

Subsidy Advice Unit Report on the proposed Low Carbon Fuels Fund

Referred by the Department for Transport

15 July 2026

Subsidy Advice Unit

Part of the Competition and Markets Authority



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1. The Referral

- 1.1 On 28 May 2026, the Department for Transport (DfT) requested a report from the Subsidy Advice Unit (the SAU)¹ in relation to the proposed Low Carbon Fuels Fund subsidy scheme (LCFF) under section 52 of the Subsidy Control Act 2022 (the Act).²
- 1.2 This report evaluates DfT's assessment of compliance (the Assessment) of the Scheme with the requirements of Chapters 1 and 2 of Part 2 of the Act.³ It is based on the information and evidence included in the Assessment.
- 1.3 This report is provided as non-binding advice to DfT. It does not consider whether the Scheme should be implemented, or directly assess whether it complies with the subsidy control requirements.

Summary

- 1.4 The Assessment uses the four-step structure described in the Statutory Guidance for the United Kingdom Subsidy Control Regime (the [Statutory Guidance](#)) and as reflected in the SAU's Guidance on the operation of the subsidy control functions of the Subsidy Advice Unit (the [SAU Guidance](#)).
- 1.5 In our view, DfT has considered the compliance of the LCFF with the subsidy control and energy and environment principles. In particular, the Assessment clearly describes and evidences:
- (a) the specific policy objective of the LCFF, linking this to wider strategic and governmental objectives (Principle A);
 - (b) market failures that the LCFF seeks to remedy (Principle A); and
 - (c) how the LCFF complies with the identified relevant Energy and Environment Principles (Principles A, B and H), with considerable detail being given in relation to both limbs of Energy and Environment Principle A.
- 1.6 However, we have identified the following areas for improvement. In our view, the Assessment should:

¹ The SAU is part of the Competition and Markets Authority.

² [Referral of the proposed Low Carbon Fuels Fund subsidy scheme by the Department for Transport - GOV.UK](#).

³ Chapter 1 of Part 2 of the Act requires a public authority to consider the subsidy control principles and energy and environment principles before deciding to give a subsidy. The public authority must not award the subsidy unless it is of the view that it is consistent with those principles. Chapter 2 of Part 2 of the Act prohibits the giving of certain kinds of subsidies and, in relation to certain other categories of subsidy creates a number of requirements with which public authorities must comply.

- (a) better explain how the LCFF eligibility criteria will exclude projects which would be likely to be privately funded, taking into account the stated intention to use competitive allocation to identify the strongest projects (Principle D);
- (b) explain how the LCFF rules take into account other subsidies that recipients may have received or may receive for similar purposes, in line with the Statutory Guidance on cumulation (Principle B);
- (c) explain in more detail how the financial information submitted by applicants will be used to keep individual awards to the minimum necessary (Principle B);
- (d) provide a more complete evaluation of the characteristics of the UK sustainable aviation fuel market, in line with the Statutory Guidance. In particular, the Assessment should provide more detail about the size and nature of businesses currently active in the market, including ineligible market participants (Principle F); and
- (e) more clearly identify any residual negative impacts (ie post mitigation) of the LCFF, and weigh those negatives against the identified positives (Principle G).

1.7 We discuss these areas below, along with other issues, for consideration by DfT in finalising its assessment.

The referred scheme

- 1.8 The LCFF proposes to provide capital grant funding to part-fund the development of commercially viable sustainable aviation fuel (SAF) production facilities, with the aim of supporting sufficient UK SAF supply. It is expected to run between April 2027 and 2035, with a review point in 2030, with a total of £219 million available.ⁱ
- 1.9 The UK government has established the SAF Mandate⁴ to encourage the supply of SAFs, supporting aviation decarbonisation and contributing to the UK's net zero target. The LCFF aims to contribute to the realisation of SAF Mandate targets and supports the UK government's Plan for Change mission, 'make Britain a clean energy superpower'.
- 1.10 The Assessment states that the LCFF will support SAF projects progressing towards Final Investment Decision (FID), overcoming barriers to private investment in this nascent market, supporting the UK advanced fuels sector as it scales up to commercial production.

⁴ [Sustainable Aviation Fuel \(SAF\) Mandate - GOV.UK](#), obligating the supply of an increasing amount of SAF each year in the overall UK aviation fuel mix.

- 1.11 The LCFF will award grant funding through a funding competition, targeted at SAF producers in the early development stage. It will be open for bids from eligible industry from throughout the United Kingdom, where the project is located in the UK. However, the Assessment relates solely to Great Britain, as does this report.
- 1.12 DfT explained that the LCFF is a Scheme of Particular Interest because it allows for the provision of one or more Subsidies of Particular Interest (likely to exceed £25 million) to be given;⁵ the amount a single enterprise can receive under the LCFF subsidy scheme over three financial years is not capped and it is likely to exceed £25 million.

⁵ Within the meaning of regulation 3 of [The Subsidy Control \(Subsidies and Schemes of Interest or Particular Interest\) Regulations 2022](#) which sets out the conditions under which a subsidy or scheme is considered to be of particular interest.

