Blueprints for Bankability

A playbook for SAF offtake agreements that unlock capital



Report / October 2025

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Christina Pastoria, Nabil Bennouna, Adam Klauber, Julia Fidler, Pablo Munoz, Karen Boyd, and LeeAnn Baronett, *Blueprints for Bankability: SAF offtake agreements to unlock capital*, RMI, 2025, **https://rmi.org/insight/blueprints-for-bankability**.

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Acknowledgments

We would like to thank our colleagues at RMI who have contributed to this work. In particular, Andrew Chen, Claire Dougherty, Chiudo Ehirim, Sarah Mendelsohn, Aamir Shams, and Hartej Singh each played a vital role in shaping the research and ideas presented in this report.

We also thank Amelia Danjoux and Josh Garton at the Green Finance Institute and Gill Alker at the Roundtable on Sustainable Biomaterials for their input and knowledge contributions. Finally, we would like to thank our strategic partners at financial institutions for their support and thoughtful review. Their guidance and engagement throughout the development of this work have been invaluable, ensuring its relevance and impact.

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Rocky Mountain Institute (RMI) is an independent, nonpartisan nonprofit founded in 1982 that transforms global energy systems through market-driven solutions to secure a prosperous, resilient, clean energy future for all. In collaboration with businesses, policymakers, funders, communities, and other partners, RMI drives investment to scale clean energy solutions, reduce energy waste, and boost access to affordable clean energy in ways that enhance security, strengthen the economy, and improve people's livelihoods. RMI is active in over 60 countries.

Table of Contents

Executive Summary. 6

Part I: Introduction to Bankability in the SAF Market 8

Why bankability matters for SAF 8

What is "bankability"? 8

Playbook scope: Structuring bankable SAF EAC contracts to unlock capital 10

Why focus on EAC contracts? 10

What this playbook covers 10

Capital stages and financing relevance. 12

Technology neutrality 12

Grounded in market reality 12

Part II: Enabling Project Finance Through Contract Innovation . . 13

Why traditional reliance on airline offtakers limits access to capital 13

Airlines are essential but constrain offtakers in new supply development 13

Bankability differs from balance sheet finance 14

Cash flow considerations for EAC-backed debt offerings 14

EAC buyers represent an underutilized financing opportunity 15

The consequences of structuring contracts with limited bankability potential 16

How financial and contract innovation unlocked first movers' projects and scaled other sectors. . .16

The PPA revolution 16

From PPAs to special purpose vehicles: Unlocking project finance. 17

The feedback loop between technology and finance 18

Book and claim expands the market for climate attributes — but more contract innovation is needed 19

Part III: Improving Bankability Through EAC Contract Terms . . . 21

How EAC contracts manage risks and create cash flow stability 21

Why getting the contract right matters 23

Key structural groups 23

Accounting for buyer and seller perspectives 24

The buyer's perspective: Microsoft 25

The producer's perspective: World Energy. 26

Part IV: Improving Access to Debt Through Book-and-Claim Contracting and Standardization 27

Why lack of standardization slows market development 27
Using contracts to improve EAC bankability 28
Using norms and standardization to increase bankability 31
Liquidity 31
Fungibility 32
Intermediation 32
Consistency 33
Standardization from the buyer's perspective 34
Standardization from the seller's perspective 34

Part V: Improving Access to Debt Through Cash Flow Predictability and Managed Risk 35

Counterparty credit: A precursor to bankable contracts 35
Contract terms that impact cash flow stability 35
Contract length 35
Payment obligation structure 36
Pricing method 36
Recourse for failure to deliver 37
Bankability from the producer's perspective 37
Contract length 37
EAC payment obligation structure 37
EAC pricing method 37
Recourse for failure to deliver 38
Bankability from the buyer's perspective 38
Contract length 38
EAC payment obligation structure 38
EAC pricing method 38
Recourse for failure to deliver 38

Part VI: Conclusion 39

The path forward 39
Call to action 40

Part VII: Glossary 41

Appendix: SAF EAC Contract Term Sheet 43

Endnotes 45

Executive Summary

Sustainable aviation fuel (SAF) is widely viewed as the most viable way to cut aviation emissions. Demand from airlines and corporate buyers is growing, and production technologies are maturing. Despite this momentum, one major challenge continues to hold back large-scale deployment: bankability.

Many SAF projects still struggle to secure low-cost debt, even when offtakers are willing to commit. That is because the offtake conditions in many contracts are not strong enough to meet lender requirements. Buyers hedge their commitments for several reasons – SAF supply chains are evolving, policy support can shift rapidly, and the voluntary credit market, which can significantly boost revenue for SAF producers, is still nascent. However, these conditions make it difficult to attract the capital required to build and scale new facilities, especially because lenders lack norms for evaluating deals in the voluntary credit market. This playbook lays out five practical insights to help buyers, developers, and financiers design offtake structures and support infrastructure that make SAF projects more investable:

1. **Corporate clients can enable risk sharing and unlock scale**. Thanks to book-and-claim systems, new buyers are beginning to step up with firm, multiyear commitments for environmental attributes. Continued collaboration to innovate commercial contracts by integrating mechanisms like price floors, regulatory incentive pass-throughs, and carbon intensity (CI) guarantees can further improve project bankability.

2. **Contracts should give lenders what they need**. Nondilutive capital is essential to fund the SAF sector at scale, and debt providers look for guaranteed, long-term value. Policy risk buffers, standardized product requirements, and long-term, take-or-pay offtake structures with creditworthy counterparties all play a role in attracting project financing.

3. **Book-and-claim transfer can power SAF deals**. Newly established credit transfer systems enable corporations to sign contracts with suppliers without having to deal with the physical fuel. Robust, transparent environmental attribute certificate (EAC) tracking is essential for investors to count on cash flows. Existing platforms like the Roundtable on Sustainable Biomaterials and the SAF certificate registry are a starting point, and continuing initiatives to standardize transfers will build market confidence.

4. **Tradability is the goal, not commoditization**. Certificates must be easy to transfer and verify, but without losing what makes SAF from specific projects unique. SAF projects that provide greater CI reductions or provide additional sustainability outcomes should be able to both reap and distribute the benefits of their innovation.

5. **Contracted cash flow stability for both EACs and physical fuel is critical.** Long-term, predictable revenue is the foundation for any bankable project. SAF projects need bankable cash flows from multiple revenue streams to secure sufficient debt. Savvy commercial agreements can create cash flow stability for two of the biggest revenue streams available to SAF projects, and there are blue skies for contract innovation in the sector.

Aviation and harder-to-abate industries can draw from the promising power purchase agreement (PPA) model that has been instrumental to scaling solar and wind developments in the United States and beyond. In 2024, long-term offtake agreements like PPAs were responsible for more than 90% of new renewable electricity capacity in the United States.[1] Bankable EAC-based contracts can play an even more pivotal role for climate solutions that may not achieve price parity for the foreseeable future.

