed feedstock – used cooking oil (**UCO**, for example vegetable or palm oil) has a 84% reduction potential compared to conventional jet fuel,[14] animal fats have an emissions savings potential of 45%.[15] However, both UCO and animal fats face severe limitations around scalability and fraud risks which undermines their potential benefits (see page 8). Other waste feedstocks, such as municipal solid waste, can also be used to make biofuels. Again, they are expected to be scarce in supply and will require robust monitoring of supply chains to minimise the risk of fraud.[16]

3. **E-fuels** can have near-zero GHG emissions if produced using green hydrogen (i.e., hydrogen produced using renewable electricity) and carbon taken directly from the atmosphere via direct air capture (**DAC**).[17] E-fuels are at an earlier stage of development than biofuels, are currently in far shorter supply, and come at a correspondingly higher price. At present they play a minimal role in both the UK and EU aviation fuel mandates (see Box 1), although their uptake is projected to grow in the coming decades.

The emission reduction profile of alternative fuels strongly differs when accounting for a lifecycle analysis, and the absolute description 'sustainable' belies a much more complex sustainability picture. Using the all-encompassing term 'sustainable aviation fuel' ('SAF') is therefore potentially misleading in its description of the various fuels included within the definition.

[12] ibid, 13. This point has also been clarified in BEUC and ClientEarth, 'Launch of a coordinated action by CPC authorities against suspected greenwashing practices by airlines' (2024) <https://www.beuc.eu/sites/default/files/publications/BEUC-X-2024-072_Coordinated_Action_greenwashing_practices_airlines.pdf> accessed 9 July 2025, 9.
[13] The Royal Society, 'Net zero aviation fuels: resource requirements and environmental impacts' (2023) <https://royalsociety.org/-/media/policy/projects/net-zero-aviation/net-zero-aviation-fuels-policy-briefing.pdf> accessed 9 July 2025.
[14] Nikita Pavlenko and Stephanie Searle, 'Assessing the sustainability implications of alternative aviation fuels' (n 6), 13.
[15] ibid. This study considers the displacement effects of animal fats, which increases its carbon intensity when compared to other LCA. For example, the International Civil Aviation Organization (ICAO) LCA adopts a default value of zero emissions from feedstocks classified as 'wastes, residues, or by-products' and so estimates its carbon reduction potential as 75% compared to traditional jet fuel. See, ICAO 'CORSIA Default Life Cycle Emissions Values for CORSIA Eligible Fuels' (6th Edn, October 2024) <https://www.icao.int/environmental-protection/CORSIA/Documents/CORSIA_Eligible_Fuels/ICAO%20document%2006%20-%20Default%20Life%20Cycle%20Emissions%20-%20October%202024.pdf> accessed 9 July 2025.
[16] Transport & Environment, 'Sustainable Aviation Fuels sustainability guide for corporate buyers' (2023) < https://www.transportenvironment.org/articles/sustainable-aviation-fuels-sustainability-guide-for-corporate-buyers> accessed 9 July 2025.
[17] Maria Fernanda Rojas-Michaga and others, 'Sustainable aviation fuel (SAF) production through power-to liquid (PtL): A combined techno-economic and life cycle assessment' (2023) 292(117427) Energy Conversion and Management <https://doi.org/10.1016/j.enconman.2023.117427> accessed 9 July 2025.

Box 1: Legislation driving uptake

Policies including the UK SAF mandate and ReFuelEU Aviation have been implemented to drive industry uptake of alternative fuels, albeit at modest levels relative to the action required to decarbonise the sector. Both mandates set out incremental targets until 2040 and 2050 respectively, by the latter of which alternative fuels must make up the majority of jet fuel at EU airports.

Crop and virgin oil-based biofuels are excluded from both mandates due to the significant emissions resulting from land use change and impacts on biodiversity. However, we note that the disqualification of crop-based biofuels from 'sustainable aviation fuel' is far from universal (Norway being the only other jurisdiction of which we are aware to adopt such a definition outside of the EU and UK). E-fuels, as a nascent alternative fuel, represent the lowest proportion fuels in both mandates. As a result, biofuels derived from used oil and waste residue feedstocks are the most heavily relied on fuel type to meet EU and UK targets.

Analysis of ReFuelEU Aviation found that policy signals should favour e-fuels so that targets are not met at the expense of the most ambitious emission reductions. The UK Department of Transport, responsible for the implementation of its SAF mandate, recognises the required acceleration of e-fuel development, given they are *"less reliant on scarce feedstocks and subject to other potential negative environmental impacts [than biofuels]"*. Despite this, policy signals which favour waste-derived biofuels mean e-fuel production remains minimal within the EU and UK.

Supply can't meet demand

All alternative fuels pose some degree of scaling limitations due to displacement issues or lack of infrastructure:

- **E-fuels** are considered the most scalable option (given the input is renewable energy) but are in the early stages of development. However, existing and future renewable energy capacity has competing priorities from other sectors.[18]

- **Crop-based biofuels** cannot be produced to the scale needed to meet mandates due to insufficient yields of crop production. If land were to be utilised for crop production to replace the UK's total aviation fuel consumption it would require over 50% of the land available for the agriculture industry.[19]

- **Waste-derived biofuels** are finite and there is significant uncertainty as to whether they can be scaled to meet demand.[20] Europe and the UK are relying heavily on imports

[18] Dr Cato Sandford and Dr Chris Malins, 'Vertical Take-Off? Cost Implications and Industrial Development Scenarios for the UK SAF Mandate' (ICCT, 2024) <https://theicct.org/wp-content/uploads/2024/08/ID-155-%E2%80%93-UK-SAF_final.pdf> accessed 9 July 225, 81; Jane O'Malley and Chelsea Baldino, 'Availability of biomass feedstocks in the European Union to meet the 2035 ReFuelEU Aviation SAF target' (ICCT, 2024) <https://theicct.org/wp-content/uploads/2024/08/ID-185-%E2%80%93-Biomass-SAF_brief_final2.pdf> accessed 9 July 2025, 12.
[19] The Royal Society (n 13) 22.
[20] ibid, see also (n 17).

of UCO from China, as well as Indonesia and Malaysia, but demand is starting to outweigh that which can be collected.[21] As China increases domestic use of waste feedstocks to meet its own fuel mandate, which will reduce quantities available to export, it should be noted the EU and UK only produce enough UCO to meet 2.9% of their projected aviation fuel demand in 2050.[22]

Deforestation, food security, human rights concerns and fraud risk

Crop and virgin oil-based biofuels have been excluded from the UK and EU fuel mandates due to concerns around indirect land-use changes and potential negative impacts on food security and biodiversity.[23] However, waste-derived biofuel feedstocks, which are still included in the mandates, present similar risks.

Studies show that fraudulent waste-derived biofuels reproduce the same vulnerability to high upstream emissions as found with virgin crops and oil.[24] Increased demand may cause suppliers to clear more land with the purpose of expanding production. Further, to meet mandate fuel requirements, there is a risk that suppliers may falsify claims that a feedstock is derived from waste sources. The mislabelling of UCO as a waste-derived biofuel has been investigated and confirmed as a risk by the European Court of Auditors,[25] undermining the potential GHG reductions that it can have as a feedstock.