2. The SAU's Evaluation

- 2.1 This section sets out our evaluation of the Assessment, following the four-step structure used by DfT.

Step 1: Identifying the policy objective, ensuring it addresses a market failure or equity concern, and determining whether a subsidy is the right tool to use

- 2.2 Under Step 1, public authorities should consider compliance of a subsidy with:
- (a) Principle A: Subsidies should pursue a specific policy objective in order to remedy an identified market failure or address an equity rationale (such as local or regional disadvantage, social difficulties or distributional concerns); and
 - (b) Principle E: Subsidies should be an appropriate policy instrument for achieving their specific policy objective and that objective cannot be achieved through other, less distortive, means.⁶

Policy objectives

- 2.3 The Assessment states that the policy objective of the LCFF is to accelerate the development and commercial deployment of advanced SAF production in the UK, in order to support aviation decarbonisation and contribute to the UK's legally binding carbon budgets and net zero target.
- 2.4 In particular, the Assessment explains that the LCFF will focus on supporting nascent technologies which meet the requirements of the SAF Mandate⁷ to make the leap from the laboratory to commercial scale, and overcome difficulties accessing capital and the hesitancy of private investors. It states that the LCFF aims to support more advanced SAF projects to progress further towards plant construction as well as projects at early development lifecycle stages, to boost supplier capabilities and skills in relevant technologies, to prepare viable projects to compete for Revenue Certainty Mechanism (RCM)⁸ support, and to generate evidence to inform wider SAF policy.

⁶ See [Statutory Guidance](#), paragraphs 3.33–3.59 and the [SAU Guidance](#), paragraphs 3.6–3.10 for further detail.

⁷ Excluding SAF created from hydrogenated esters and fatty acids (HEFA).

⁸ The RCM seeks to derisk financial investment into SAF plants by guaranteeing a strike price for eligible fuel sold. DfT continue to consult on the design of the RCM: [SAF revenue certainty mechanism: indicative heads of terms and contract allocation - GOV.UK](#).

- 2.5 The Assessment outlines wider strategic objectives which the LCFF aims to support by derisking the market and proving technologies for projects so they can leverage private investment, namely to:
- (a) accelerate the commercialisation of UK SAF projects by bridging the gap between the end of existing grant support and the implementation of the RCM, enabling high potential technologies to demonstrate viability and ensuring there is sufficient competition for early RCM allocations;
 - (b) utilise the UK's research and engineering expertise to increase domestic production, attracting and retaining investment and green jobs whilst ensuring projects progress at the pace needed to ensure delivery of the UK SAF Mandate targets;
 - (c) protect UK consumers from global prices and improve fuel security; and
 - (d) work with and complement the wider low carbon fuels policy package to accelerate the transition towards net zero.
- 2.6 The Assessment states that the LCFF will also directly support government strategic aims of kickstarting economic growth and making Britain a clean energy superpower, and DfT's strategic aims to reduce environmental impact by tackling climate change and improve air quality by decarbonising transport.
- 2.7 In our view, the Assessment clearly describes and evidences the specific policy objective of the LCFF and links this to wider strategic and governmental objectives.

Market failure

- 2.8 Market failures arise where market forces alone do not produce an efficient outcome. When this arises, businesses may make investments that are financially rational for themselves, but not socially desirable.⁹
- 2.9 The Assessment explains that the LCFF has been designed to address the following market failures, which it argues leads to the private sector being unlikely to progress sufficient SAF projects to commercialisation:
- (a) Information failures and asymmetry: The Assessment explains that there are perceived investment risks which exacerbate the risk-aversion of investors, leading to under-provision of investment, due to:
 - (i) Nascency: The limited operational track records for SAF and companies funding SAF means that investors lack reliable information on

⁹ [Statutory Guidance](#), paragraphs 3.36–3.51.

technological performance, costs, and revenues which creates a first mover disadvantage due to higher risk profile and discovery costs to first investors.

- (ii) Technology risks: SAF production is capital-intensive, requiring sizeable investment. However, the majority of SAF production technologies are in early development stages and have not been demonstrated at scale, posing a significant risk. Should these technologies provide unviable and fail, this would result in a significant loss of investment.
 - (iii) Policy uncertainty: There is a perceived lack of certainty and information regarding future government policy.
- (b) Positive externalities: The Assessment states that positive externalities which are not considered by investors in their decisions and therefore lead to underinvestment in SAF production include:
- (i) Derisking future investment: As SAF projects successfully reach commercialisation, information on costs, technology performance and operational performance will become available to the wider market, reducing the risk profile of future SAF investments and meaning future projects may be able to better access capital at lower rates.
 - (ii) Research and development (R&D) spillovers: Investment in SAF production is expected to provide learning for the whole sector through development of new knowledge and technologies making SAF production more efficient, benefitting the wider industry and consumers; and
 - (iii) Human capital: Workers employed in SAF plants are expected to acquire specialised skills that can be used across the wider SAF industry and related petrochemical sectors, especially through the informal spreading of knowledge when workers move between firms.
- (c) Negative externalities: The Assessment states that the consumption of fossil aviation fuels imposes a negative externality on society through the emission of greenhouse gases which contribute to climate change. It states that wider social costs are not considered by emitters, and that markets have weak financial incentives to reduce their supply. The Assessment considers this as a partial market failure as this leads to an oversupply of fossil aviation fuel beyond the optimum level.