This playbook does not offer a one-size-fits-all solution. Instead, it provides design principles that stakeholders can use to build SAF contracting ecosystems that support real long-term investment. With better alignment across the value chain, stakeholders can mobilize capital faster and accelerate the transition to low-carbon aviation.

Part I: Introduction to Bankability in the SAF Market

Why bankability matters for SAF

The aviation sector is entering a period of rapid change. Airlines face growing pressure from regulators, customers, and corporate partners to decarbonize. Sustainable aviation fuel (SAF) is the most viable near-term option — and demand is surging. Voluntary commitments and policy mandates are expected to drive between 4 and 7 billion gallons of global SAF demand by 2030.[2] Buyers are signaling willingness to pay for high-quality emissions reductions, with observed prices for environmental attribute certificates (EACs) ranging from $200 to $500 per ton of CO_2 abated.[3]

And yet, production is lagging far behind. Only a few dozen commercial-scale SAF projects worldwide have reached final investment decision. Developers, even those with proven technology and promising offtake discussions, continue to face a familiar barrier: lack of access to affordable capital.

This is not due to lack of interest or poor economics. Rather, most SAF projects struggle to meet the expectations of mainstream investors. Their contracts do not provide the stable, predictable revenue needed to support project finance. This is a bankability gap — and it is the main obstacle standing in the way of scaled SAF deployment.

This playbook aims to close that gap.

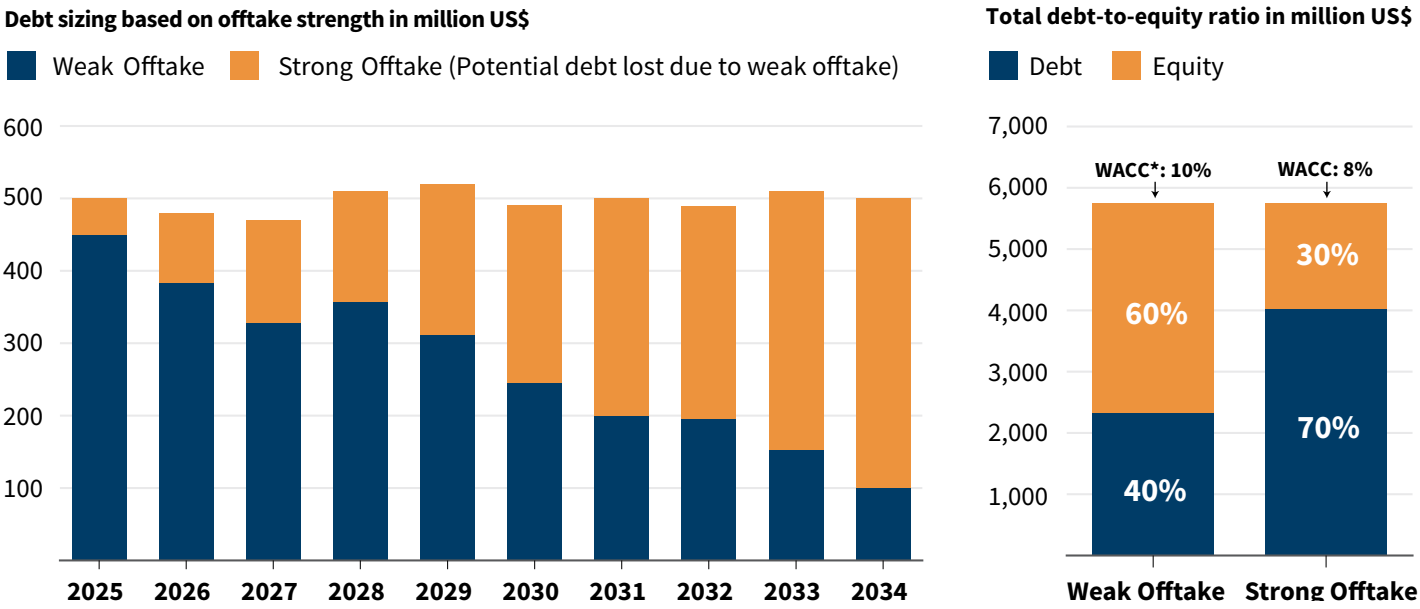
It provides practical guidance on how to structure offtake agreements that support long-term financing of SAF production facilities, with a primary focus on sound contract design for EACs. These insights are based on interviews with producers, buyers, lenders, investors, and standard-setting bodies, along with lessons from adjacent sectors such as renewable energy and clean road fuels.

What is “bankability”?

A project is considered bankable when lenders are confident that future revenue will be stable and sufficient to repay long-term debt.

Early SAF projects have leaned on equity and higher-risk capital, supported by bespoke offtake terms. That kind of financing works — but it is expensive, scarce, and does not scale well. To unlock commercial-scale deployment, SAF contracts must evolve to attract long-term debt at relatively low interest rates.

Exhibit 1 **Impact of offtake agreements on debt availability**



Note: WACC = weighted average cost of capital.

RMI Graphic. Source: RMI analysis

Think of financing a SAF project like getting a loan for a small business. If the business has not been built yet, the bank bases the size of the loan it is willing to give on the profits the business is expected to generate. The same logic holds for project financing (see Exhibit 1). The up-front funding a lender is willing to provide is tied to the project's future cash flows. The stronger and more credible those cash flows — secured through long-term agreements with trusted buyers — the more a lender is willing to finance. Weak or uncertain revenue means the project must rely on higher cost (and dilutive) equity, or grants and concessional capital, which are difficult to come by.

Building bankable contracts

An offtake contract for EACs is "bankable" when it delivers the following:

- **Creditworthy offtakers** and durable contracts with clear pricing
- **Stable, long-term cash flows** that appeal to low-cost debt providers
- **Clear recourse provisions** to minimize unpredictable cash flow disruptions
- **Credible tracking of environmental attributes** to support Scope 3 value

Bankable contract structures reduce risk and cost, allowing access to a broader and more diverse set of investors. These investors then provide the low-cost capital needed to build infrastructure at scale.

The bottom line: Early capital proves the concept. Bankable contracts unlock the market at scale.

Playbook scope: Structuring bankable SAF EAC contracts to unlock capital

The inability to secure predictable, long-term revenue streams makes it difficult for projects to attract affordable debt, stalling commercial deployment. Although there are other barriers to scaling up SAF — including evolving feedstock markets, limited infrastructure, and evolving policy — this playbook focuses on the financial barrier. Specifically, it outlines how to structure offtake contracts for unbundled EACs in a way that supports investment-grade financing.

Why focus on EAC contracts?

