Sustainable Aviation Fuel (SAF): Risks identification of Double Counting. Accounting and Areas for Focus

Haniyeh Hajatnia, Jainaba Conteh & Marcelle McManus

Sustainable Aviation Fuel (SAF) is a pivotal tool in reducing the aviation industry's carbon footprint. However, there has been some concern about the potential for double counting and the associated risks relating to meeting decarbonisation targets and providing a healthy and transparent industry. Double counting can make it seem like we're closer to our goals, can undermine the credibility of the credit and the system and can have implications for the actual carbon benefit made. Therefore, identifying where the risks for double counting lie is critical.

Key Terms & Definitions

Double Counting: this is an overarching term which covers in the simplest sense where a transaction is counted more than once. In carbon accounting this can mean counting carbon reductions or carbon offsets twice (or multiple times). In the context of SAF and this summary, it is used as the overarching term for a potential problem in the system that enables a credit to be counted more than once, hence hampering the overarching aim of sustainability and decarbonisation. It is an umbrella term which includes aspects of double claiming, double issuance and double usage. These could potentially happen either accidentally or deliberately.

Double Claiming: where two stakeholders or parties claim the same credit. This could potentially happen with scope 3 emissions and claims under different schemes, or the same emissions reduction under the same scope risks being used to meet both domestic and international targets simultaneously.

Double Issuance: where a credit is issued more than once. This could occur, potentially, where one "coupon" for SAF is issued by multiple agencies/operating agencies.

Double Usage: where a credit is used more than once[1].

Book and Claim: Book and claim systems mean a company can make a sustainability claim based on sustainable goods that they did not physically receive. They have become well known in markets such as electricity, where the purchaser of green tariffs doesn't directly gain the electricity from the sustainable sources, but that the increased amount of green electricity is supplied into the grid as a result of their purchase. They are considered helpful to increase the demand for a product where it is difficult to directly connect supply with the demand and where there is a wider market, such as aviation fuel and electricity.

Corresponding Adjustments: Corresponding adjustments (CAs) are a way to prevent double counting of emissions reductions (ERRs) traded under Article 6 of the Paris Agreement. When a country sells ERRs to another country, it must adjust its records, so it doesn't count those reductions toward its own climate goals Nationally Determined Contribution (NDC).

Book-and-claim systems enable SAF's environmental benefits to be decoupled from its physical delivery, making it accessible to more stakeholders. However, as SAF adoption scales, the risks of double claiming, where multiple parties claim credit for the same SAF batch pose significant challenges. Addressing these risks is crucial to maintaining the integrity and effectiveness of SAF initiatives.

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[1] We have no evidence of this occurring and feel it is the least likely of the options/risks described here.

Key Risks of Double Counting

1. Emissions Reporting and Compliance Across the Supply Chain

Feedstock Cultivators and Producers

- **Emissions Reporting:** Uncertainty exists regarding whether emissions reports should be submitted directly to government authorities or passed along the supply chain via a Sustainability Certification Scheme (SCS) to the next economic operator.

- **Accuracy of Default Values:** There are concerns over the default emissions factors used in calculations.

SAF Blenders

- **Blend Risk Assessment:** The blending process have challenges related to percentage allocation, tracking blends, and ensuring accurate emissions accounting.

- **Default Values and Methodological Choices:** There is a preference for using default values if they are lower than specifically calculated emissions. The selection of methodologies changes across supply chains and sectors, impacting emissions assessments.

- **Feedstock Destination Transparency:** Decisions on where specific crops and feedstocks are used remain unclear, affecting emissions traceability.

SAF Distributors

- **Pipeline Management:** Clarity is needed on who controls SAF distribution pipelines, the location of blending, and the certification timeline.

Airline Operators

- **Risk of Double Counting:** Emissions estimates for individual flight routes are often incomplete, leading to potential inconsistencies in broader national and corporate GHG reports.

- **Double Claiming Risks:**

  - Emissions from domestic flights fall under a country's GHG inventory, creating an incentive for governments to include airline carbon credits in national reduction efforts.

  - Airlines may claim Scope 1 emission reductions while corporate buyers report the same reductions under Scope 3, leading to inflated carbon savings.

  - GHG Protocol accounting frameworks differ from CORSIA requirements, potentially resulting in overlapping or duplicate carbon credit claims.