Deforestation results in warming effects from the release of CO_2 and other GHGs into the atmosphere. Poorly planned biomass production and unsustainable logging[26] produces conflicts over land and resources, and disempowerment of local and indigenous communities,[27] as well as food competition and carbon leakage from subsequent importation.[28] All fuels derived from biogenic feedstocks have ramifications for biodiversity, arising from land use change and intensification, the use of fertilisers and pesticides and the introduction of invasive species.[29]

Whilst the risk of deforestation within the e-fuel supply chain is low, a risk-based approach must be employed to scale this fuel type.[30] The production of green hydrogen as a renewable feedstock for e-fuels requires a source of electricity and CO_2. The processes

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[21] In 2024, the UK Department for Transport reported that 90% of UCO quantities was imported from China, see Skift 'UK Airlines Rely on Chinese Cooking Oil for Greener Fuel — But for How Long?' (18 February 2025) accessed 9 July 2025; see also: Transport & Environment, 'UCO (Unknown Cooking Oil): High hopes on limited and suspicious materials' (18 June 2024) accessed 9 July 2025.
[22] Transport & Environment, 'Sustainable Aviation Fuels (SAF) Sustainability Guide for Corporate Buyers' (2023) <https://www.transportenvironment.org/uploads/files/2023-10-Corporate-SAF-Buyers-guide.pdf> accessed 9 July 2024, 12.
[23] See: Department for Transport, 'The SAF Mandate: an essential guide' (19 December 2024) accessed 9 July 2025 and European Commission, 'ReFuelEU Aviation' webpage, accessed 9 July 2025.
[24] Open Democracy, 'UK airlines' new 'sustainable' fuels may be causing deforestation in Asia' (16 May 2023) accessed 9 July 2025; Transport & Environment (n 20) ; Transport & Environment 'Pigs do fly': Growing use of animal fats in cars and planes increasingly unsustainable' (31 May 2023) accessed 9 July 2025.
[25] European Court of Auditors, Special report 29/2023: The EU's support for sustainable biofuels in transport – An unclear route ahead <https://www.eca.europa.eu/en/publications?ref=sr-2023-29> accessed 9 July 2025.
[26] Intergovernmental Panel on Climate Change (IPCC), *Special Report on Climate Change and Land* (2019) <https://www.ipcc.ch/site/assets/uploads/sites/4/2022/11/SRCCL_Full_Report.pdf> accessed 9 July 2025, 751.
[27] ibid, 770.
[28] Royal Society (n 13), 22.
[29] Skies and Seas Hydrogen-fuels Accelerator Coalition (SASHA), 'Fuelling nature: how e-fuels can mitigate biodiversity risk in EU aviation and maritime policy' (2024) <https://www.sashacoalition.org/s/Biodiversity-Report-Executive-Summary_SASHA.pdf> accessed 9 July 2025.
[30] See, for example: World Economic Forum's approach at https://www3.weforum.org/docs/WEF_Scaling_Sustainable_Aviation_Fuel_Supply_2024.pdf

by which to obtain these components are varied but may include electrolysis and direct air capture[31], both of which are costly in terms of price, energy and water usage, and may also cause resource concerns.[32] However, it should be noted that biomass derived fuels have a water footprint 100–1,000 times greater than e-fuels.[33]

A recent study has shown that **the overreliance on biogenic feedstocks through ReFuelEU Aviation's decarbonisation targets means that the EU will likely fail to meet its biodiversity targets.**[34] The study also confirms that a high e-fuel scenario is the only pathway that will meet the EU's biodiversity targets in the long term. At the same time, prioritising e-fuels promises to bring the greatest emissions reductions.[35] These findings are at odds with the EU's current approach which has led to the prioritisation of waste feedstocks.

Box 2: Implications on using the term 'sustainable aviation fuel'

Within the term 'sustainable aviation fuel', which implies absolute sustainability, there exist a number of alternative fuels that have significantly different sustainability profiles and pose various environmental risks:

1. Crop-based biofuels produce high upstream emissions with some feedstock supply chains producing worse environmental outcomes than kerosene jet fuel.
2. Waste-derived biofuels constitute the highest proportion in fuel mandates, but they cannot be scaled to meet the demand.
3. Due to scalability issues, waste-derived biofuels are also susceptible to fraud risk and are therefore vulnerable to the same deforestation, displacement and associated human rights issues as crop-based feedstocks.

This has implications for the use of the term, which is too simplistic and absolute a description for the fuels it is intended to encapsulate. The sustainability profile of different types of SAF is complex, and using the term without appropriate qualification risks misleading consumers, investors, and the general public.

Companies should therefore account for the entire lifecycle emissions of each fuel, as well as make clear the risks of deforestation and biodiversity loss of biofuels in particular, or may expose themselves to the risk of promoting, investing in or producing fuels which are not 'sustainable' and potentially cause environmental harm.

[31] Fredrik Ueckerdt and others, 'Potential and risks of hydrogen-based e-fuels in climate change mitigation' (2021) Nature and Climate Change <https://www.dora.lib4ri.ch/psi/islandora/object/psi%3A37678/datastream/PDF2/Ueckerdt-2021-Potential_and_risks_of_hydrogen-based-%28accepted_version%29.pdf> accessed 9 July 2025.
[32] Amira Nemmour and others, 'Green hydrogen-based E-fuels (E-methane, E-methanol, E-ammonia) to support clean energy transition: A literature review' (2023) International Journal of Hydrogen Energy, 17.
[33] Rojas-Michaga and others (n 16) 19.
[34] SASHA Coalition, (n 28).
[35] ibid.

While the term 'sustainable aviation fuel' encompasses a broad array of fuel types, including e-fuels, this briefing particularly focuses on the legal risks of using the term when referring to biofuels, given their significant climate impacts (as outlined in this section). The focus reflects both the current market dominance of biofuels and the consequential legal and regulatory scrutiny of advertisements pertaining to environmental claims regarding biofuels.

The following sections will demonstrate that while 'SAF' remains a problematic and opaque term when referring to any fuel type, there are additional risks when using it to refer to biofuels.

The legal risks of sustainable claims around alternative fuels

The exposure of the aviation industry to climate litigation and regulatory challenges is growing, as illustrated by the rise of greenwashing challenges around airlines' sustainability claims.[36] The systemic nature of the issue has prompted coordinated action against 20 airlines by the European Commission and consumer authorities,[37] as well as an open letter from the International Consumer Protection and Enforcement Network (ICPEN) calling for the aviation sector to raise standards of compliance when making environmental claims.[38]

Legal challenges across Europe have created important precedents against the use of the term 'sustainable aviation fuel' given its probability to mislead consumers. The legitimacy of sustainability claims and labels on the financial market are also being challenged in front of courts and regulatory authorities.[39] In that context, and given the sustainability and scalability concerns around alternative aviation fuels detailed above, serious attention should be given by actors in the aviation alternative fuels' value chain to the sustainability

[36] For judicial rulings against airlines, see for example: *Fossielvrij v KLM* ECLI:NL:RBAMS:2024:1512 <http://www.clientearth.org/media/cx4po41h/klm-judgment-20-march-2024.pdf> accessed 9 July 2025 and *Verein für Konsumenteninformation (VKI) v Austrian Airlines AG* (2023) <https://www.ots.at/presseaussendung/OTS_20230925_OTS0014/vki-erwirkt-greenwashing-urteil-gegen-austrian-airlines> accessed 9 July 2025. For UK regulatory rulings see for example: ASA Ruling on Virgin Atlantic Airways, 7 August 2024 (n 5). The UK Advertising Standards Authority has upheld at least seven additional complaints against airlines' misleading environmental advertisements at the time of writing.

[37] European Commission and CPC Network, 'Commission and national consumer protection authorities starts action against 20 airlines for misleading greenwashing practices' (30 April 2024) <https://ec.europa.eu/commission/presscorner/detail/en/ip_24_2322> accessed 9 July 2025.