Unbundled EACs, enabled by the book-and-claim model, allow emissions reductions from producing SAF to be monetized separately from the physical fuel. These EACs are issued, tracked, and retired through third-party systems, providing assurance that each claim is backed by real and "additional" carbon benefits.[i] In doing so, book and claim helps establish trust and transparency — prerequisites for any functioning market.

As described in RMI's *Clean Energy 101* primer,[4] this system mirrors foundational mechanics from other environmental markets, such as renewable electricity and carbon offsets. It unlocks liquidity and enables new types of contracting relationships that were not possible when physical SAF delivery was the only option. For SAF, book and claim also opens up a new class of buyers with a high willingness to pay for EACs, especially in the corporate sector.

But while book-and-claim systems introduce flexibility and scale, they also introduce uncertainty. EACs are intangible assets, and unlike power purchase agreements (PPAs) in renewable energy, there are no standardized contract structures or credit norms yet in place.

As a result, most EAC offtake agreements today are highly resource-intensive to negotiate and still do not provide the long-term revenue certainty required by lenders. Without clear, enforceable, and creditworthy offtake structures, investors remain on the sidelines — or demand expensive, risk-tolerant capital that limits project viability. The goal of this playbook is to accelerate the maturation of EAC contracting norms so that deals are easier to negotiate and developers can access the full spectrum of mainstream finance.

What this playbook covers

The rest of this playbook provides practical guidance for structuring bankable EAC offtake contracts that are capable of supporting long-term project debt. The recommendations here are grounded in interviews with project developers, buyers, and lenders, and draw lessons from analogous sectors, including renewable energy and clean fuels. Although SAF transactions can take many forms (see Exhibit 2), this playbook focuses on a specific and increasingly relevant segment that has the following attributes:

- Transactions where the seller is the SAF producer
- Transactions involving unbundled EACs (Scope 1 and/or Scope 3)
- Buyers that are creditworthy and willing to make long-term commitments

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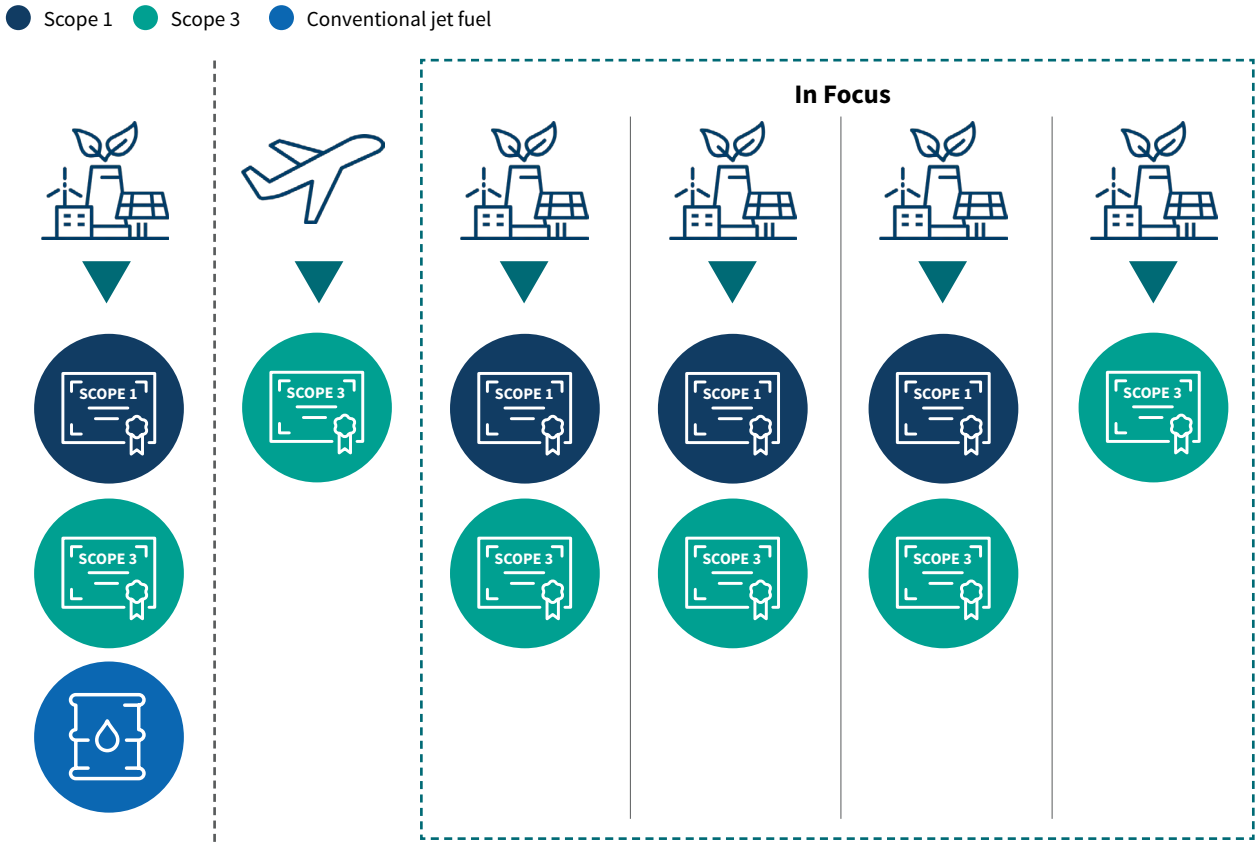
i Additionality in book-and-claim systems refers to a determination of whether a specific action or product effects change in a product's utilization or emissions relative to a baseline value; for instance, whether SAF usage results in displaced fossil jet fuel consumption and results in lower lifetime carbon emissions compared with utilization of 100% fossil jet fuel.

Exhibit 2 Transactions in scope for this playbook



	Bundled SAF and certificate sale	Airline pass through of Scope 3	Unbundled Sale to Distributors	Unbundled Sale to Airline	Direct Sale to Corporate (Scope 1 and 3)	Direct Sale to Corporate (Scope 3 only)
Seller	**Producer**	**Airline**	**Producer**	**Producer**	**Producer**	**Producer**
Buyer	**Airline/ Distributor/ Trader**	**Corporate**	**Distributor/ Trader**	**Airline**	**Corporate**	**Corporate**
Product(s)	**Bundled Scope 1 and 3 certificates and fuel**	**Scope 3 certificates***	**Scope 1 and 3 certificates only**	**Scope 1 and 3 certificates only**	**Scope 1 and 3 certificates**	**Scope 3 certificates**

*Requires parallel transaction for Scope 1 credits to an entity capable of retiring those credits.

RMI Graphic. Source: RMI analysis

Other arrangements, such as bundled fuel transactions or those where the seller is an airline, may still benefit from the insights presented here but are not the primary focus.

