Green Finance Institute

Supported by: Breakthrough Energy

The role of revenue certainty mechanisms in the UK

AIREG, September 4th 2024

Introduction to the Green Finance Institute

Seed-funded by the UK Government and the City of London Corporation, trusted by finance and led by former financial services practitioners, we provide a neutral platform to co-design, test and scale new financial solutions and supporting enabling measures that channel capital into net-zero and nature positive outcomes.

Our Vision

We believe in a **greener future made possible by finance**.

Our Mission

We want to accelerate the transition to a clean, resilient and environmentally sustainable economy, by channelling **private capital at pace towards real-economy outcomes** that will create jobs and increase prosperity for all.

Our Work

We sit at **the nexus of the public and private sectors** to co-design financial mechanisms, enabling frameworks, market guidance and policy ideas. We focus on sectors and industries to deliver this.

Our Niche

As an independent organisation with a proven track record, our credibility, capability and cross-sector engagement enables us to **respond to market barriers and develop solutions** where others can't.

Why a revenue certainty mechanism (RCM) is required

- First-of-a-kind (FOAK) technology risk.
- The cost of an advanced SAF plant could be £1-2bn. A cost of production 4-8x kerosene.
- Project debt finance will be essential to fund plant development.
- To access project finance, revenue certainty is essential.
- SAF Mandate provides a clear demand signal but does sufficiently address price risk.
- Offtake agreements are not currently sufficient to cover revenue certainty.
- The market for SAF is small and fragmented, and concentrated in 1st gen HEFA-type SAF.
- The **price risk** is too material to raise project debt finance.

In September 2023, the UK Government committed to implement an RCM by Q4 2026

The Revenue Certainty Mechanism (RCM) policy process

In September 2023, the UK Government published its timeline to meet its planned implementation of an RCM by Q4 2026

The **RCM consultation** was published on 25th April 2024 and closed on the 20th June 2024.

A government response will be formulated and published. This could take a further 6 to 12 months after the consultation has concluded.

Report to Parliament on progress: The Government amendment to the Energy Bill includes a statutory duty to lay before Parliament a report on progress made towards the development of a SAF RCM.

Milestone	2023		2024				2025				2026			
	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Develop and launch consultation														
Consultation period on SAF policy														
Analysis of consultation responses, writing and publication of Government response														
Report to Parliament on policy progress														
Legislative process (if needed)														
Delivery preparation with industry through the Jet Zero Council														

Legislative process: Once the policy development process has taken place, the Government will need to implement the RCM. This could take a further 12 to 24 months.

Delivery: Depending on the delivery model, this could developed in parallel – or may need to take place following any legislation – and would involve establishing a body to deliver the RCM. This could take 12 to 24 months.

Assumptions: This timeline assumes only one consultation is required. It is possible that more than one consultation will be required to develop the full scope of the RCM. This may add an additional 8 months to the timeline.

Source: Delivery plan for designing and implementing a revenue certainty mechanism for SAF

What options have been considered by the UK Government in the RCM consultation

1. **Guaranteed Strike Price (GSP**), similar to a Contract for Difference (CfD) - guarantees an agreed price per litre of fuel produced to SAF producers.