[38] International Consumer Protection and Enforcement Network (ICPEN), 'Joint Open Letter to Aviation Sector on the use of Environmental Claims in Marketing to Consumers' (22 May 2025) <https://icpen.org/sites/default/files/2025-05/ICPEN%20aviation%20letter%20FINAL%20130525_0.pdf> accessed 9 July 2025. In a rare intervention, ICPEN advised airlines to ensure that claims about sustainable aviation fuels are transparent, accurate, and, at a minimum, adhere to widely recognized quality standards. Although the ICPEN intervention clearly highlights' regulatory concern, it took a more permissive approach to SAF claims – for example, allowing them subject to sufficient contextualisation. ICPEN also did not challenge airlines' assumptions that use of SAF will be an effective means to reducing emissions (undermined by the Dutch court in Fossielvrij v KLM, as explained above) or engage with wider concerns regarding the negative environmental impact of certain "SAF" on biodiversity, as explained in this paper above. However, it should be noted that ICPEN is constrained to applying consumer protection principles common to its 80 EU and non-EU jurisdictions, which vary in enforcement appetite, and therefore perhaps it is not surprising that it is moderately 'behind the curve' compared to national courts and regulators intensive scrutiny of the substantiation of SAF claims. However, it clearly illustrates widespread regulatory concern regarding such claims and trend towards robust enforcement. We note that while an international response to environmental claims by the aviation industry is welcome, airlines should follow the recommendations outlined in this paper to be sure they are compliant with consumer protection law.

[39] On financed emissions, see for example: the case against BNP Paribas in France (27 February 2023) accessed 9 July 2025 and the case against ING in the Netherlands (28 March 2024) accessed 9 July 2025.

profile of these fuels. This section will demonstrate the risk of exposure to enforcement by regulatory authorities and legal action by civil society and/or competitors if alternative aviation fuels are not promoted accurately on the consumer and financial market, and sets out some of the potential legal risks of 'SAF' advertising for businesses and financiers focusing on (i) consumer protection; and (ii) financial regulation.

Consumer protection law

The aviation industry is increasingly attempting to 'green' its image through consumer-facing advertisements. Such advertisements can play a significant role in fuelling the climate crisis: in a 2022 study, airline advertisements were estimated to have influenced 34 million tonnes of CO_2 equivalent emissions worldwide.[40]

EU and UK consumer laws regulate attempts by the aviation industry to present their activities as green to consumers, aiming to ensure the public have access to the right information about the environmental impact of flying and are able to make informed decisions as a result. Airlines have been challenged in front of regulatory authorities and courts for misleading consumers about the environmental impacts of flying, and the marketing of alternative fuels as sustainable has recently been challenged as part of this trend.

Legal and regulatory framework

The regulatory landscape applicable in the EU and UK to protect consumers from greenwashing is complex. It comprises regional and domestic laws, guidance, self-regulatory codes, and sector-specific codes. Whilst these frameworks are still evolving, at least 15 judicial and regulatory rulings against airlines' inaccurate and misleading green claims demonstrate particular attention must be paid to how alternative fuels are advertised.

Consumer protection regulations in the EU and UK

In the EU, Directive 2005/29/EC (the **Unfair Commercial Practices Directive** or **UCPD**), as updated by Directive (EU) 2019/2161, imposes a general prohibition against unfair commercial practices[41] and prohibits businesses from engaging in misleading actions or omissions[42] that can deceive consumers, such as providing false or incomplete information when advertising or marketing products or services.

Pursuant to Articles 6 and 7 of the UCPD, green claims must be truthful and presented in a clear, specific, accurate and unambiguous manner so as not to mislead consumers. Under Article 12 of the UCPD, traders must be able to substantiate their claims with

[40] Greenpeace Nordic and New Weather Institute, 'Advertising climate chaos: How much is advertising cars and flights fuelling the climate emergency?' (2022) <https://www.greenpeace.org/static/planet4-sweden-stateless/2022/02/6652a35f-carbon-in-ads-report.pdf> accessed 9 July 2025.
[41] Directive 2005/29/EC of the European Parliament and of the Council of 11 May 2005 concerning unfair business-to-consumer commercial practices in the internal market (Unfair Commercial Practices Directive) [2005] OJ L149/22, Article 5.
[42] Unfair Commercial Practices Directive, Articles 6 and 7.

evidence and present this evidence to the competent enforcement authorities in an understandable manner if the claim is disputed.[43] The UCPD has been transposed into the national legislation of Member States and subsequent EU-level guidance has been published to specifically address environmental claims.[44]

More stringent EU regulation was adopted in 2024 and is expected to apply from September 2026 onwards.[45] The Directive to Empower Consumers for the Green Transition (**Empowering Consumers Directive**) amended the UCPD and seeks to strengthen the regulation of environmental advertising while empowering consumers to make informed choices. It introduces a revised '*blacklist of unfair commercial practices*', of which generic claims such as "*green*", "*ecological*" and "*carbon* [or] *climate* friendly" or "*similar statements*" are prohibited in the absence of recognised excellent environmental performance.[46] The EU Commission notes an EU Ecolabel would satisfy this threshold.[47] The Directive expressly prohibits "sustainable" as a generic claim to demonstrate excellent environmental performance, as the practices pertaining to excellent 'sustainable' performance are not exclusively reserved for environmental standards: *"such claims relate to other characteristics in addition to environmental characteristics such as social characteristics."*[48] The Empowering Consumers Directive also prohibits in all circumstances product-level 'compensation' claims based on the use of carbon credits, on the express basis that carbon credits are not equivalent to product emissions.[49] In addition, the Empowering Consumers Directive stipulates that claims related to future environmental performance must be independently monitored against a comprehensive implementation plan. Recital 4 clarifies that the statement must be accompanied by a commitment and/or target which is "*clear, objective, publicly available and verifiable*" as part of the detailed and realistic plan. The plan must also include how resources will be allocated to fulfil the commitments, for example through financing and technological developments. The future green claim must also be independently verified by a third-party expert, who should regularly monitor the progress with regards to the implementation plan.[50] These findings must be publicly available. This provision imposes a significantly high standard of substantiation on companies wishing to make future green claims.

In the UK, the Digital Markets, Competition and Consumers (**DMCC**) Act 2024 superseded the Consumer Protection from Unfair Trading Regulations 2008 (**CPRs**) (amended by the Consumer Protection (Amendment) Regulations 2014 (SI 2014/870)) in April 2025, which had transposed the UCPD into UK law. The DMCC Act prohibits misleading commercial

[43] European Commission, 'Guidance on the Interpretation and Application of Directive 2005/29/EC of the European Parliament and of the Council Concerning Unfair Business-to-Consumer Commercial Practices in the Internal Market' (2021) 93.
[44] European Commission, 'Green claims' webpage, accessed 9 July 2025.
[45] European Commission, 'Sustainable consumption' webpage, accessed 9 July 2025.
[46] Directive (EU) 2024/825 of the European Parliament and of the Council of 28 February 2024 amending Directives 2005/29/EC and 2011/83/EU as regards empowering consumers for the green transition through better protection against unfair practices and through better information (Empowering Consumers Directive), Annex 1 amendment, recital 9.
[47] European Council, 'Empowering consumers for more sustainable choices' webpage, accessed 9 July 2025.
[48] Empowering Consumers Directive, Annex 1 amendment, recital 10.
[49] ibid, recital 12.
[50] ibid, recital 4.

practices, where "*it is likely to cause the average consumer to take a transactional decision that the consumer would not have taken otherwise as a result of the practice*".[51]

The DMCC Act further strengthens UK anti-greenwashing laws. The legislation has introduced greater enforcement powers for the Competition and Markets Authority (**CMA**), which can now sanction substantial civil penalties for breaches of consumer protection law directly without taking matters to court.[52] In addition, consumer claims relating to the sustainability of a product or service should also comply with specific rules and guidance applicable to green claims, including: (i) the Green Claims Code, published by the CMA;[53] and (ii) advertising guidance on misleading environmental claims, issued by the Committee of Advertising Practice (CAP), which writes the advertising codes that are enforced by the Advertising Standards Authority (**ASA**).[54] The key principles of the Green Claims Code include that claims must be truthful and accurate, clear and unambiguous, not omit or hide important information, substantiated and consider the lifecycle of the product or service.[55]