Capital stages and financing relevance

This playbook's guidance is most relevant to the stage of a SAF project where developers seek to achieve financial close on long-term financing for the production facility; that is, the point at which long-term offtake contracts and financing agreements are signed and construction funding is released. This milestone likely cannot be achieved without the lenders conducting a thorough evaluation of the terms of the EAC offtake agreement.

However, the principles also have value in the earlier stages of a project. Earlier-stage investors, such as those funding feasibility work or permitting (i.e., development capital), will assess a project's trajectory toward bankability. In this way, strong EAC contract design not only unlocks debt but also improves access to equity and blended finance at earlier stages.

Technology neutrality

This playbook is technology neutral — its recommendations apply to any SAF production pathway. That said, most lenders today are reluctant to finance projects with high technology risk. As a result, the concepts here will be most actionable in the near term for mature technologies like hydroprocessed esters and fatty acids (HEFA) or technologies that are close to commercializing, like alcohol-to-jet. As newer pathways like e-SAF or gasification-Fischer-Tropsch reach readiness, the lessons from this playbook will become increasingly applicable. This will be particularly important as project developers seek to create strong partnerships, with corporate offtakers taking the lead in supporting the development of new technologies in the sector.

Grounded in market reality

The recommendations presented here are not theoretical. They reflect the following:

- Real-world buyer-seller negotiations from recent EAC transactions
- Interviews with leading SAF developers
- Direct consultations with financial institutions that are actively exploring SAF investment
- Direct review from leading standard-setting bodies in the SAF sector

By structuring EAC contracts that meet lender expectations, project developers can unlock a virtuous cycle of financial innovation and market growth, just as PPAs did for wind and solar.

Part II of this playbook describes the current state of SAF aviation deals and highlights the path to greater bankability. Part III outlines the deal flow for a typical SAF transaction and identifies key terms. Parts IV and V show how to build better long-term contracts for EACs, offering examples and practical recommendations for buyers, developers, and financiers.

Part II: Enabling Project Finance Through Contract Innovation



Why traditional reliance on airline offtakers limits access to capital

Financing remains a key challenge for SAF projects. Unlike traditional energy infrastructure, SAF projects operate in a nascent market without the usual foundations that give lenders confidence — namely, price transparency, deep liquidity, long operating histories, and a mature ecosystem of intermediaries. In the absence of these features, external debt providers rely heavily on one thing: predictable, long-term revenue from creditworthy customers.

To attain favorable financing terms, SAF developers must secure *bankable offtake contracts* — multiyear purchase agreements with creditworthy counterparties that shift some of the producer's and financier's risk exposure to the buyer. These contracts are the cornerstone of project finance. Lenders use them to determine the reliability of the project's future cash flows and how much up-front capital they are willing to provide.

Airlines are essential but constrain scale of new supply developments

Airlines are the most logical buyers of SAF — but for several reasons they are poor candidates for anchoring demand related to long-term project finance:

- **Limited risk appetite**: Most airlines operate on thin margins and are not in a position to absorb price, regulatory, or technology risk over 5–10 years.
- **Low credit ratings**: Even major carriers typically fall below investment grade, weakening their role as creditworthy anchors in lender models.[5]
- **Short-term procurement norms**: Jet fuel purchasing is currently dominated by spot and short-term contracts, with limited precedent for the kinds of long-term commitments required by project finance investors.

These limitations mean that, even when airlines are willing to participate, their offtake agreements often do not pass lender scrutiny, especially in voluntary markets.[ii] As a result, many SAF developers struggle to raise the capital needed to break ground on new projects.

Bankability differs from balance sheet financing

Traditional jet fuel infrastructure projects rarely face the same bankability issues encountered by stand-alone SAF plants. That is because most projects are built and financed directly by large integrated oil companies — using their own balance sheets, not project-level debt. These companies can fund capital-intensive projects internally and are not reliant on offtake contracts to secure financing.

At this stage of the market, SAF producers, by contrast, are often startups or smaller independent developers. They do not have balance sheets large enough to self-fund new facilities. They need project finance to generate funds for construction — but the current structure of SAF offtake makes that nearly impossible to access at scale.

Cash flow considerations for EAC-backed debt offerings

To secure affordable debt, projects need to guarantee to lenders that they will generate sufficient cash flow to service the debt.

SAF production facilities have four potential cash flow sources:

1. Physical jet fuel, monetized via standard jet fuel markets
2. Coproducts such as renewable diesel and naphtha, monetized via standard commodity markets (which are out of scope for this playbook)
3. State and federal incentives, like the Renewable Fuel Standard's renewable identification numbers (RINs) or the California Low Carbon Fuel Standard (LCFS) credits, monetized via direct tax credits or secondary markets
4. EACs (i.e., Scope 3 emissions reductions credits), monetized via the willingness to pay of corporate buyers

Although the precise breakdown varies by project and production process, Exhibit 3 shows that any individual revenue stream is large enough to support significant debt finance.

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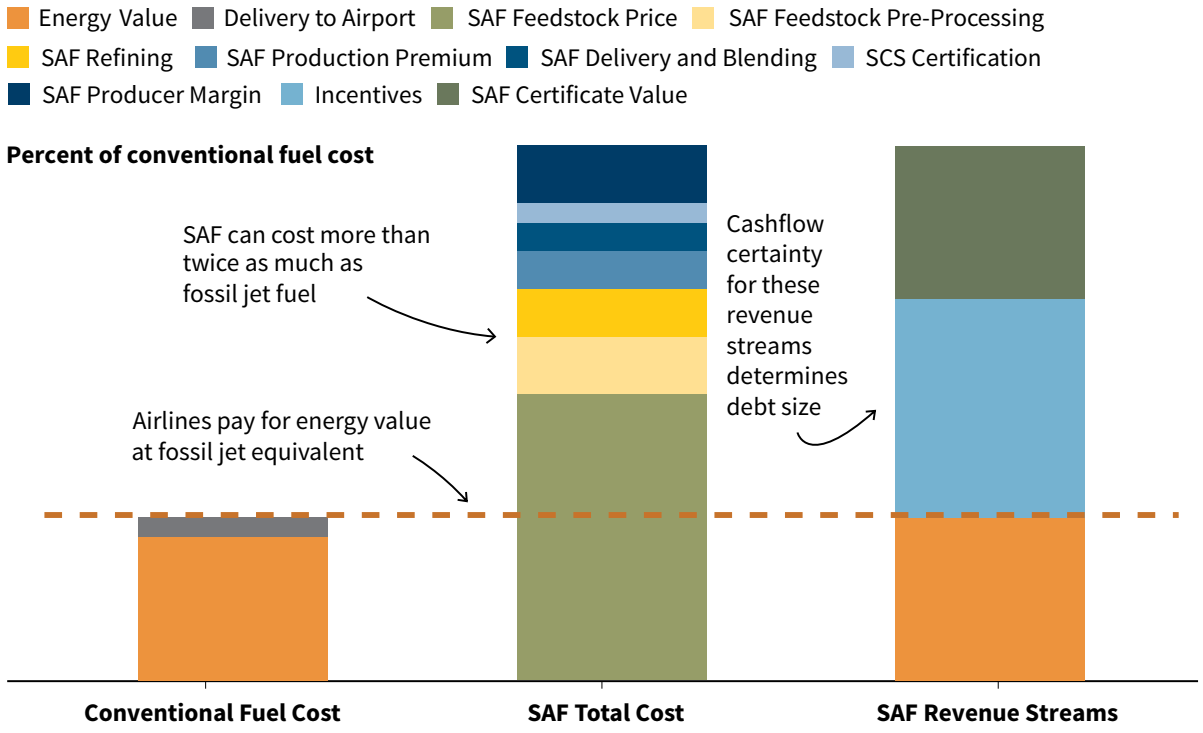
ii In voluntary markets, demand is driven by corporate Scope 3 emissions reductions commitments that have no regulatory enforcement mechanism. In mandated markets like the EU, regulatory obligations drive demand for Scope 1 and 2 emissions reductions, which can create stronger, more creditworthy commitments by airlines.