2.10 Alongside providing part of the funds necessary to finance the large upfront capital costs of technology development, the Assessment sets out that the LCFF will signal the strength of individual SAF projects by providing government backing. This will help to offset concerns around nascency and technology risks and show a

clear positive policy position and backing of the UK SAF industry. It states that by derisking investment, signalling quality and reducing the level of private funding required, the LCFF will help increase the supply of SAF closer to the socially optimum level, realising more of the positive externalities of investment in SAF production. The Assessment finally notes that the LCFF will also directly lead to displacement of fossil fuels and the associated greenhouse gas (GHG) savings in a scenario where there is limited SAF production globally, helping to ensure the SAF Mandate is met and that negative externalities are prevented.

- 2.11 In our view, the Assessment clearly describes and evidences market failures that the LCFF seeks to remedy.

Appropriateness

- 2.12 Public authorities must determine whether a subsidy is the most appropriate instrument for achieving the policy objective. As part of this, they should consider other ways of addressing the market failure or equity issue.¹⁰
- 2.13 The Assessment sets out that a number of existing and previous regulations and policy measures complement the LCFF, including the SAF Mandate, RCM,¹¹ UK SAF Clearing House¹² and previous grant funding competitions. However, it argues that existing regulatory measures are insufficient to derisk private investment in SAF production enough to incentivise the level of financial support required for projects to commercialise.
- 2.14 DfT undertook an options assessment of possible interventions. One option considered was loans, however the Assessment explains that UK SAF projects are too early-stage and risk-exposed to be suitable, and therefore loan finance is practically inaccessible at earlier stages. The Assessment also considered repayable grants and equity (see paragraph 2.36(a)); however, these are usually alternative forms of subsidy rather than non-subsidy options, unless provided on commercial terms.
- 2.15 The Assessment concludes that a grant model with open competition is the most beneficial instrument. It argues that this is simpler to design and deliver in comparison to more complex blended finance models or loans, and will increase investor confidence and leverage private investment by acting as a strong signal of government backing. The Assessment suggests that there is a clear credibility and readiness gap for alternative options in the absence of meaningful scaled-up demonstration and strategic investor backing, and that the LCFF will help to build

¹⁰ [Statutory Guidance](#), paragraphs 3.57–3.59.

¹¹ See paragraph 2.4 above.

¹² Which supports fuel producers to navigate the testing and approval requirements for non-fossil-based jet fuel: [UK Sustainable Aviation Fuels \(SAF\) Clearing House](#).

the evidence base needed to unlock equity, debt, guarantees and private finance at later stages.

- 2.16 In our view, the Assessment demonstrates that DfT has considered other ways of achieving its policy objective. However, the Assessment could focus on non-subsidy alternatives such as commercial loans, new regulatory levers and commercial equity investments, and use stronger evidence to explain why these are not appropriate. It could also outline in more detail why these alternative options are not appropriate for more advanced projects which are closer to FID.

Step 2: Ensuring that the subsidy is designed to create the right incentives for the beneficiary and bring about a change

- 2.17 Under Step 2, public authorities should consider compliance of a subsidy with:
- (a) Principle C: Subsidies should be designed to bring about a change of economic behaviour of the beneficiary. That change should be something that would not happen without the subsidy and be conducive to achieving its specific policy objective; and
 - (b) Principle D: Subsidies should not normally compensate for the costs the beneficiary would have funded in the absence of any subsidy.¹³

Counterfactual

- 2.18 In assessing the counterfactual, public authorities should consider what would likely happen in the future – over both the long and short term – if no subsidy were awarded (the ‘do nothing’ scenario).¹⁴
- 2.19 The Assessment states that, in the absence of the LCFF, the market failures outlined in Principle A would persist, leading to a missing market for SAF with little domestic SAF production taking place. It explains that the feedstocks used in SAF production have uses in other low carbon fuel industries.¹⁵ SAF projects can easily transition at most points in the production process between supplying SAF and fuels for other sectors and, given the higher associated costs and risks, there is limited incentive for producers to target SAF above other sectors. In the counterfactual scenario, many projects would stall; private capital would focus investment elsewhere (including outside of the UK) and projects would be unlikely to reach FID.

¹³ See [Statutory Guidance](#), paragraphs 3.60–3.74 and the [SAU Guidance](#), paragraphs 3.11–3.13 for further detail.

¹⁴ [Statutory Guidance](#), paragraphs 3.63–3.65.

¹⁵ Including energy, road transport, and maritime industries.