The ASA provides a self-regulatory route to redress regarding disputed green claims. Although it cannot issue fines, its rulings are public and so can cause reputational damage. Its governing framework for non-broadcast advertising is the CAP Code, which stipulates, among other things, that absolute claims such as "green", "sustainable" or "environmentally friendly" must be supported by high levels of substantiation[56], and the burden to prove this lies with the business making such claims. Similar rules for broadcast advertising are contained in the BCAP Code.[57]

Legal application to the advertisement of 'sustainable aviation fuel'

The first judicial greenwashing ruling against an airline to apply the UCPD was *Fossielvrij v KLM*[58] in the Netherlands. Since then, multiple courts across Europe have applied derived national laws to cases against greenwashing practices of airlines. In the UK, the ASA has found breaches of its advertising rules in relation to eight separate cases involving airlines making environmental claims at the time of writing. These decisions and judicial rulings provide useful guidance for stakeholders of the aviation alternative fuel market to assess what key issues around sustainability claims are likely to create legal risks in the future. Key lessons are:

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[51] Digital Markets, Competition and Consumers Act 2024, section 225; see also Unfair Commercial Practices Directive, article 7.
[52] Digital Markets, Competition and Consumers Act 2024, Part 3 Enforcement of consumer protection law, Chapter 4 Direct enforcement powers of CMA.
[53] The Competition Markets Authority is the UK's enforcement body of the CPRs.
[54] For the CAP Code Guidance see: Committee of Advertising Practice (CAP), The environment: misleading claims and social responsibility in advertising (2023) accessed 9 July 2025. Whilst the DMCC Act is the main piece of legislation controlling business to consumer advertising, the content of advertising, sales promotions and direct marketing across all media, including marketing on websites, is self-regulated by the ASA, who enforce the CAP Code (for non-broadcast advertising) and the BCAP Code (for broadcast advertising).
[55] Competition Markets Authority, Green claims code: making environmental claims (2021), Section 3.
[56] CAP Code, Rule 11.3.
[57] BCAP Code, Rule 9.4
[58] Fossielvrij v KLM ECLI:NL:RBAMS:2024:1512, judgment found here: <https://www.clientearth.org/media/cx4po41h/klm-judgment-20-march-2024.pdf> accessed 9 July 2025.

1. The term "sustainable" in "SAF" is too absolute and not concrete enough

Absolute environmental claims must be supported by a high level of substantiation. On that basis, the ASA found that the claim "*travel better and sustainably*" by Air France was in breach of the CAP Code due to the lack of a "*high level of evidence which demonstrated how Air France were protecting the environment and making aviation sustainable*".[59]

The implications of this standard for claims around SAF have been set out in the *Fossielvrij v KLM* ruling: the court found advertisements promoting "sustainable" alternative fuels as being "*a promising solution*" to be misleading given its marginal and uncertain emission reductions potential.[60] The term 'sustainable' in this regard was found to be too absolute and not concrete enough, coupled with the fact that KLM did not make sufficiently clear to consumers what environmental benefits can be achieved through alternative fuels.[61] This sets a precedent against the use of the term 'sustainable' when referring to alternative fuels in consumer-facing advertising in the Netherlands and other EU Member States.

2. The average consumer is not expected to hold sufficient knowledge of the different sustainability profiles of alternative fuels[62]

In its decision against Virgin Atlantic, the ASA considered a significant proportion of consumers would understand the claim "100% sustainable aviation fuel", in the context of an experimental flight that used a combination of starch and waste animal fats constituting 100% of the total fuel blend, to mean that the fuel used was 100% sustainable.[63] The risk of advertising 'SAF' was clearly laid out here: despite producing a 64% emissions reduction through this particular flight, the ASA held that "*sustainable aviation fuels still produced significant emissions over its lifecycle*" and noted biofuels impacts from direct and indirect land use change in this regard. These wider climate impacts were not made clear by Virgin Atlantic, and so the ASA considered a significant proportion of consumers might expect that the fuel was 100% sustainable and therefore had no negative environmental impacts at all. By extension, the same analysis can apply to an unqualified environmental claim that refers to 'sustainable aviation fuel,' given the high level of substantiation required to accompany a generic and absolute claim like 'sustainable'[64].

The Austrian Regional Court of Korneuburg, in *VKI v Austrian Airlines AG*[65], similarly found that Austrian Airlines acted unlawfully under unfair commercial practices law, as derived from the UCPD, when advertising a flight as CO_2 neutral with 100% 'SAF'. The court found that the statement "*Flying to the Biennale in a CO_2 - neutral way? Not art for us!*" could not adequately be substantiated with the accompanying "*eye-catching emphasis* [on]

[59] ASA Ruling on Air France-KLM, 06 December 2023 <https://www.asa.org.uk/rulings/air-france-klm-a23-1206006-air-france-klm.html> accessed 9 July 2025.
[60] Fossielvrij v KLM, paragraph 3.57.
[61] ibid, paragraph 4.53.
[62] CAP Code Guidance, 6.
[63] ASA Ruling on Virgin Atlantic Airways, 7 August 2024 (n 5).
[64] CAP Code, Rule 11.3.
[65] Verein für Konsumenteninformation (VKI) v Austrian Airlines AG (2023) 29 Cg 62/22z – 16. Full judgment found at: <https://verbraucherrecht.at/system/files/2023-09/AUA%20U1_geschw%C3%A4rzt.pdf> accessed 9 July 2025. The quoted text used here is based on an automatically-produced English translation of the judgment.

"100% SAF""[66]. The court expressly held that "100% SAF" did not constitute "*a clearly perceptible reference […] required to avoid a misleading overall impression […] in the overall context*"[67] to the CO_2 neutral flights statement, given that used cooking oil (the alternative fuel type used by Austrian Airlines) plays a marginal role in the airlines' flights and can only achieve 80% emission reductions.

These rulings demonstrate that the term 'sustainable aviation fuel', which encompasses fuels with varying sustainability profiles, is not a term that can reasonably be expected to be widely understood outside of the aviation sector. Given the complexity of the environmental credentials of each fuel type, any advertising using the term 'sustainable aviation fuel' should be clear to consumers as to the environmental impacts of such fuels and provide sufficient information to substantiate any environmental claims made. Failure to do so has been highlighted by the European Commission and CPC Network as a potentially misleading practice.[68] Taking due regard for their obligations under consumer protection law, a better approach would be for airlines to refrain from using the term 'sustainable aviation fuel' altogether, given the high level of environmental performance required to substantiate the absolute term 'sustainable'.

3. Existing and future technologies don't constitute 'sustainable aviation'

Guidance on both the UCPD and the UK's CAP Code stipulates that highly polluting industries must make it clear to consumers if their product has an overall negative impact on the environment in their claims.[69]

In the ASA's ruling on Etihad Airways,[70] which considered an advertisement claiming Etihad was taking a "taking a louder, bolder approach to sustainable aviation" through initiatives such as the development of 'SAFs', the ASA found that there are no commercially viable technologies which would adequately substantiate the absolute green claim of "sustainable aviation." The ASA expressly found that air travel continues to make "a substantial contribution to climate change" and that initiatives "were targeted to only deliver results years or decades into the future" when concluding the claim overstated the positive impact that flying with Etihad would have on the environment. By extrapolation, this would seem to apply equally to any claim of 'sustainable aviation fuel' made by an advertiser.