Exhibit 3

SAF cost of production and revenue profile compared to standard jet fuel



RMI Graphic. Source: RMI analysis

However, each revenue stream will require procurement innovations before they provide enough certainty to raise debt:

- Conventional jet fuel and its coproducts are rarely, if ever, purchased via long-term contracts — but exceptions to traditional procurement models are possible and will be critical to bankability.
- Government incentives are likely too risky for debt providers due to volatility and regulatory risk exposure. However, creative pass-through mechanisms, described in greater detail in Part V, can help balance regulatory risk exposure.
- EACs represent a promising source of additional bankable cash flow. Though current contracting trends are not firm enough to satisfy debt providers, corporate buyers have signaled willingness to modify procurement practices.

All of these cash flows must work in concert to support bankability. Strong revenue certainty in one cash flow stream — via long-term offtake contracts — can reduce the certainty needed from the other streams.

EAC buyers represent an underutilized financing opportunity

There is a structural mismatch in how SAF's two primary value streams — physical fuel and EACs — are sold. Fuel is typically delivered to airports through intermediaries like fuel suppliers and logistics providers, while EACs are often sold separately to corporate buyers seeking to meet voluntary climate targets.

This bifurcation creates a bankability dilemma: the buyer paying the premium for climate benefits (typically the EAC purchaser) is often not the same party as the fuel purchaser. At the same time, the conventional jet fuel purchaser may be unaccustomed to long-term offtake obligations that are aligned with EAC contract length. As a result, the two core revenue streams of a SAF project are not well integrated, reducing lender confidence that revenues will consistently align to cover debt service obligations.

Stronger EAC offtake contracts could elevate EACs from a secondary revenue stream to a core component of bankable project finance, complementing physical fuel contracts. Longer-term contracts with stronger mechanisms for allocating risk, enforcing deliverability, and providing cashflow certainty to all parties evaluating a transaction help tailor transactions to the needs of both EAC buyers and lenders offering affordable debt.

A shift toward more recognizable, market-driven contracts is essential to unlocking scalable, low-cost capital — and it forms the foundation of the contract innovations explored in Part III.

The consequences of structuring contracts with limited bankability potential

Without firm commitments from investment-grade offtakers, SAF developers are left to pursue risk-tolerant capital: selling dilutive equity stakes in the projects, securing grants, or negotiating with high-interest-rate debt providers. These sources are limited, likely expensive, and often time-consuming to raise. The result is a vicious cycle:

- Fewer projects reach financial close
- Costs stay high due to limited scale
- Progress on SAF deployment remains slow

How financial and contract innovation unlocked first movers' projects and scaled other sectors

Aviation is not the first sector to face the challenge of financing emerging infrastructure. Across energy, water, and transport, one pattern is clear: technology does not scale without the right financial solutions. Mainstream capital entering new sectors comes not just from better technology — it also comes from better contract design, smarter risk allocation, and institutional learning. The clean power sector offers a roadmap.

The PPA revolution

In the early days of solar and wind, developers faced many of the same obstacles SAF projects face today: new technologies, untested markets, and unclear cash flow predictability. Lenders were cautious, and few projects could raise debt.

That changed with the widespread use of PPAs.

PPAs are long-term offtake contracts in which utilities or corporate buyers commit to purchasing power over 10–20 years. These agreements unlocked the following:

- **Revenue certainty** with fixed or indexed prices for electricity
- **Volume guarantees** and, in many cases, take-or-pay commitments
- **Counterparty strength**, often with investment-grade buyers

The result was that lenders became more comfortable underwriting clean energy projects. Lending terms became more reasonable. Projects scaled. Today, PPAs and other long-term offtake agreements are responsible for around 90% of new renewable electricity capacity additions.[6]

Over time, the PPA itself became a standardized, familiar tool that streamlined future transactions.

From PPAs to special purpose vehicles: Unlocking project finance

Another financial solution also contributed to the scaling of the renewables sector (and many other capital-intensive projects): the *special purpose vehicle* (SPV).