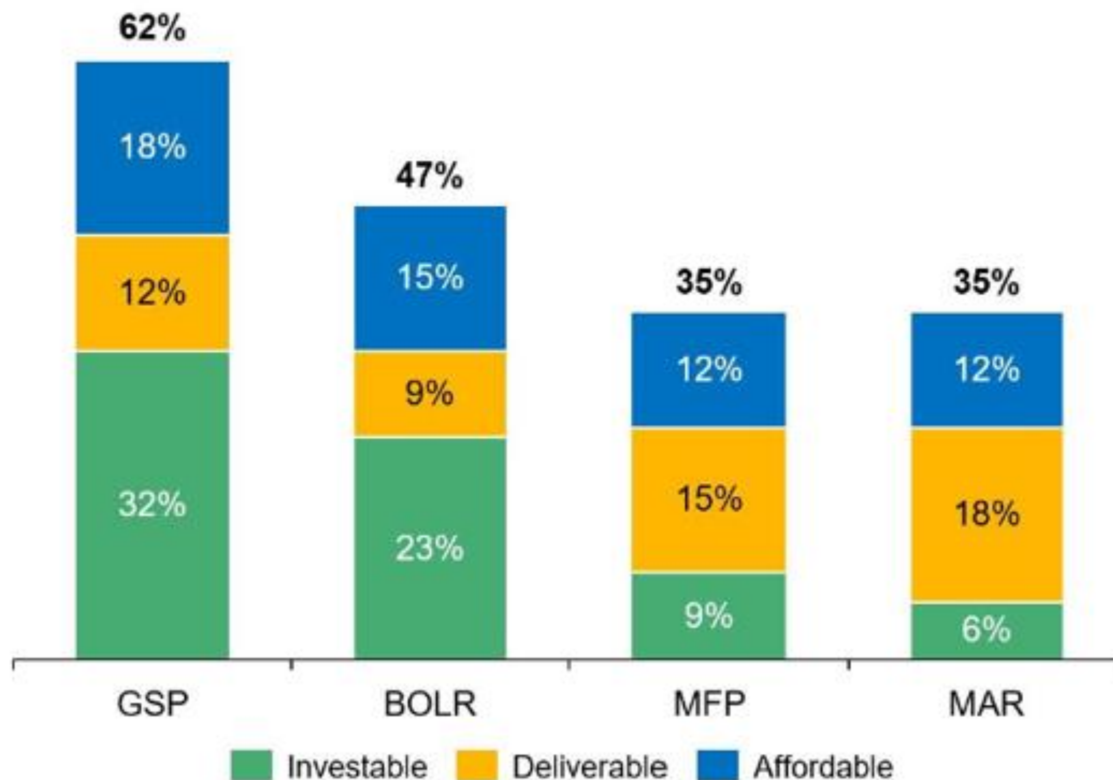
2. **Buyer-of-last-resort (BOLR)** - counterparty steps in to purchase SAF certificates when the market price falls below an agreed level. Thereby guaranteeing an agreed minimum price for the producer's SAF certificates redeemed through the SAF Mandate.

3. **Mandate auto-rachet** - the Mandate (and its HEFA cap) adjusts when there is an oversupply in the market, to bring the price of SAF back closer to the buy-out price.

4. **Mandate floor price -** include a minimum price for certificates which is universally applied through the Mandate itself (in addition to the buyout price). -*Can be quickly discounted as it does not do enough to incentivise local production, could be accessed by global suppliers.-*

RCM consultation: assessment of the options

The DfT assessed the four RCM options across three sets of criteria



Investable

- Level of certainty
- Creditworthiness of counterparty
- International competitiveness
- Mitigates other risks
- Provides price and volume certainty to supply chain
- Market familiarity

Deliverable

- Speed of implementation
- Compatibility with other policy
- Adaptability to market conditions
- Complies with relevant laws (e.g. subsidy control)

Affordable

- Investor protection
- Encourages competition
- Impact on aviation industry
- Affordability to Government and consumers

Source: RCM Consultation, pg. 39-41 [sustainable-aviation-fuels-revenue-certainty-mechanism.pdf (publishing.service.gov.uk)]

RCM consultation: emerging conclusions

The DfT's conclusions on the RCM consultation are set out below (GFI emphasis).