In the *Fossielvrij v KLM* judgment, the District Court found that, given all the uncertainty existing around the technologies needed to decarbonise aviation, "*it does not befit KLM to paint the rosy picture*"[71] of the technologies it plans to resort to – including "SAF", fleet renewal, operational improvements and CO_2 offsetting. KLM's claims around future

[66] ibid, 16 (unofficial translation).
[67] ibid, 16 – 17 (unofficial translation).
[68] European Commission and CPC Network (n 36).
[69] European Commission, Guidance on the interpretation and application of Directive 2005/29/EC of the European Parliament and of the Council concerning unfair business-to-consumer commercial practices in the internal market; CAP Code Guidance, 6.
[70] ASA Ruling on Etihad Airways, 12 April 2023 <https://www.asa.org.uk/rulings/etihad-airways-a22-1174208-etihad-airways.html> accessed 9 July 2025.
[71] Fossielvrij v KLM, paragraph 4.37.

technologies were seen as misleading given "*they are currently only marginally reducing CO_2 emissions and the negative environmental aspects of flying*" [72].

4. Offering passengers the possibility to purchase "SAF" does not offset the negative climate impact of flying and therefore amounts to greenwashing

As identified by the European Consumer Organisation (BEUC) in a recent global stocktake on airlines' greenwashing practices, [73] airlines are increasingly making claims that consumers can compensate or offset the CO_2 emissions associated with a flight through purchasing quantities of alternative aviation fuels. Airlines are effectively giving consumers the option to pay an additional surcharge, on top of the cost of a ticket, in order to contribute to the development of alternative fuels.

Carbon offsetting schemes via CO_2 reduction or removal projects, such as reforestation projects, are generally recognised to be an ineffective mitigation measure due to uncertainty around feedback loops, accounting difficulties and the fact such projects drive no absolute emission reductions in the sector.[74] EU Member State Courts have repeatedly found that green claims based on offsetting and compensations cannot be substantiated in accordance with article 12 UCPD and are misleading under article 6 UCPD.[75] Moreover, product-level compensation claims based on the use of carbon credits claims are now prohibited all in all circumstances by UCPD as amended by Empowering Consumers Directive, where recital 12 explicitly states that emissions reductions within a products value chain and offsetting are "not equivalent".[76]

Compensation claims about SAF are misleading for the same reasons as compensation claims based on carbon credits issued via other CO_2 reduction or removal projects, such as reforestation projects. The misleadingness arises when the airline claims, whether at product or trader level, that the SAF compensates the negative environmental impact of flying, which cannot be substantiated under UCPD. This is because the climate benefits attributed to offsetting activities are significantly less certain than the climate harm caused by GHG-emitting activities. In the absence of equivalence, offsetting activities do not, and cannot achieve the promoted "compensation", "neutralisation" or "offsetting" of the climate harm caused by GHG-emitting activities.

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[72] ibid.

[73] BEUC, 'Green (F)lying Two years on' (June 2025) <https://www.beuc.eu/sites/default/files/publications/BEUC-X-2025-058_Green_%28F%29lying_Two_years_on.pdf> accessed 9 July 2025.

[74] Clemens Kaupa, 'Peddling False Solutions to Worried Consumers The Promotion of Greenhouse Gas "Offsetting" as a Misleading Commercial Practice' (2022) Journal of European Consumer and Market Law, 7, 10.

[75] Fossielvrij v KLM; Deutsche Umwelthilfe, 'Erfolgreiche Klimaklage der Deutschen Umwelthilfe gegen Fluggesellschaft Eurowings, OLG Köln, Judgment of 13 December 2024 – 6 U 45/24' (DUH v Eurowings) <www.duh.de/presse/pressemitteilungen/pressemitteilung/erfolgreiche-klimaklage-der-deutschen-umwelthilfegegen-fluggesellschaft-eurowings-landgericht-koeln/> accessed 9 July 2025.

[76] See Recital 12: "*It is particularly important to prohibit the making of claims, based on the offsetting of greenhouse gas emissions, that a product, either a good or service has a neutral, reduced, or positive impact on the environment in terms of greenhouse gas emissions. Such claims should be prohibited in all circumstances and added to the list in Annex I to Directive 2005/29/EC as they mislead consumers by making them believe that such claims relate to the product itself or to the supply and production of that product, or as they give the false impression to consumers that the consumption of that product does not have an environmental impact. Examples of such claims are 'climate neutral', 'CO_2 neutral certified', 'carbon positive', 'climate net zero', 'climate compensated', 'reduced climate impact' and 'limited CO_2 footprint'. Such claims should only be allowed when they are based on the actual lifecycle impact of the product in question, and not based on the offsetting of greenhouse gas emissions outside the product's value chain, as the former and the latter are not equivalent. "*

German courts have followed this analysis and found that the option offered by airlines to customers to "offset" emissions by purchasing 'SAF' is misleading for customers because:[77]

- The claim that purchasing "SAF" can "offset [a] flight" gave the consumer the impression that the purchase of the "SAF" relates to and will be used in that specific flight, which was not true and therefore misleading. In this context, in *DUH v Lufthansa*, the Cologne District Court found that the qualifying information on Lufthansa's website, which stipulated that the consumer could reduce "*20% of flight related CO2 emissions*", "*left [the consumer] in the dark as to whether 20% of his own emissions or even 20% of the entire flight can be saved, neither of which is true, since the defendant does not invest the purchased SAF in the flight.*"
- Such claims suggest to the consumer that they can essentially make his flight "*climate-neutral*" with their payment, which is indisputably not true.[78]

SAF compensation claims are therefore subject to the same risks of misleading consumers as other offset claims.

5. Financial institutions must also follow consumer law if advertising alternative fuels to consumers

Consumer protection law also poses a legal risk to the way in which financial institutions portray the aviation sector and the fuels they use. In the UK, green claims from HSBC and Lloyds Banks have been found to be misleading by the ASA because they omitted the banks' significant contribution to climate change through their financed emissions.[79] [80] The ASA on both occasions made reference to the high emissions found in annual reporting and found that sustainability-related statements regarding tree planting and net-zero targets would be misleading to consumers in the context of the continued financing of businesses which make significant contributions to GHG emissions, in particular fossil fuel projects. By extension, investments in the aviation industry, which implicate considerable demand-side emissions, could also come under similar scrutiny in assessing the overall context of banks' financed activities. Accounting for these financed emissions, the ASA held that giving consumers the impression they could contribute to positive impact through the advertised initiatives was said to be misleading. The same argument could apply to environmental adverts by banks that are indirectly related to investments in biofuels, considering its uncertain and marginal contribution to GHG emission reductions (as found in *Fossielvrij v KLM* above).

[77] *Deutsche Umwelthilfe v Eurowings*, Judgment of 13 December 2024 – 6 U 45/24 (DUH v Eurowings) <www.duh.de/presse/pressemitteilungen/pressemitteilung/erfolgreiche-klimaklage-der-deutschen-umwelthilfegegen-fluggesellschaft-eurowings-landgericht-koeln/> accessed 9 July 2025; *Deutsche Umwelthilfe v Lufthansa*, Judgment of 24 March 2025 – 84 O 29/24 (DUH v Lufthansa) <https://www.duh.de/presse/pressemitteilungen/pressemitteilung/deutsche-umwelthilfe-gewinnt-klimaklage-gegen-lufthansa-werbung-mit-vermeintlichem-co2-ausgleich-un/> accessed 9 July 2025.
[78] DUH v Lufthansa
[79] ASA Ruling on Lloyds Bank plc, 18 December 2024 <https://www.asa.org.uk/rulings/lloyds-bank-plc-a24-1244509-lloyds-bank-plc.html> accessed 9 July 2025.
[80] ASA Ruling on HSBC UK Bank plc, 18 October 2022 <https://www.asa.org.uk/rulings/hsbc-uk-bank-plc-g21-1127656-hsbc-uk-bank-plc.html> accessed 9 July 2025.

The section below on financial market regulation highlights that financial and securities laws equality prohibit misleading statements by financial market actors, including issuers, banks, insurance firms and financial intermediaries.