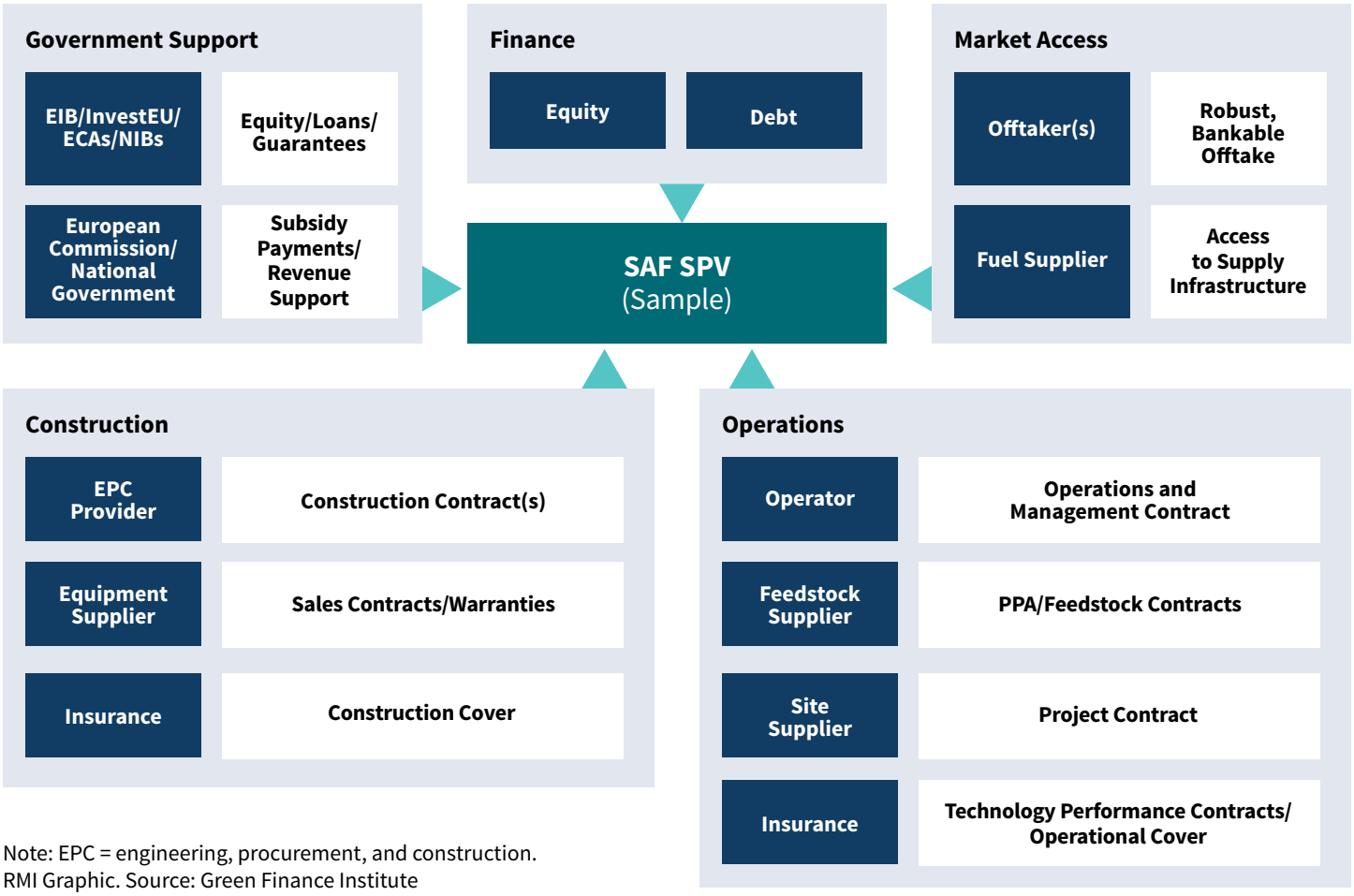
An SPV is a stand-alone legal entity that owns the project's assets and contracts. It allows developers to isolate project risk and raise capital based on the strength of project revenues — not the parent company's balance sheet.

SPVs are now the core of modern project finance, enabling large volumes of low-cost debt to flow into infrastructure. They also allow developers to layer in the following:

- Multiple equity and debt participants
- Risk mitigation tools (e.g., insurance, government guarantees, bankruptcy remote entities)
- Complex revenue structures, including multiple offtakers

This same model is a necessary tool for SAF developers to gain access to capital. Exhibit 4 shows a generic SPV structure for a SAF project, highlighting how construction, operations, offtake, and government support all feed into a central entity backed by project-specific debt and equity.

Exhibit 4 **SPV structure for an illustrative SAF project**



Note: EPC = engineering, procurement, and construction.
RMI Graphic. Source: Green Finance Institute

The feedback loop between technology and finance

These examples show that financing innovation and technology deployment often move in lockstep. Financial markets evolve as deal volume grows — developing better tools, more confident lenders, and more standardized documentation over time.

But in SAF, that learning loop has not kicked in. There are too few projects with credible contracts, and too little experience on the financing side to drive down costs.

That is why long-term, bankable offtake agreements are so critical — not just for individual projects, but to build a proper foundation for a fully functional SAF market.

Exhibit 5

PPAs versus EAC contracts – Why conventional SAF offtake still falls short

Feature	PPAs (Physical or Virtual)	Current SAF EAC Contracts
Product	Physical electricity or unbundled renewable energy certificates	EACs are often separate from fuel
Tenor	10–20 years	1–10 years or shorter
Buyer type	Utilities, corporations with strong credit and large customer base	Airlines (often unrated or non-investment grade) or corporations
Volume and price certainty	Take-or-pay structure with clear pricing	Variable pricing, volume uncertainty
Standardization	High: Contract templates and market norms widely adopted	Low: Bespoke terms, evolving tracking systems
Bankability impact	Enables project finance with favorable terms	Can often be insufficient for debt underwriting

The bottom line: PPAs work because they deliver cash flow certainty and pass risks to willing offtakers. SAF EAC deals must evolve to offer the same level of predictability and lender confidence.

The PPA and SPV examples demonstrate how financial structuring, market learning, and commercial innovation work hand in hand to accelerate technology adoption and enable scale. This dynamic is especially relevant for capital-intensive sectors like SAF, where the cost of capital can significantly contribute to a project's competitiveness. Crucially, both examples underscore the importance of properly structured long-term contracts in unlocking access to affordable debt and attracting the volume of investment required for commercial deployment.

Book and claim expands the market for climate attributes — but more contract innovation is needed

For years, SAF developers have struggled to find offtakers willing to sign long-term contracts — especially for the environmental attributes associated with the fuel. Without those contracts, project revenues have been too uncertain to support investment-grade financing. But that is starting to change.

The emergence of book-and-claim systems has opened the door to a new class of buyers: corporations seeking to reduce their aviation-related Scope 3 emissions. By decoupling physical fuel delivery from environmental benefit claims, book and claim creates a flexible, global marketplace for SAF certificates. For the first time, it offers a potential pathway for developers to monetize climate attributes at scale — if the right contracting mechanisms are put in place.

However, while book and claim unlocks participation, it does not automatically unlock capital. Today's EAC contracts are often relatively short term and lack mechanisms to address market volatility. Few are structured to ensure the stable, long-term cash flows needed to attract mainstream lenders. As a result, most SAF developers remain stuck relying on high-cost capital, even as EAC demand continues to grow. To change this, the market must evolve, shifting from short-term "spot" EAC transactions to bankable offtake agreements built around effectively monetizing environmental attributes. Lessons from renewable energy are instructive: the widespread adoption of long-term EAC-backed PPAs helped drive financial innovation, reduce risk, and attract low-cost capital at scale.

The same evolution is now needed in the SAF market. To unlock this potential, EAC offtake contracts must evolve. In Part III, we outline the critical design elements — contract tenor, creditworthiness, pricing, and verification — that determine whether these transactions are financeable and fit for scale.

Part III: Improving Bankability Through EAC Contract Terms



How EAC contracts manage risks and create cash flow stability

The terms in an EAC contract have implications for the entire SAF supply chain. The counterparties in the deal need to understand how information and physical fuel flow from party to party to design effective risk-sharing terms.

Exhibit 6 highlights the major steps of an EAC transaction: infrastructure project finance; physical fuel production; physical fuel blending for contractual execution; EAC generation, verification, and certification; air travel operations; and marketing. The book-and-claim system provides the certification and verification backbone that supports the chain of steps.