- 2.20 The counterfactual assessment draws on market engagement with existing SAF projects. This market engagement highlights the importance of Government funding to reduce risk of failure and support projects' progression.
- 2.21 The Assessment sets out two key scenarios in the counterfactual:¹⁶
- (a) In the "Sufficient Global SAF" scenario, despite the lack of UK SAF production, mandate targets can be met through imported SAF. However, in this scenario, the UK would not receive the benefits of domestic SAF production, including high value jobs and R&D spillovers. The Assessment states there is a high degree of uncertainty surrounding the future levels of global SAF supply.
 - (b) In the "Insufficient Global SAF" scenario, there is not sufficient import availability to meet SAF Mandate targets. Suppliers therefore face high buyout penalty fees and continue to use kerosene aviation fuel. The Assessment states that, as a result, the GHG savings of the SAF Mandate not being realised, net zero targets would be missed, and the benefits of domestic SAF production would not be felt.
- 2.22 The Assessment considers the evolution of the market in the counterfactual. It states in the pre-RCM period, projects would be unable to fund ongoing development phases and may stall; businesses may alternatively relocate their projects to countries with a more favourable funding environment. Private capital could relocate investment elsewhere and projects would be unlikely to reach FID. The Assessment further explains that during the RCM period, a lack of available capital means that only a few projects would likely progress to later development stages and be 'ready' for the RCM. This would lead to compounded difficulty in meeting the UK's SAF Mandate obligations.
- 2.23 The Assessment concludes that the counterfactual does not achieve the policy objectives because without government support for the SAF industry, the market would stall, reducing the pace of development, hindering demonstration of different technologies and making it difficult for projects to reach FID, leading to a missing market for SAF.
- 2.24 In our view, the Assessment clearly describes what would be likely to happen if the LCFF was not implemented. However, the Assessment could draw on a broader evidence base from a range of sources to support the counterfactual.

¹⁶ The Assessment notes that the counterfactual assessment assumes that the SAF Mandate is in place, as it came into force on 1 January 2025.

Changes in economic behaviour of the beneficiary and additionality

- 2.25 Subsidies must bring about something that would not have occurred without the subsidy.¹⁷ They should not be used to finance a project or activity that the beneficiary would have undertaken in a similar form, manner, and timeframe without the subsidy ('additionality').¹⁸ For schemes, this means that public authorities should, where possible and reasonable, ensure the scheme's design can identify in advance and exclude those beneficiaries for which it can be reasonably determined would likely proceed without subsidy).¹⁹
- 2.26 The Assessment states that the LCFF aims to overcome the identified market failures by providing part of the funding required to finance upfront capital costs to eligible SAF projects, thereby encouraging private investment in SAF projects that may not have occurred in the counterfactual scenario. It explains that the LCFF will achieve this change by increasing willingness to invest through reducing private capital risk; signalling product quality to mitigate concerns about technology risks and industry nascency; and signalling the UK government's policy commitment to SAF.
- 2.27 The Assessment draws on an informal market research survey in which participants stated that without continued grant support they anticipate project delays, loss of detailed engineering and progress to date, and reduction in scope, for example narrowing project activities to focus on lower-risk or incremental development options. The Assessment considers that this demonstrates the high additionality of LCFF.
- 2.28 The Assessment then describes the subsidy design features that it considers to be relevant to additionality, including lifecycle targeting, competitive allocation, eligibility and clawback provisions. It states that these design features allow for the exclusion of beneficiaries that would likely proceed without the subsidy, and that the eligibility criteria have been set to avoid funding 'business as usual' activities.
- 2.29 The Assessment states that an appraisal completed for the business case evaluated additionality and the value for money presented by the LCFF.
- 2.30 The Assessment notes some strategic benefits which DfT consider are additional and unlikely to arise, or occur to the same extent, in the absence of the LCFF. These benefits include signalling that low carbon fuels are a UK government priority, delivery of the UK SAF Mandate targets, attracting and retaining investment and green jobs, improving UK fuel security, and increasing the pace of SAF project progression.

¹⁷ [Statutory Guidance](#), paragraph 3.67.

¹⁸ [Statutory Guidance](#), paragraphs 3.66–3.70.

¹⁹ [Statutory Guidance](#), paragraphs 3.71–3.73.

- 2.31 In our view, the Assessment clearly explains and evidences how the subsidy would change the likely beneficiaries' economic behaviour and that the LCFF brings about changes that would not have occurred absent the subsidy.
- 2.32 However, the Assessment should better explain how the LCFF eligibility criteria will exclude projects which would be likely to be privately funded, taking into account the stated intention to use competitive allocation to identify the strongest projects.

Step 3: Considering the distortive impacts that the subsidy may have and keeping them as low as possible

- 2.33 Under Step 3, public authorities should consider compliance of a subsidy with:
- (a) Principle B: Subsidies should be proportionate to their specific policy objective and limited to what is necessary to achieve it; and
 - (b) Principle F: Subsidies should be designed to achieve their specific policy objective while minimising any negative effects on competition or investment within the United Kingdom.²⁰

Proportionality

- 2.34 The Assessment discusses the following design features that help ensure that the LCFF is proportional and limited to the minimum necessary to achieve the policy objective:
- (a) Capital costs of £219m for the LCFF are based on experience of the Advanced Fuels Fund (AFF), the aims and objectives of the LCFF, the current state and size of the market, and the needs of industry ascertained through stakeholder engagement.
 - (b) Applications must first pass minimum eligibility criteria,²¹ then are scored by independent experts and must pass a minimum score threshold.²² Successful applications will be reviewed by an independent expert panel before final allocation decisions are made.²³ This may result in projects receiving less than their original request and that previous competitions found projects applying for more funding than their activities required.