Conclusion on the use of 'SAF' in consumer advertisements

This section has demonstrated that there is significant legal risk in using the term 'sustainable aviation fuel' in consumer advertising without a high level of substantiation and explanation of the environmental impacts of the specific fuels that the business is using. Indeed, it may be difficult for actors of the aviation alternative fuel market to advertise 'sustainable aviation fuel' at all given the risks of misleading the average consumer coupled with the sectors overall negative impact on the climate. In any event, any environmental claims made by airlines (to the extent where such claims can be adequately substantiated) need to make clear to consumers that flying has an overall negative impact on the environment.

Box 3: SAF mandates do not negate the legal obligations under consumer protection law

While the use of 'SAF' terminology gives rise to significant legal risks under consumer laws, the term 'SAF' continues to be used both in EU and UK aviation fuel mandates. Addressing the tension between these two legal frameworks, legal scholars have found that ReFuel EU Aviation (the EU 'SAF' mandate) does not overrule the provisions of the UCPD. Therefore, ReFuel EU Aviation does not provide guardrails against the application of the UCPD to business to consumer commercial communications involving the term SAF, or protect airlines against enforcement action under the UCPD. In other words, the term 'SAF' being enshrined in other areas of EU law does not inherently permit its use in airline advertisements.

The Danish Consumer Ombudsman's recent referral of KLM to the police for violating the prohibition of misleading advertising supports this analysis, as the Ombudsman stated that: *"Although the term is used in the ReFuelEU Aviation Regulation, the Consumer Ombudsman believes that it is not legal to use misleading sustainability claims in the marketing of air travel."*

Consumer-facing companies have prevailing legal obligations under consumer protection laws to advertise alternative fuels accurately, with high levels of substantiation.

In fact, this analysis shows that the use of the general term 'SAF' is likely to breach the UCPD on several grounds. The same argument can be made in the context of the UK SAF mandate and the DMCC (as supported by the CAP Code).

Additionally, the Empowering Consumers Directive (amending the UCPD) includes a prohibition on 'presenting requirements imposed by law on all products within the relevant product category on the Union market as a distinctive feature of the trader's offer'. This implies that airlines should not advertise meeting the minimum requirements of fuel mandates as a distinctive environmental benefit.

Business to consumer advertising: what's next?

The end of 'SAF' adverts?

Given aviation's overall climate impact and the current lack of viable technologies to market it as green[81], this brings into question whether the aviation industry can promote any environmental sustainability marketing without infringing consumer protection law. The European Commission and the network of consumer protection authorities in the EU are currently investigating 20 airlines' green advertising practices[82] after the European Consumer Organisation, BEUC, called for the aviation sector to abstain from making environmental claims that give consumers the false impression that flying is sustainable.[83] This wide-ranging investigation is expected to look into a variety of environmental claims made by the airlines, including in relation to the use of the term 'sustainable aviation fuel' in commercial communications without justifying the environmental impacts of biofuels. The outcome of this investigation may implicate a number of airlines with such claims highlighted by BEUC.

This investigation, in addition to increasing decisions from courts and regulators, shows that there is a significant legal risk of using the term 'sustainable aviation fuel' in marketing, particularly when referring to waste-derived biofuels. This briefing has shown that this is a legal risk for airlines and financial institutions alike.

Can alternative fuels feature in claims relating to future environmental performance and associated implementation plans?

As noted above (see page 11), the Empowering Consumers Directive, which is due to be transposed into domestic law by Member States in 2026, seeks to strengthen the regulation of environmental advertising while empowering consumers to make informed choices. Pertinent to 'SAF' advertisements, claims relating to future environmental performance of a company (such as "*SAF will help reduce flights' emissions by a given amount by 2035*") must be independently monitored against a comprehensive implementation plan.[84] As such, making claims based on future alternative fuel use or availability, or a decarbonisation plan that relies on alternative fuels, is likely to expose companies to legal risk.

This issue arose in *Fossielvrij v KLM* where the airline's commitment to the Paris Agreement, namely the 1.5°C temperature target, was not accompanied by an implementation plan. The court found that claiming to take *"the lead to achieve a more sustainable future for aviation"* does not provide consumers with measurable and specific steps on how KLM will achieve such a goal.[85] The judge also found that it was misleading of KLM to suggest "SAF" is the "largest" contributor to KLM's goal of achieving "net zero

[81] ASA Ruling on Lufthansa, 6 December 2023 (n 70).
[82] EU Commission and CPC Network (n 36). At the time of writing the investigation by the Commission and the national consumer protection authorities is still ongoing.
[83] BEUC, *Green (f)lying* <https://www.beuc.eu/enforcement/green-flying#documents> accessed 9 July 2025.
[84] Empowering Consumers Directive, Annex 1 amendment, recital 4.
[85] Fossielvrij v KLM, paragraph 4.31.

emissions" by 2050, considering that "SAF" only marginally reduces CO_2 emissions and the overall negative climate consequences of flying.[86]

Airlines should therefore be cautious in making any claims about future climate performance and ensure that if those claims are made and are in any extent reliant on alternative fuels, that consumers are provided with clear measurable steps on how the goal will be achieved. That goal must also be accompanied by a comprehensive implementation plan. Such a plan should distinguish between the different types of fuel intended to be used and the emissions savings potential of the fuel type, applying a robust lifecycle analysis methodology. Airlines should include information on biodiversity and deforestation impacts and non-CO_2 emissions associated to the use of fuels to ensure the robustness of the analysis.

KEY POINT: The term 'sustainable aviation fuel' is on its face an absolute term, and companies using it in advertising without explaining what specific type of fuel is being used and the associated environmental impacts of such fuel risk breaching consumer protection laws. Companies should consider not using the term 'sustainable aviation fuel' or 'SAF' in advertising at all.

Financial market regulation

Alternative fuels require substantial investment to meet the mandated 'SAF' targets (see Box 1, page 7). The World Economic Forum found that the alternative aviation fuels industry could require between $19bn USD and $45bn USD in capital expenditure by 2030.[87] The scale of investments needed means that a wide range of stakeholders are likely to be involved in these investment efforts, including banks, airlines, airports, aircraft manufacturers, asset managers and public finance institutions.

Given the labelling of alternative aviation fuels as 'sustainable' in the SAF legislative mandates, alternative fuels are likely to attract impact funders (those working to generate both financial returns and positive social and environmental outcomes) and stimulate the use of "sustainable finance" instruments such as green or sustainability-linked bonds. Investors should however be wary that green claims on the financial market are subject to growing scrutiny from financial regulators. Financial institutions must therefore be particularly careful when investing in alternative fuels and bear in mind the lessons from consumer law enforcement around the promotion of alternative fuels as "sustainable". Financial institutions must undertake their own due diligence into the true sustainability

[86] ibid, paragraph 4.36
[87] World Economic Forum, 'Financing Sustainable Aviation Fuels: Case Studies and Implications for Investment' (February 2025) <https://reports.weforum.org/docs/WEF_Financing_Sustainable_Aviation_Fuels_2025.pdf> accessed 9 July 2025.

of individual fuel types, rather than consider all sustainable aviation fuels to be sanctioned as sustainable *per se* due to regulatory labelling.

Legal and regulatory framework

Anti-greenwashing requirements

Anti-greenwashing rules for the finance sector are evolving rapidly. As key EU sustainability regulations are currently under scrutiny as part of the EU's "simplification" efforts, this report will focus on the UK framework and look at the potential implications of anti-greenwashing and labelling rules for financial institutions wanting to invest in alternative fuels.

The FCA's Anti-Greenwashing Rule

The Financial Conduct Authority's (**FCA**) anti-greenwashing rule (**AGR**) came into force on 31 May 2024 to complement the Sustainability Disclosure Requirement (**SDR**) Regulation.[88] The AGR is additional to other rules applicable to financial institutions, including the broader consumer protection rules presented above. The AGR aims to be consistent with the CMA's guidance on environmental claims and the requirements of the Advertising Standards Authority's (**ASA**) guidance.[89]

The AGR applies to communications by FCA-authorised companies relating to the environmental and/or social characteristics of financial products or services. All FCA-authorised firms need to comply with the AGR and, as of 31 May 2024, might be subject to investigation by the FCA if there is reason to believe there is risk of consumer harm.