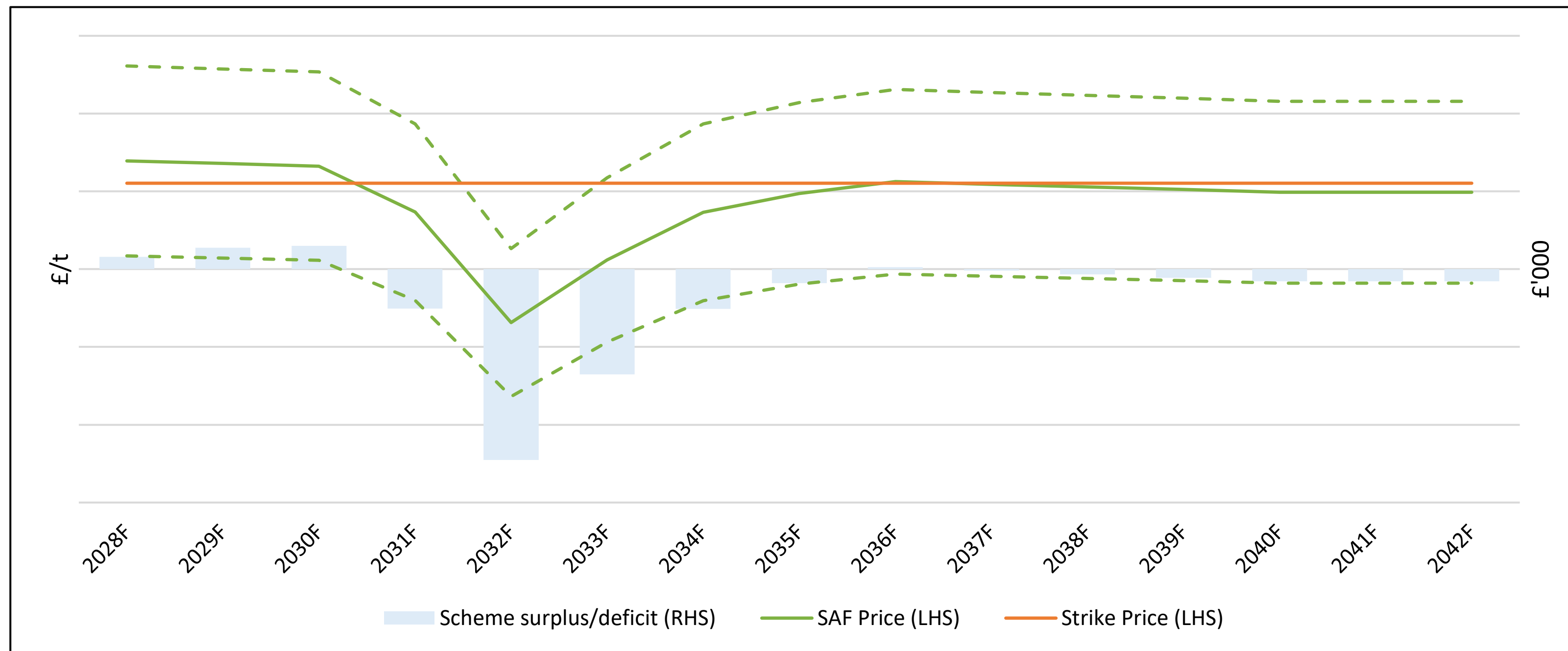
"Taking the qualitative and quantitative assessments together we have reached the following conclusions:

- That the **Mandate Auto Ratchet mechanism, whilst simple to introduce, would not encourage sufficient investor confidence** and should therefore not be taken further in this process.
- That the **Mandate Floor Price option would not provide sufficient confidence to the investment community** to enable plants to move forward. However, it could be introduced in a quicker timeframe (by Q2 2026 compared to Q4 2026 at the earliest) which has been a key ask from industry.
- That the **certainty required by the investment community is best achieved through a private law contract between a producer and government (or counterparty of government) with any costs ultimately being funded by industry**.
- Of the two private law contract options (Guaranteed Strike Price and Buyer of Last Resort), **we consider the Guaranteed Strike Price to be the most investible and most straightforward to introduce, in addition to providing better value to the consumer**. "

Source: RCM Consultation, pg. 47 [sustainable-aviation-fuels-revenue-certainty-mechanism.pdf (publishing.service.gov.uk)]

Guaranteed Strike Price (GSP)