Regulatory Oversight (CORSIA and National Authorities)

- **Regulatory Pressure:** As SAF volumes increase, national regulators face growing challenges in monitoring compliance.

- **Policy Gaps:** SAF policy frameworks remain under development, particularly regarding international boundaries, verification procedures, and implementation risks.

- **Verification Uncertainty:** Concerns exist over the integrity of verification processes, including issues such as "who verifies the verifier" and risks associated with multiple or conflicting statements.

Airports

- **Incentive Structures:** Some airports offer incentive programs, such as reduced landing charges, to promote SAF adoption. However, transparency is needed regarding how sustainability targets (e.g., Heathrow's 15% airport emissions reduction goal by 2030) are calculated and enforced.

Corporate and Individual SAF Buyers

- **Double Claiming Risks:**

  o If an airline reports Scope 1 reductions while a corporate buyer claims the same SAF usage under Scope 3, total carbon savings may be overstated.

  o International flight Scope 1 reductions are excluded from national inventories, yet the same reductions could appear under Scope 3 claims in corporate inventories.

- **Voluntary vs. Regulatory Claims:** Airlines claiming SAF for compliance reasons may compete with corporate buyers using SAF for voluntary offsetting, leading to conflicting carbon credit ownership.

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2. Key Documentation and Registry Challenges

2.1 Documentation Gaps

- **Proof of Sustainability (POS):** SAF operators struggle to obtain consistent POS documentation from suppliers, increasing verification inconsistencies.

- **Proof of Compliance (POC):** The POC framework remains underdeveloped, leading to regulatory uncertainty.

- **Product Transfer Documents (PTD):** PTDs are no longer accepted for SAF claims under the EU ETS, yet many operators continue to rely on them due to a lack of viable alternatives.

2.2 Registry Misalignment

- **Different Systems:** Registries such as the Union Database, IATA SAF Registry, and CORSIA operate independently, creating difficulties in cross-system SAF management.

- **Interoperability Issues:** The lack of system integration increases the likelihood of duplicate claims for the same SAF batch.

2.3 Overlapping Frameworks

- **Jurisdictional Overlaps:** The coexistence of regional systems (EU ETS, UK ETS) and global mechanisms (CORSIA) results in complex, sometimes conflicting reporting obligations.

2.4 Voluntary vs. Regulatory Claims

- **Claiming SAF in Voluntary Markets:** SAF usage reported in corporate sustainability initiatives may also be claimed in regulatory systems, increasing the risk of double counting.

2.5 Complexity in Reporting

- **Heavy Reporting Burdens:** Regulatory reporting templates are not well-equipped to handle the complexity of SAF transactions, including multiple blends, diverse feedstocks, and varying certification types. This increases the likelihood of errors and inconsistent reporting.

Tracks certified feedstocks and ensures only the certified proportion is claimed as sustainable.

Ensures that certified feedstock is processed in proportion to outputs, with claims linked to sustainability certifications.

Accurate blend ratios must be documented in the PoS to align with regulatory requirements.

Ensures the SAF blend maintains traceability and sustainability claims, proportional to certified volumes.

Uses PoS to calculate emissions reductions and report under frameworks like CORSIA or EU ETS.

Tracks SAF storage and usage while ensuring no double counting of volumes supplied to operators.

Their involvement is more voluntary and focused on reporting rather than mandated SAF usage.

Allows customers to claim SAF emissions reductions based on PoS, regardless of physical SAF usage.