According to the AGR, references to the sustainability characteristics of a financial product or service must be **fair, clear and not misleading**. The FCA provides additional guidance on the implementation of this rule, emphasising in particular that sustainability-related claims for in-scope financial products must be:

- **Correct and capable of being substantiated:** companies must provide the necessary evidence to support any sustainability claims and substantiate information obtained by third parties.

- **Clear and presented in a way that can be understood by the intended audience**: the FCA indicates that the use of broad terms or general statements may be unclear and confusing, and that firms should not use terms that might give the impression that a product or service has sustainability characteristics that it does not have.

- **Complete:** sustainability claims should not omit or hide important information and should be based on the full lifecycle of the product or service. Claims should also not highlight only positive sustainability impacts where this disguises negative impacts

[88] Financial Conduct Authority (FCA), Finalised Guidance FG24/3: Finalised non-handbook guidance on the Anti-Greenwashing Rule <https://www.fca.org.uk/publication/finalised-guidance/fg24-3.pdf> accessed 9 July 2025, paragraph 2.11.
[89] ibid, 17.

and present sustainability claims in a balanced way if aspects of the product or service may have negative impacts.[90] Firms should not cherry-pick information as this may give the impression that a product or service has sustainability characteristics that it does not have.[91] Firms should consider what information it is necessary to include for the claim to give a representative picture of the product or service.

- **Be fair and meaningful in relation to any comparisons to other products or services: "***Firms should be careful when making claims about the extent to which a feature of a product or service has sustainability characteristics when it may simply be meeting a minimum standard of compliance with existing legal requirements. Such claims could be misleading, as, while they may be true, they may also wrongly give the impression that their product or service is superior to others available*".[92]

Investment labels

The labelling of investment funds as "sustainable" is increasingly regulated and subject to investigations by financial regulators. In the UK, the FCA introduced four categories of sustainable investment labels – Sustainability Focus, Sustainability Improvers, Sustainability Impact and Sustainability Mixed Goals – which can be applied to financial products with specific environmental or social goals.[93] If a fund does not have a sustainability label but still makes sustainability claims, the firm making the claims is required to publish a statement explaining why the fund does not have a label.[94]

The FCA provides qualifying criteria for using these investment labels. These criteria notably include:

- The publication of a sustainability objective and the associated identification and disclosure of any material negative environmental and/or social outcomes that may arise in pursuing the sustainability objective. [95]

- The adoption of an investment policy and strategy in line with the label: Financial products labelled as sustainable must have at least 70% of its assets invested in accordance with an evidence-based and robust environmental and/or social sustainability objective.[96]

- The identification of key performance indicators (KPIs) to measure progress against the sustainability objective.

[90] FCA Finalised Guidance FG24/3, paragraph 2.30.
[91] FCA Finalised Guidance FG24/3, paragraph 2.31.
[92] FCA Finalised Guidance FG24/3, paragraph 2.35.
[93] FCA, Policy Statement PS23/16: 'Sustainability Disclosure Requirements (SDR) and investment labels' <https://www.fca.org.uk/publication/policy/ps23-16.pdf> accessed 9 July 2025; FCA, 'Sustainable investment labels and anti-greenwashing' webpage, accessed 9 July 2025.
[94] This rule applies from 2 April 2025.
[95] FCA, Policy Statement PS23/16, paragraph 5.10.
[96] ibid, paragraph 5.11.

Legal application to the use of 'SAF' on the financial market

The FCA rules on sustainable finance and greenwashing have significant implications for claims by financial institutions around the sustainability of alternative aviation fuels and for the inclusion of alternative fuels in sustainable investment funds. Lessons learned from consumer law on claims related to alternative fuels will be essential to help investors navigate this new market and identify potential legal risks. Critical points for investors to bear in mind are the following:

1. Sustainability claims from financial institutions relating to alternative aviation fuels must be complete, supported by robust evidence, and consider the whole lifecycle of the product

Any environmental or social sustainability claim by investors in alternative aviation fuels must be backed by robust data. In particular, financial institutions must include in their assessment complete "well-to-wake" lifecycle analysis of the fuel accounting for land use impacts.

In considering what information is necessary for a claim to be representative of the product, financial institutions should be clear about aviation's overall negative impact on the environment and its substantial contribution to climate change, in addition to the marginal and uncertain role some alternative fuels play in improving the sector. This omission was found to be misleading in some of the consumer protection cases discussed above.

2. The terminology 'sustainable aviation fuel' is likely to be too absolute to be used in green claims by financial institutions

Absolute claims such as the term "sustainable" require a high level of substantiation. The FCA indicates in its Guidance on the AGR that "*The use of broad terms or general statements may be also unclear and confusing. Firms should not use terms that might give the impression that a product or service has sustainability characteristics that it does not have*".[97]

The findings from the ASA in *Air France-KLM* and court in *Fossielvrij v KLM* confirm that the standard for substantiation is particularly high when it comes to a high-emitting sector such as aviation. Due to the high upstream emissions associated with land use change in the feedstock production of biofuels (as outlined in a previous section of this report), it is unlikely that the term 'SAF' would meet this threshold when referring to such fuel types.

Applying this to the generalised term 'SAF', an uninformed person may not understand the complexities of the individual environmental credentials of each fuel type. Therefore, the use of the term is likely to be confusing and may be misleading.

3. Investors must be cautious about the inclusion of biofuels in funds and bonds labelled as sustainable

[97] FCA, Finalised Guidance FG24/3, paragraph 2.22.

Green finance labels such as "sustainable" funds or "sustainability-linked" and "green" bonds require the adoption and publication of science-based sustainability objectives and KPIs. Investors making sustainability claims but not labelling their funds accordingly are also under the obligation to provide clear information about their sustainability claims.

Given these growing disclosure requirements, investors should account for the varying sustainability profiles of alternative fuels and be particularly careful when considering whether the inclusion of biofuels in a particular sustainable finance instrument is aligned with these sustainability objectives and KPIs. A 'one-size-fits-all' approach to alternative fuels would not be appropriate given the varying environmental credentials of each fuel type and would leave firms exposed to the risk of misleading claims if this information was not sufficiently accurate.

Conclusion on the use of 'SAF' on the financial market

This section has demonstrated that there is an emerging legal risk in using the term 'sustainable aviation fuel' on the financial market without a high level of substantiation of the environmental impacts of the specific fuels in which the fund is investing. Following the same argument as under consumer protection law, it appears that using the terminology 'sustainable aviation fuel' on the financial market comes with significant legal risks and might need to be avoided entirely.

BOX 4: Mere compliance with the requirements of SAF mandates does not allow for sustainability claims by investors

Paragraph 2.35 of the FCA guidance advises that "*Firms should be careful when making claims about the extent to which a feature of a product or service has sustainability characteristics when it may simply be meeting a minimum standard of compliance with existing legal requirements*."

Following the argument in Box 3, investors should not promote investments in alternative aviation fuels as distinctively sustainable if the investments merely support fuel producers to comply with the SAF mandates.

Biofuel financing – what's next?