Exhibit 6 **Sample transaction structure**



Step 1: Project Finance Completed

- All facility cashflow projections established based upon contracted volumes
- Buyer and seller agree to the certification body for the SAF and registry for recording the EAC transaction
- Construction and operations can commence



Step 2: Neat SAF Produced

- Physical SAF product (Jet A) is defined; produced by the seller in accordance with defined product standards; and priced



Step 3: SAF Blending and EAC Generation

- Physical SAF (Jet A) is sold and delivered to the buyer (i.e., an airline offtaker)
- EACs are defined, created, and recorded by the seller for the batch of SAF



Step 4: EAC Certificate Management

- Annual surveillance audit verifies against standard
- Volume delivery verification method agreed by both parties
- Certificates are transferred, retired, etc.



Step 5: Air Travel Occurs

- Physical fuel uplift by fuel buyers drives retirement of Scope 1 credits
- Corporate air travel by EAC buyers leads to Scope 3 certificate retirement



Step 6: Publicity and Marketing

- Continued rights-to-transact in the marketplace
- Demonstrated strength of commitment between parties

Verification and Certification needed at each step

RMI Graphic. Source: RMI analysis

Why getting the contract right matters

EAC contracts introduce new terms and complexity compared with standard fuel offtake agreements, but that is not necessarily a bad thing. Far from it; well-designed EAC contract terms can improve the conditions for bankability.

To support bankability, EAC contracts must do two things:

1. Guarantee the client's product specification requirements, including sustainability and certification expectations.

2. Ensure strong cash flow predictability to support debt service obligations.

Key structural groups

Terms that guarantee product specification requirements are critical to the value proposition of EACs. For example, buyers may specify a significant reduction in price or the right to refuse the transaction if these conditions are not met. Terms in this category include SAF sustainability requirements, certificate standards, certificate vintage, and registry functionalities.[7] To satisfy lenders, these terms need to do the following:

- Clearly define requirements
- Plan for potential future changes to policies and standards
- Support EAC tradability
- Limit the impact of noncompliance on cash flows available to investors

Part III provides guidance and recommendations for contracting these terms.

Terms that underpin product specification requirements

- Carbon intensity (CI) requirement
- Production pathway
- Feedstock requirements
- Regulatory additionality
- Certificate vintage
- Scope 1 claim management
- Periodic verification

Terms that impact cash flow predictability determine the size of the loan that debt providers are willing to offer. The weaker these commitments are, the higher the discount rate lenders will apply to expected future cash flows. Terms in this category, including pricing structure, contract length, and payment obligation structure, are common in most established financial agreements, not just SAF or EAC transactions. To satisfy lenders, these terms need to do the following:

- Guarantee sufficient cash flows to meet the lender's requirements, usually defined as a requirement to maintain a minimum debt service coverage ratio (DSCR) after relevant discounts and haircuts have been applied[iii]
- Align the debt repayment timeline with the tenor of the debt
- Minimize opportunities to break the agreement or reduce transaction volumes
- Appropriately distribute price risk between the parties

Terms that determine strength of cash flow predictability

- Tenor
- Payment obligation structure
- Counterparty credit
- Pricing method
- Pricing regulatory incentives
- Recourse for failure to deliver on product specifications

Part IV provides information and strategies for contracting these terms.

Getting these two types of terms right is the key to ending up with a bankable contract.

Accounting for buyer and seller perspectives

Investors, and particularly the debt provider(s), ultimately determine the bankability of a project, and so the remaining sections of this playbook primarily focus on that perspective. However, it is also important to consider that the debt providers' preferences may not always overlap with the buyers' and sellers' preferences. It is critical for all parties to understand how and why their preferences may conflict so they can design effective compromises, especially before contracting norms have been established. Otherwise, tension between the parties' preferences can cause deals to break down, and can even dissuade investors from entering the market in the first place.

iii The DSCR is calculated by dividing annual cash flows by annual debt service obligation. For example, a project that expects to earn $2.5 million per year with annual debt payment of $2.1 million per year would have a DSCR equal to 2.5 million/2.1 million = 1.19. For high-risk projects, lenders often require a DSCR of 1.5 or greater.

The buyer's perspective

By Julia Fidler

Microsoft has learned through the process that to design the contract and beyond, both parties benefit from a deep understanding of each other's business. Building on that understanding can uncover expanded opportunities for impact. Stakeholders lose the opportunity for innovations when they are hyperfocused on short-term value. Creativity and innovation come from developing deeper partnerships.

Supporting multiyear commitments is crucial for corporate customers with ambitious climate targets for several additional reasons:

1. **Market expansion:** Multiyear agreements help catalyze market expansion for low-carbon products, making direct procurement more attainable in the future. This is essential for overcoming the current geographic and supply-demand mismatches in the market for harder-to-electrify industries such as heavy transport, low-carbon concrete, and steel.

2. **Financial stability:** Long-term commitments provide financial stability and investment certainty for suppliers. This stability is necessary to finance emissions-reducing retrofits or new clean-production units, which are often capital-intensive.

3. **Demand signal:** Multiyear purchase agreements send a strong demand signal for low-carbon commodities. This demand is crucial for suppliers to justify the higher production costs associated with deeply decarbonized materials, which often require a "green premium" price.

4. **Sectoral decarbonization:** These commitments accelerate sectoral decarbonization by mobilizing financial resources toward projects with significant potential for reducing carbon emissions. This is particularly important in sectors like concrete and steel, which are major contributors to global carbon emissions.

5. **Overcoming procurement challenges:** Multiyear agreements help alleviate complexities involved in direct procurement, such as contracting, delivery timing, and transport. This makes it easier for companies to integrate low-carbon materials into their supply chains.

By supporting multiyear commitments, corporate customers can drive meaningful progress toward their climate targets and contribute to the broader goal of global decarbonization.

The producer's perspective

By World Energy

From a SAF producer's vantage point, long-term contracts with creditworthy buyers are the single most consequential element to drive growth. Beyond feedstock sourcing questions, we are most often asked about how we can cover true costs for our product when the typical SAF customers — airlines — have limited ability to pay the true cost of SAF. The answer is to partner with unconventional buyers and corporations that both have a higher willingness to pay, and maintain a commitment to long-term emissions reduction goals. We know that SAF production can only durably grow by managing commercial risk. Long-term, take-or-pay contracts reduce this commercial risk. Otherwise, existing SAF producers will keep their options open and manage and optimize their infrastructure to produce for other markets like the road sector.

Customers that commit to long-term contracts benefit in the following ways:

- They gain an ability to influence future product feedstock requirements or incent producers to integrate novel technologies.
- They secure long-term supply using a predictable pricing mechanism/calculation.
- They increase procurement efficiency by avoiding spot purchases.
- They demonstrate economic "additionality" and leadership in the energy transition that can be certified under the Roundtable on Sustainable Biomaterials' (RSB's) new market acceleration indicator.