²⁰ See [Statutory Guidance](#), paragraphs 3.75–3.112 and the [SAU Guidance](#), paragraphs 3.14–3.18 for further detail.

²¹ Minimum eligibility criteria could include, for example, fuel output, technology readiness level, feedstocks and GHG emissions.

²² To be determined during the detailed grant design phase.

²³ Final allocation decisions will take into account eligibility, assessment scores, the Expert Panel's assessment, the breadth of technology pathways represented and due diligence outcomes.

- (c) Projects are required to supply multiple quotes for certain deliverables, with delivery partners able to recommend cheaper alternatives where a subcontractor's charge is considered disproportionate.
- (d) High intervention rates may be necessary for earlier lifecycle stages, while engineering, procurement, and construction (EPC) stages attract lower grant intensity.²⁴
- (e) Grant funding is paid in arrears against evidence of expenditure. Grant costs are agreed as part of milestones when the grant funding agreement (GFA) is drafted. A monitoring officer will be assigned to each funded project to review documentation against milestones, with recipients required to submit regular progress reports and audited accounts.
- (f) Where a project does not complete specified funded activities within a milestone, DfT has the right to withhold or reduce the relevant claim. The GFA also includes clawback provisions under which, in the event of a breach of conditions, DfT may cease payments and require repayment of the whole or part of any grant already paid, reduce the maximum sum, or terminate the agreement.

2.35 In our view, the Assessment identifies several aspects of the LCFF relevant to keeping the subsidy proportionate and limited to the minimum necessary to achieve its specific policy objective, in line with the Statutory Guidance. However:

- (a) the Assessment should explain how the LCFF rules take into account other subsidies that recipients may have received or may receive for similar purposes, in line with the Statutory Guidance on cumulation.²⁵
- (b) the Assessment should explain in more detail how the financial information submitted by applicants will be used to keep individual awards to the minimum necessary to achieve the policy objective.
- (c) the Assessment could provide more information on the size of the LCFF, for example, by explaining why it was appropriate to base the LCFF's budget on DfT's experience of the AFF, and how the LCFF budget compares to the total estimated investment need across the SAF sector to reach the policy objective.

²⁴ Advanced fuels projects, for example early-stage demonstration projects, face barriers including high upfront costs and technical risks, a steep cost curve between early development and Front-End Engineering and Design (FEED), and limited private investment making match funding difficult to obtain, particularly for SMEs.

²⁵ See [Statutory Guidance](#), paragraph 3.95.

Design of subsidy to minimise negative effects on competition and investment

2.36 The Assessment identifies a number of characteristics of the LCFF's design relevant to minimising negative effects on competition and investment, including the following:

- (a) Grant funding was chosen over alternative instruments such as repayable grants and equity. The Assessment notes that repayable grants face structural constraints and uptake challenges, with industry feedback suggesting they could complicate capital structures and deter private investment, while equity delivery through public finance institutions is not viable due to these projects not fitting with their investment criteria.
- (b) The LCFF is an open competition primarily aimed at SAF producers at specific development lifecycle stages,²⁶ with the lead applicant required to be registered in the UK and the project located in the UK.
- (c) Only pre-FID plants are eligible for funding and support ends once a project reaches FID, and the LCFF is time-limited. Very early concept-stage projects are not eligible, as public funding for innovation stages is available from other sources such as Innovate UK.
- (d) Funding is restricted to development costs, excluding construction, installation, commissioning and operational phases. Eligible costs are predominantly upfront, one-off and sunk in nature, rather than ongoing or variable operating costs, and do not directly subsidise ongoing production, output or pricing decisions. Ineligible costs are likely to include building works or bulk materials. DfT ultimately determine which costs are eligible or ineligible.
- (e) Scoring criteria are designed to incentivise private co-investment, with higher scores for projects demonstrating greater match funding. Funding cannot be used for previously funded activities or to replace private sector investment. GFAs restrict funds to eligible project costs, ringfenced to the funded project, with payment conditional on milestone and stage gate requirements.
- (f) HEFA is excluded from eligibility, whilst the pipeline of demonstration projects which will be targeted will be those that use non-conventional and under-utilised feedstocks. The Assessment states that this is intended to mitigate the risk of misallocation of resources by directing production away from pathways that competes with road Hydrotreated Vegetable Oil (HVO) for feedstocks. The LCFF aims to push projects progressing through the early lifecycle stages towards FID while maintaining a pipeline of demonstration

²⁶ Applications are expected mostly from private sector commercial organisations, though academic institutions and SMEs are also accepted.

projects to support new entrants alongside larger players and ensure development across a range of technology pathways.