Scrutiny around "sustainable" investment funds is growing

In October 2024, ClientEarth filed a complaint to the French Financial Market Authority challenging Blackrock's investments in fossil fuel companies through retail investment funds labelled as "sustainable".[98] The labelling of these funds as "sustainable" while

[98] It should be noted that the legal basis for this challenge is the European disclosure requirements under the Sustainable Finance Disclosure Regulation (SFDR). The SFDR must be transposed into national legislation in Member States, demonstrating sustainability requirements on the financial market is a far-reaching legal risk for the EU. For more information on the Blackrock challenge, see: <https://www.clientearth.org/latest/press-office/press-releases/clientearth-complaint-targets-blackrock-over-misleading-sustainability-claims/> accessed 9 July 2025.

investing in fossil fuel companies is depicted by the claimants as greenwashing. Deutsche Bank and its subsidiary DWS have also been subject to investigative police raids[99] and a €25m fine after the labelling of funds as sustainable was found to be misleading by the Public Prosecutor's Office in Frankfurt.[100]

Funds labelled as "sustainable" under FCA investment labels while investing in aviation fuel production, particularly biofuels, without complete and accurate information regarding environmental and social impacts, are by extension likely to be exposed to similar legal risks.

It would be prudent for firms investing in aviation fuels listed to consider the sustainability characteristics of the products and how their funds are advertised on the financial market.

Enforcement actions, reputational damage and loss of investor confidence

The FCA Handbook makes clear that the AGR provides an "*explicit rule on which to challenge firms if* [the FCA considers] *they are making misleading sustainability-related claims about their products or services and, if appropriate, take further action.*"[101] Additionally, the FCA can impose both criminal liability and industry-wide redress schemes in cases where a firm misled knowingly or recklessly, and caused loss or damage to consumers.

In addition to statutory risks, greenwashing litigation may also be brought by investors, consumers or shareholders for misrepresentation or negligent misstatement under tort law. In the instance of a breach of contract, litigation may also be brought by contractual counterparties.[102]

Shareholder actions against public companies for greenwashing

As rules around sustainability claims are getting stricter, there is a growing risk for public companies active on the aviation alternative fuel market to be exposed to shareholder litigation under Sections 90 and 90A of the Financial Services and Markets Act 2000 (**FSMA**).[103] Under these rules, shareholders or bondholders who have suffered a loss due to a public company's misleading, incomplete or untrue statement can seek compensation for the loss suffered. This statutory remedy has implications for sustainability-related claims where, for example, a decline in share prices might arise directly in connection with ESG misstatements. While a high burden of proof may cause difficulty when establishing loss, the rise of anti-greenwashing regulation and associated

[99] Reuters, 'Prosecutors visit DWS offices again over alleged greenwashing' (1 February 2024) accessed 9 July 2025.
[100] Simmons and Simmons, 'Historically high ESG-fine in Germany for 'greenwashing'' (4 April 2024) accessed 9 July 2025.
[101] FCA, Finalised Guidance FG24/3, paragraph 1.4.
[102] Hogan Lovells, 'The UK FCA's anti-greenwashing rule: ignore it at your peril' (23 July 2024) accessed 9 July 2025.
[103] Claims under Sections 90 and 90A are often based on similar events. However, Section 90A allows for a broader definition of what can be considered a 'loss' for the claimant. Section 90A provides that the acquisition and selling of, as well as the continued shareholding in, securities on the basis of untrue or misleading market statements can be compensated for. Additionally, a range of published documents are under the scrutiny of section 90A, including annual reports or financial statements. On the other hand, for a section 90 claim to succeed, it must be proven that a prospectus (otherwise known as the 'selling document') included or omitted information that misled a person to acquire securities, who then suffered a loss as a result of this acquisition. The burden of proof is higher for section 90A claimants, who must prove they have relied on the misleading information when investing in the securities. Section 90 only requires the claimant to prove the loss is a result of misleading information or omission.

reporting and disclosure requirements suggests a growing exposure of financial institutions and companies to shareholder claims.

Companies producing, selling or buying aviation alternative fuel must therefore be particularly careful regarding information they include in their reporting (including annual reports or prospectus) around the sustainability profile of such fuels, in particular biofuels. In practice, shareholders or bondholders of a company active in the aviation alternative fuel industry could file a claim seeking compensation if they suffered a loss due to misleading statements by the company around the sustainability profile of such fuels. In particular, impact investors might consider such misleading statements as particularly material given the importance of sustainability as part of their investment decisions.[104]

At the time of writing, sections 90 and 90A FSMA have not been used to claim compensation for misleading ESG or green claims. However, legal commentary expects this to be a growing litigation area as disclosure requirements increase.[105] The potential for class actions, brought on behalf of a group of investors, could result in high-value global claims, as demonstrated by the case of *Allianz Funds Multi-Strategy Trust v Barclays Bank Plc*[106] which comprised an action brought by 460 investors who claimed losses from the misrepresentation of a fund amounting to £440m. It should also be noted that the anti-greenwashing rule, along with advancing ESG requirements under the SDRs, provide clear guardrails for requirements to substantiate green claims. Therefore, section 90 and 90A FSMA claims represent a financial and reputational risk for public companies found making green and ESG-related claims.

KEY POINT: Green claims related to alternative fuels must be accurate, substantiated and complete in order to be advertised on the financial market. Financiers using the term 'sustainable aviation fuel' in advertising without explaining what specific type of fuel is being used and the associated environmental and social impacts of such fuel risk being in breach of financial regulation laws. Financial institutions should consider removing biofuels from green funds to be confident they have not breached applicable legal obligations.

[104] Peter de Verneuil Smith QC, Philip Hinks and Dominic Kennelly, 'Claims under s 90A of FSMA for dishonest statements made to the market: an underutilised remedy?' (2019) Butterworths Journal of International Banking and Financial Law <https://3vb.com/wp-content/uploads/2022/05/Claims_under_s_90A_of_FSMA_for_dishonest_sta-1.pdf> accessed 9 July 2025: "*the omission of information about breaches of ethical/ environmental/regulatory standards may be important to the investment decisions of certain classes of investors, including so-called "ethical investors"*".

[105] For example: Debevoise & Plimpton, 'Subject Matter of s.90/s.90A FSMA Claims' (28 May 2024) accessed 9 July 2025; Hausfield, 'When ESG meets FSMA: a legal and economic analysis of a simulated case study' (16 September 2024) accessed 9 July 2025; Stephenson Harwood ESG, 'Identifying your Greenwashing Litigation Risk – Claims under FSMA' (24 June 2024) accessed 9 July 2025; Pinsent Masons, 'Risk of climate-related shareholder litigation in UK grows' (23 March 2023) accessed 9 July 2025.

[106] Allianz Funds Multi-Strategy Trust v Barclays PLC [2024] EWHC 2710.

Concluding remarks

This briefing has applied the greenwashing frameworks under consumer protection law and financial regulation to 'sustainable aviation fuel' ('SAF') advertising and promotion in the UK and EU. It finds that the term 'sustainable aviation fuel' is too absolute and exposes companies to legal risk under each framework, and that in any event environmental claims relating to aviation (to the extent such can be legally made) should make it clear that aviation has an overall negative impact on the environment.

Whilst claims relating to all aviation fuels should be assessed against the applicable legal frameworks, the high direct and indirect emissions occurring from land use change in waste-derived biofuel production creates a particular risk for stakeholders that use the term 'sustainable' in relation to this fuel type. National and regional laws indicate this risk exists across Europe.

To reduce the risk of litigation and enforcement action, businesses and financial institutions should remove the term 'sustainable aviation fuel' in consumer and financial market advertising. In particular:

1. Airlines, financial institutions and other stakeholders on the aviation alternative fuel market should adopt terms which accurately refer to the feedstock used when promoting alternative fuels, and should not rely on alternative fuels in environmental claims given their marginal and uncertain sustainability credentials coupled with aviation's overall negative climate impacts.
2. UK FCA-authorised firms should adopt the same cautious approach when advertising alternative fuels on the financial market and should not include biofuels in funds labelled as sustainable, given their significant negative environmental impacts.

This linguistic and market shift will allow for the promotion, investment and production of truly sustainable alternatives in the aviation sector (such as e-fuels and zero-emission aircraft) and enable the aviation industry to decarbonise and meaningfully play a role in the just transition.

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