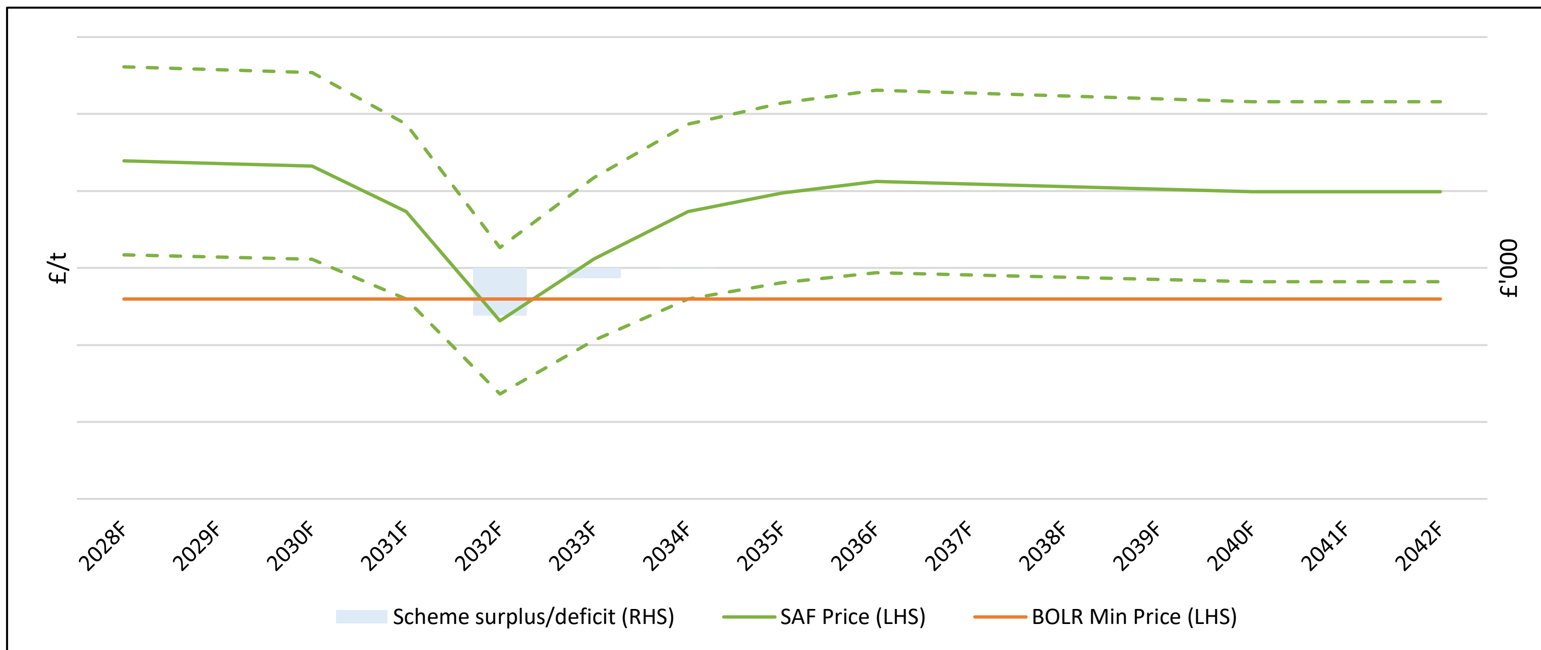
Similar to the CfD model, through a private law contract, the GSP provides developers with a **fixed price (strike price) for every tonne of SAF they produce**. The strike price is theoretically set at a price that covers the cost of production, debt financing costs and provides a return for equity investors. In real terms, the price is the same for every tonne produced; if the market price is lower than the strike price, then the scheme underwriter pays the difference. If the market price is higher than the strike price, the developer pays back the difference to the underwriter.



How to read the chart: The blue bars in the charts indicate the annual surplus (deficit) to the scheme underwriter each year and is measured on the right-hand-side (RHS) axis. All other elements are represented on the left-hand-side (LHS) axis. The solid green line is the SAF price forecast, with the green dashed lines representing the upper and lower bounds of price volatility each year. The orange line is GSP.

Buyer of last resort (BOLR)

Through a private law contract, the BOLR provides developers with a **minimum price for every SAF certificate they generate**. The minimum price is theoretically set at a price that covers the cost of production and debt financing costs. If the market price is lower than the minimum price, the scheme underwriter pays the difference. However, when the market price is above the minimum price, the difference is profit to the developer that provide equity returns.