2.37 The Assessment states that the proposed subsidy funding is wholly separate from RCM eligibility, with LCFF funding not benefiting or prejudicing an application for an RCM contract. LCFF and AFF funding costs are anticipated to be excluded from the RCM strike price.

2.38 In our view, the Assessment clearly demonstrates and evidences how design features of the LCFF contribute to minimising any negative effects of the LCFF on competition and investment within the United Kingdom. However:

- (a) the Assessment could consider whether caps on the total amount a recipient could receive under the LCFF would mitigate the risk of a small number of organisations receiving a disproportionate share of funding, or explain why caps are not considered appropriate in the context of the LCFF.²⁷
- (b) The Assessment could better explain and evidence why the instruments it considered, including repayable grants and equity, are unsuitable across the full range of pre-FID lifecycle stages funded by the LCFF, including later stages such as FEED and Detailed Design.

Assessment of effects on competition or investment

2.39 The Assessment considers the effects of the LCFF on competition and investment across several market dimensions,²⁸ noting that the market for advanced SAF is not yet mature domestically or internationally, and that there is no clear UK or global market price for advanced SAF.²⁹

2.40 The Assessment notes that the current UK market for aviation fuel production consists of kerosene fuel producers and one HEFA production plant. It notes that subsidising SAF plants may give them a competitive advantage over ineligible market players but argues that any reduction in demand for kerosene results from the SAF Mandate rather than the LCFF itself, and that further displacement is unlikely given SAF is considerably more expensive than kerosene.

2.41 The Assessment identifies the following risks to competition and investment, along with its intended mitigations:

- (a) Competition for finite sustainable feedstocks could increase, potentially affecting other industries. This is intended to be mitigated by excluding HEFA from eligibility and targeting under-utilised feedstocks.

²⁷ See [Statutory Guidance](#), paragraph 3.93.

²⁸ Including the UK SAF market, other low carbon fuel markets, other green sectors and a geographical dimension.

²⁹ As it is not yet being produced at large scale anywhere.

- (b) Capital funding of selected pathways could tilt competition in their favour, and capital directed to the SAF sector could indirectly redirect government funding away from other green sectors. The former is intended to be mitigated by robust assessment criteria, and the latter is considered limited given the time-limited nature of the grant and availability of funding elsewhere.³⁰
- (c) Subsidised firms could gain a cost advantage over unsubsidised producers and capital diverted to subsidised firms could crowd out funding for others, increasing barriers to entry. These risks are considered to be mitigated by the fund's positive spillover impacts in proving UK SAF viability, which are expected to lower barriers to entry market-wide.
- (d) Subsidised firms reaching FID may face limited competition, thereby becoming unproductive and limiting diversity and technological improvement in the market. This is intended to be mitigated by maintaining a pipeline of demonstration projects, which aims to encourage new entrants, and by milestone requirements that incentivise recipients to remain innovative.
- (e) Firms could become dependent on public support rather than pursuing efficiency, creating a risk of subsidy reliance and structural inefficiencies. This risk is considered low given the time-limited, purpose-specific and competitive nature of the grant, noting that only pre-FID plants are eligible, funding ends at FID, and plants must recompute for allocation every new window.

2.42 The Assessment notes that the overall impact of the LCFF is unlikely to be equal across the UK, with projects concentrated in areas with pre-existing, mature industrial infrastructure for commercial scale, often located in England due to the way the market has developed. The Assessment states that projects in devolved nations at earlier development stages may be less likely to secure funding compared to more advanced proposals in established English industrial clusters.

2.43 The Assessment states that grant funding to the SAF industry is expected to have limited, or potentially slightly positive, impacts on the UK's international trade and investment, noting that the subsidy is aimed at domestic decarbonisation rather than increasing international competitiveness. It considers that the LCFF will help the UK maintain competitive parity in the international SAF market, given that

³⁰ Government funding is available for other green technologies (e.g. DfT offers funding for clean maritime technologies; Innovate UK offers funding for offshore wind technologies).

several other countries, including the USA and EU, are also subsidising SAF production.³¹

2.44 In our view, the Assessment considers some effects of the LCFF on competition and investment. However:

- (a) the Assessment should provide a more complete evaluation of the characteristics of the UK SAF market, in line with the Statutory Guidance. In particular, the Assessment should provide more detail about the size and nature of businesses currently active in the market, including ineligible market participants.
- (b) the Assessment characterises the risk of subsidy reliance as low. However, it could more clearly reconcile this characterisation with its acknowledgment elsewhere in the Assessment that projects are likely to require continued public support under the RCM to reach commercial viability post-FID.

Step 4: Carrying out the balancing exercise

2.45 Under step 4 (Principle G), public authorities should establish that the benefits of the subsidy (in relation to the specific policy objective) outweigh its negative effects, in particular negative effects on competition or investment within the United Kingdom and on international trade or investment.³²

2.46 The Assessment sets out the following anticipated end benefits of the LCFF:

- (a) Improving fuel security, as it expects to enable more projects to reach FID and sooner, thereby reducing reliance on imports and on any particular feedstock or technology;
- (b) Economic benefits/supporting regeneration, as it expects the LCFF to support green job creation, alongside research and development spillover benefits;
- (c) Reducing aviation emissions through meeting SAF Mandate targets.