Carbon Journey	Feedstock cultivators and producers	Feedstock processors	SAF Fuel Production	SAF blenders	SAF	SAF Distributers	Airplane Operators	Airports	Corporate and Individual customers (maybe buying offsetts – scope 1 and scope 3)
Mandates	ISCC (CORSIA,EU) RSB (CORSIA,EU) EU RED II	ISCC RSB	ISCC (CORSIA,EU) RSB (CORSIA,EU) EU ReFuelEU Aviation Regulation RFS	ISCC RSB Chain of Custody		ISCC RSB Chain of Custody ICAO	CORSIA EU ETS UK ETS		Corporate Sustainability Reporting Directive (CSRD) Science-Based Targets Initiative (SBTi)
Accounting Method	Mass Balance Approach	Mass Balance or Book and Claim	Lifecycle Emissions Accounting	Mass Balance with Blending Ratios	Batch Number	Batch-Based Mass Balance	Risk of double counting since emissions estimates for individual flight routes are fragmentary and may not be fully reflected in broader reports, such as national or corporate reports. / Attributional Accounting	Inventory Accounting / Risk of double claiming if an airline reports its Scope 1 emission reductions while another company (corporate) reports the same reductions under its Scope 3, leading to an inflated total reduction. / Corporate GHG accounting follows GHG Protocol, which differ from CORSIA guidelines. This discrepancy could lead to double counting if carbon credits from airline operators are transferred to corporate entities.	Book and Claim
Certifications and Registry (COF)	Sustainability Certification Scheme (SCS)	Sustainability Certification Scheme (SCS)	Sustainability Certification Scheme (SCS)	Sustainability Certification Scheme (SCS)		Proof of Sustainability (POS) Sustainability Certification Scheme (SCS)	Proof of sustainability (POS)		Proof of sustainability (POS)
Reporting Obligation	who do they send their emissions report to? Gov or send SCS to next economic operator						Double claiming risk arises as emissions from domestic flights fall under a country's GHG inventory. Incentivising the government to count carbon credits from airlines as part of GHG removal efforts.	While Scope 1 emission reductions from international flights are excluded from the inbound GHG inventory, the same reductions reported by airlines (company verification Scope 1) may still appear in the inventory at them aggregate reporting or domestic flights. (See down)	
Risks	Default numbers not being correct. / Inability to regulate	Default Values, and preference for these if lower than specifically calculated. Choice of methodologies across supply chains and sectors. Decisions and knowledge of where crops/feedstocks are used (desined).		Blend risk (percentage, mix with previous blends, etc)		Pipelines: who is in charge? Where is it certified? When is it certified?	Register for Corsia - in each country regulations under pressure as volume increases / Underdeveloped policy: policy issues still being developed around international borders / Who's verifying the verifier / Double statements / Implementation risk	Airport incentive schemes (cheaper landing charges) at where did the numbers come from? g / Heathrow sustainability bond (15% reduction in airport emissions by 2030) / Leverage: Heathrow - infrastructure. Airline - A/S demand	Corporate/Individual - claims / Airlines claiming SAF vs corporates using SAF as offsetting
Opportunities to Avoid Double Counting	Use unique batch IDs for feedstock.	Standardize data collection Link PoS to feedstock batches clearly	Maintain transparent custody systems Use centralized databases for SAF logs	Type something		Type something	Require unique PoS for each delivery Cross-check PoS with fuel records	Use inventory tracking systems for SAF. Conduct third-party audits of SAF storage. Share data with distributors to ensure consistency.	Base claims on verified PoS. Align offsets with GHG Protocol.

1. Focus Areas for Improvement

1.1 Standardizing Documentation

Develop and enforce global standards for POS and POC to provide uniformity and reliability in SAF claims.

Ensure that all SAF claims are linked to unique, verifiable documentation.

1.2 Enhancing Registry Interoperability

Harmonize registries like the Union Database, IATA SAF Registry, and voluntary systems to enable unified data sharing.

Implement blockchain technology to create tamper-proof, synchronized records across platforms.

1.3 Aligning Certification Schemes

Unify global certification systems (e.g., ISCC, CORSIA, RED II) to allow mutual recognition of SAF claims.

Simplify certification processes to reduce administrative burdens for operators and suppliers.

1.4 Streamlining Reporting Processes

Update emissions report templates to accommodate diverse SAF batches and streamline data input.

Provide clear guidance to operators on proportionality rules and how to claim SAF accurately.

1.5 Encouraging Supplier Cooperation

Establish incentives for fuel suppliers to share POS and POC without compromising their compliance needs.

Promote collaboration between suppliers, operators, and certification bodies to ensure data integrity.

Conclusion

The rapid growth of SAF adoption necessitates robust systems to prevent double counting and ensure transparency. Addressing documentation inconsistencies, registry misalignments, and certification conflicts is essential. Harmonizing frameworks and improving supplier cooperation will enhance SAF accountability and strengthen trust among stakeholders. **Critical problematic areas remain -** operators often face difficulties obtaining POS documents from suppliers and that without standardized POS, verifying claims becomes inconsistent, increasing double claiming risks. The POC concept remains underdeveloped and PTDs are no longer accepted for SAF claims under EU ETS, yet many operators still rely on them due to the absence of alternatives.

Additional Information:

[Miro Board link for the post it notes document](#)