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Revenue certainty mechanisms – what's the best option?

At the right price, either a Guaranteed Strike Price (GSP) or a Buyer-of-last-resort (BOLR) mechanism would provide enough revenue certainty for investors to manage price risk.

	GSP	BOLR
Pros	- Highest confidence for investors - Successful precedent in renewables sector - Private law contract that allows mechanism to be targeted at local producers - If model is industry funded, provide more cost certainty to industry - As the mechanism applies to the fuel, it provides a higher level of certainty of future cashflows	- Provide a high level of price certainty - Private law contract that allows mechanism to be targeted at local producers - Has lower downside risk to the scheme underwriter as the minimum price is lower than the GSP strike price.
Cons	- Requires primary legislation - Complex contract allocation process - Setting strike and reference prices and price discovery will be complicated	- Less certainty vs GSP as only applies to SAF certificate - Requires primary legislation - Complex contract allocation process - Setting a minimum price and price discovery will be complicated

The government have stated a minded to position to favour the GSP

Considerations in the design of a revenue certainty mechanism

How the scheme is funded: The government have stated they expect the model to be industry funded. How the scheme is funded and how costs are transferred through the scheme and moved to the ultimate payor will be critical to ensuring the efficiency of the scheme.

Contract term: The contract term should match the tenor of project finance debt, expectations are 10-15 years.

Price setting and contract allocation process: In the early years of the revenue certainty mechanism, it's likely the GSP strike price and BOLR minimum price will be set through bilateral negotiation. With market prices still unknown, and other key risks not fully mitigated, agreeing prices that provide the best value for money for the underwriter will be difficult. Detailed due diligence will be critical, but other options should also be considered. Providing price reviews at different stages of plant development could allow producers to set more competitive prices initially, in the knowledge that should development cost significantly exceed expectations, prices could be adjusted accordingly.

Price discovery: The GSP and BOLR both require the existence of a market derived price for SAF. Given the nascency of the market, this price will take many years to mature as the industry scales and sufficient volumes come to market. The presence of a revenue certainty mechanism will distort this development by artificially setting the price received by producers. Any scheme should include some form of price discovery mechanism that motivates industry participants (producers and buyers) to achieve sales prices reflecting the true value of supply / demand economics. There are examples that can be drawn from other markets to encourage producers to achieve a maximum market price, with a few options including:

1. Limiting the contracted volume under the scheme to less than 100% of production volumes.
2. Providing producers with a top up payment indexed against the market price.

Appendix: The UK SAF Mandate

- Sets target of 2% SAF in 2025, 10% by 2030 (c. 1.2Mt) and 22% by 2040, with the path beyond 2040 to be set as the industry develops to ensure such targets are achievable. For reference, c. 40kt of 1st generation (HEFA) SAF was supplied in the UK in 2022.
- HEFA supply will not be capped in the first 2 years, before falling to 71% of total SAF in 2030 and 33% in 2040. This leaves c. 350kt of SAF to be met by 2nd or 3rd generation SAF in 2030, the equivalent of 3-4 SAF plants.
- The sub-mandate on power-to-liquids (PtL) will begin at 0.2% in 2028, 0.5% by 2030 (c. 60kt) and up to 3.5% by 2040.
- Buy-out price is set at £4.70/L (£5,875/t) for 1st and 2nd generation SAF and £5.00/L (£6,250/t) for 3rd generation SAF.
- There will be a review of the policy every 5 years, which will include the potential to open up the use of feedstocks that are currently restricted but may become more available as road transport is electrified and less biofuel is required in that sector.
- Minimum GHG reduction of 40% for fuels to be eligible. The GHG reduction will be linearly linked to the value of certificates, with 70% reduction being the central point that attracts 1 certificate.
- The policy will operate alongside the UK ETS, to ensure airlines can make emissions reduction claims under the UK ETS for eligible SAF.

The UK SAF mandate sends a clear demand signal to the market, but investors have made it clear that it does not do enough to mitigate price risk.