2.47 The Assessment sets out both monetised and non-monetised benefits, and provides substantial supporting evidence to demonstrate the expected distributional impacts across the various areas of Great Britain. It also sets out

³¹ In the context of s. 2(1)(d) of the Act, the Assessment also notes that by enabling UK-based SAF producers to progress towards FID earlier than comparable producers outside the UK, the LCFF could affect the relative attractiveness of the UK as a location for SAF investment, and that subsidised UK producers may be able to scale earlier or secure offtake contracts ahead of non-UK producers. The Assessment considers any such effects limited in scale given the pre-FID nature of eligible projects.

³² See [Statutory Guidance](#), paragraphs 3.113–3.121 and the [SAU Guidance](#), paragraphs 3.19–3.21 for further detail.

limited expected, but potentially slightly positive, impacts on the UK's international trade and investment.

- 2.48 The Assessment then briefly acknowledges the potential negative impacts of the LCFF, while simultaneously explaining how the LCFF and its design will mitigate them:
- (a) Misallocation of resources, as feedstocks and technologies used to produce SAF are required by other areas, eg low carbon fuels for roads, and therefore grant funding could cause disproportionate diversion of funds to SAF. It states that this risk is mitigated by the UK government's approach and the design of the LCFF.
 - (b) Barriers to entry to unsubsidised firms, as firms which do not receive funding will continue to experience the barriers to entry detailed in paragraph 2.41(c), and the grant funding could exacerbate these barriers, particularly where funded competitors can scale-up more quickly. The Assessment states that this risk is mitigated by positive spillover impacts of the LCFF, as helping projects progress towards FID will demonstrate profitability of SAF projects, thereby lowering barriers for unsubsidised firms.
 - (c) Subsidy reliance, as detailed in paragraph 2.41(e). The Assessment states that the risk of this is low as the LCFF is time-limited and purpose specific, awards via competition every funding window, and ends once the project reaches FID.
- 2.49 The Assessment concludes that any potential negative impacts of the LCFF are outweighed by its anticipated positive impacts, and that any negative impacts on international trade and investment are outweighed by the benefits to domestic industry.
- 2.50 In our view, the Assessment clearly sets out the positive effects of the LCFF in relation to the policy objectives, its geographic impacts, as well as potential negative impacts. However, the Assessment takes the approach of treating negative impacts as risks, and rather than balancing them against the positive effects, sets out its mitigation strategy. With regard to the Statutory Guidance,³³ the Assessment should more clearly identify any residual negative impacts (ie post mitigation) of the LCFF, and weigh those negatives against the identified positives.

³³ [Statutory Guidance](#), paragraphs 16.44: 'All subsidies have, or are capable of having, a negative impact on competition and investment'.

Energy and Environment Principles

- 2.51 This section sets out our evaluation of the Assessment against the energy and environment principles.³⁴
- 2.52 The Assessment covers compliance of the LCFF against the Energy and Environment Principles A, B and H. We are satisfied that the other Energy and Environment Principles are not applicable to this Scheme.

Principle A: Aim of subsidies in relation to energy and environment

- 2.53 Subsidies in relation to energy or the environment should be aimed at (1) delivering a secure, affordable and sustainable energy system and a well-functioning and competitive energy market, or (2) increasing the level of environmental protection compared to the level that would be achieved in the absence of the subsidy. If a subsidy is in relation to both energy and environment, it should meet both limbs.³⁵
- 2.54 The Assessment explains how the first limb is met.
- (a) The Assessment notes that the LCFF contributes to developing and delivering a secure, affordable and sustainable energy system as well as supporting a well-functioning and competitive energy market. The Assessment notes that the LCFF achieves this by supporting “first-of-a-kind” low carbon fuels projects to commercialise and increase the pipeline of domestic SAF projects. In this way, the LCFF will enable SAF projects to account for 10% of the UK’s aviation fuel by 2030, and the deployment of such technologies at commercial scale can make major contributions to the UK’s legally binding net zero targets.
 - (b) The Assessment then goes into further significant detail about how the LCFF will deliver the specific elements of the first limb, and these details include that:
 - (i) On security, the Assessment states the LCFF allows for the development of a domestic low carbon fuels industry. This helps secure energy resilience, reduces reliance on imports, protects consumers from the effects of global price shocks, and brings supply chains and advanced fuel production to the UK. The LCFF also complements the UK Government’s SAF Mandate by providing a domestic supply, which will help prevent the buyout of SAF Mandate targets in the event of a global supply shock.

³⁴ See Schedule 2 to the Act, and [Statutory Guidance](#), Chapter 4.

³⁵ [Statutory Guidance](#), paragraphs 4.19–4.28.

- (ii) In relation to affordability, the Assessment notes that supporting early stage SAF production is intended to reduce the price of SAF long-term.
- (iii) On sustainability, the Assessment notes that the LCFF primarily aims to address lifecycle GHG emissions from aviation, as well as ensuring environment effects including in relation to air quality and noise pollution. The Assessment explains that SAF is one of the key measures required so that GHG emissions from aviation reach net zero by 2050.
- (iv) On competitiveness, the Assessment notes the LCFF will contribute to a competitive energy market by incentivising earlier, riskier and more ambitious SAF development projects than firms would undertake without intervention. Further, projects will compete for funding so that support is directed at projects with the strongest proposals.
- (v) On a well-functioning energy market, the Assessment refers to an impacts on markets document which explains how the LCFF will create a net positive market impact in the long term, and contribute to wider benefits including a functioning SAF market that in the absence of the LCFF either may not have existed at all or would not have developed at pace.

2.55 The Assessment also considers and provides detail on how the second limb is met.

- (a) The Assessment explains that SAF offers the most viable near-term solution for reducing aviation emissions, as it is technologically compatible with existing fleets and infrastructure and has the potential to deliver GHG emissions savings of over 70% compared to fossil fuels. Further, research shows that some forms of SAF usage lead to lower levels of air pollution, which is expected to play a critical role in the decarbonisation of aviation up to and beyond 2050, particularly for long-haul flights. Additionally, investment in SAF production helps meet SAF targets and thereby mitigates the risks associated with the production and consumption of fossil jet fuel (including GHGs).
- (b) The Assessment makes it clear that the LCFF seeks to increase the level of environmental protection compared to that which would be achieved in the absence of the LCFF, by addressing emissions and associated environmental impacts from fossil fuel aviation (including its production and burning). Accordingly, there will be reduced atmospheric emissions and an improvement of air quality, and the natural environment will be enhanced through the reduction of a reliance on fossil fuel extraction.

- (c) The Assessment also explains that the LCFF aims to support SAF Mandate targets by ensuring sufficient supply to meet mandate demands in the absence of sufficient imports. The Assessment makes clear that the absence of the LCFF could lead to a failure to meet legal carbon emissions reductions targets in light of the significant role that transport plays in emissions, in the event that imports are insufficient to meet the demands of the SAF Mandate. Further, net zero targets and wider DfT policy commitments on greener transport and decarbonisation could also be adversely affected, meaning that additional carbon savings would have to be sought elsewhere.

2.56 In our view, the Assessment clearly explains and evidences how the LCFF complies with both limbs of Principle A of the Energy and Environment Principles.

Principle B: Beneficiary's liabilities as a polluter

2.57 Subsidies in relation to energy or the environment should not relieve the beneficiary from liabilities arising from its responsibilities as a polluter under the law of England and Wales, Scotland, or Northern Ireland.³⁶

2.58 The Assessment explains that the LCFF will not be used to relieve successful grant funding recipients of their responsibilities as a polluter. The Assessment indicates that this will be explicitly stated in documentation relating to the awarding of any funds under the LCFF.

2.59 In our view, the Assessment clearly explains and evidences how the LCFF complies with Principle B of the Energy and Environment Principles.

Principle H: Subsidies for the decarbonisation of emissions linked to industrial activities

2.60 Subsidies for the decarbonisation of emissions linked to industrial activities should achieve an overall reduction in greenhouse gas emissions, and reduce the emissions directly resulting from the industrial activities concerned.³⁷

2.61 The Assessment explains the LCFF will accelerate the development and commercialisation of SAF projects that deliver significantly lower lifecycle emissions when compared to fossil jet fuel. By increasing domestic SAF supply, the LCFF will therefore reduce reliance on fossil jet fuel and work towards mitigating negative externalities associated with aviation emissions.

2.62 The Assessment notes that traditional aviation fuel production is carbon-intensive as it relies on fossil feedstocks whose extraction and refining generate substantial CO₂ and other GHG emissions. However, the LCFF will support projects using

³⁶ [Statutory Guidance](#), paragraphs 4.29–4.34.

³⁷ [Statutory Guidance](#), paragraphs 4.60–4.68.

advanced pathways (such as gasification, alcohol-to-jet, and power-to-liquid) in order to reduce lifecycle emissions. In this context, the Assessment emphasises that the LCFF targets the industrial activity itself (being fuel production) as opposed to consumer behaviour, which ensures the reductions in emissions occur at source as opposed to relying on downstream demand shifts. The Assessment makes clear that this aligns with Principle H requirements that subsidies directly decarbonise the actual industrial process, rather than just its inputs alone.

- 2.63 In our view, the Assessment clearly explains and evidences how the LCFF complies with Principle H of the Energy and Environment Principles.

Other Requirements of the Act

- 2.64 DfT confirmed that no other requirements or prohibitions set out in Chapter 2 of Part 2 of the Act apply to the LCFF.

15 July 2026

ⁱ Paragraph 1.8, second sentence should read: 'There will be £219m of grant funding available between 2026 to 2027 and 2029 to 2030, as secured by the 2025 Spending Review.'