We appreciate the binding commitments and trust that our customers have invested into their offtakes with us. Provisions in those agreements have pushed us to become a better renewable fuels producer/influencer, which optimizes our environmental performance and incentivizes continuous improvement in driving down our CI. Under the long-term agreement structure, we can focus on what we do best — scaling production and delivering product at the highest value to our customers.

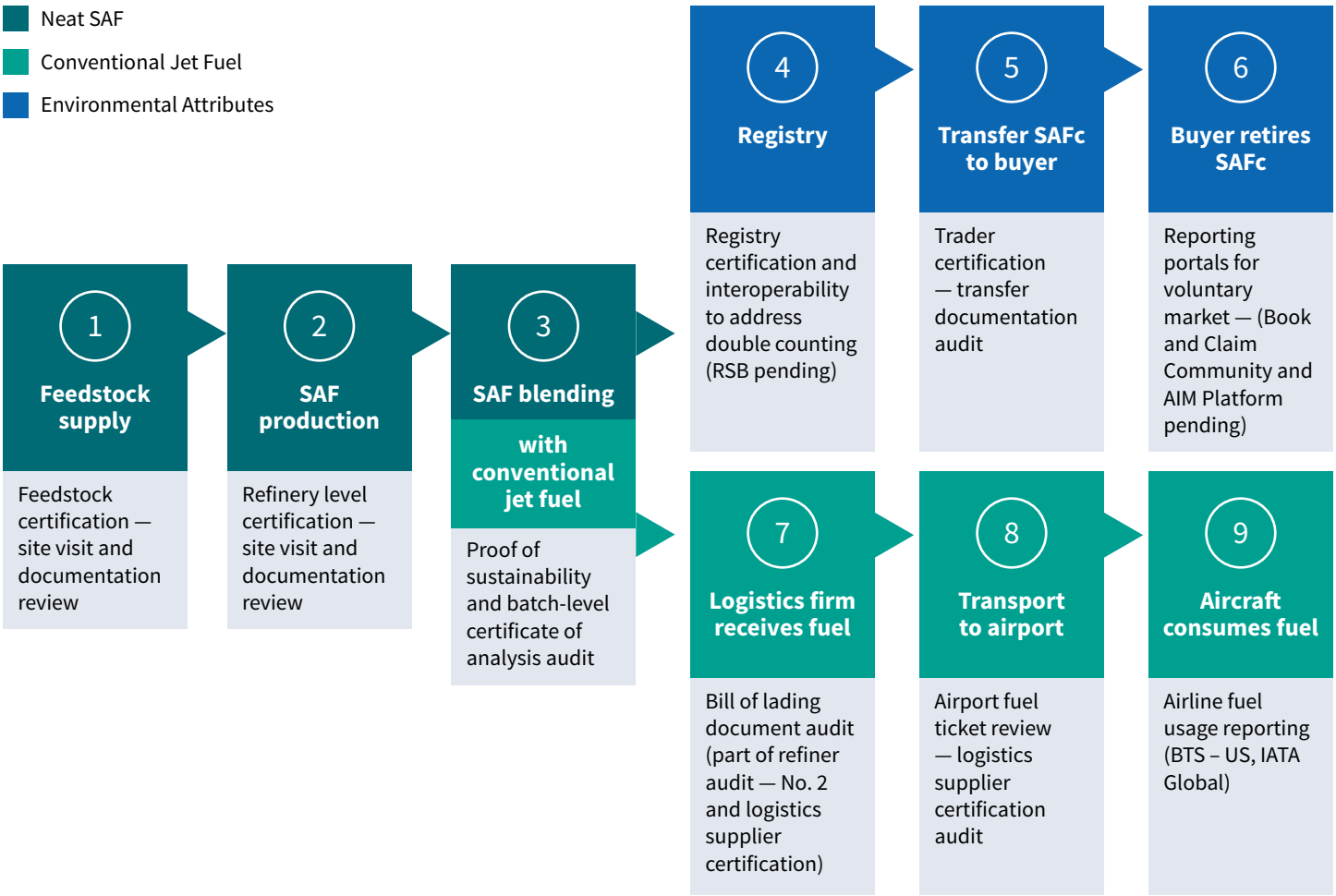
The remaining sections of this playbook are shaped by all three perspectives — the investor (with a focus on debt providers), the buyer, and the seller.

Part IV: Improving Access to Debt Through Book-and-Claim Contracting and Standardization

Why lack of standardization slows market development

The integrity of EAC transactions depends on sustainability and certification requirements at each step in the value chain. These requirements allow buyers and third-party certifiers to track and verify sustainability claims. These verification regimes are critical: without proof of the product's sustainability attributes, buyers have no reason to purchase the product. Verification occurs at several points in the value chain, as shown in Exhibit 7.

Exhibit 7 Physical SAF and EAC points of verification



RMI Graphic. Source: World Energy

Because SAF book-and-claim systems are still maturing, some of these requirements are still evolving. Writing contract terms when industry norms are still subject to change is difficult; buyers, sellers, and lenders alike worry that unpredictable market shifts will complicate project economics in the future. Additionally, lenders are reluctant to develop specialized technical knowledge that could quickly become obsolete.

Although some first-mover lenders are motivated to support early deals, the majority of debt providers will wait until contract terms are more standardized. This creates a capital supply problem.
To unlock capital at scale, the market needs to progress in two ways:

1. Buyers and lenders need to improve their understanding of book-and-claim contracting.

2. Policymakers and standards bodies need to enable standardization of book-and-claim requirements.

Using contracts to improve EAC bankability

EAC transactions introduce a small number of new terms into contracts.[iv] Contracting many of these terms is as simple as defining any other product specification. A lender would not reject a steel deal just because the buyer preferred one alloy over the other. The only difference is how comfortable buyers and lenders are with the product in question. As book-and-claim systems spread to other sectors — like steel, cement, and marine fuel — lenders may find increasing value in developing book-and-claim expertise.

For SAF EAC transactions, book-and-claim-related terms fall into four categories:[v]

1. **SAF sustainability and certification terms** establish the EAC buyer's required characteristics for the *physical fuel*, including CI thresholds, feedstock requirements, greenhouse gas (GHG) accounting methods, and verification or audit procedures. The EAC buyer does not take possession of the physical fuel, but these characteristics are passed through to the EAC.

How do buyers define SAF?

Sustainable aviation fuel is an umbrella term that encompasses a broad range of technologies, feedstocks, and CIs. Buyers may prefer some types of SAF over others due to regulatory regimes, subsidy requirements, voluntary commitment specifications, feedstock composition, or other reasons. In the United States, many buyers use the definition established by the Renewable Fuel Standard program, which requires at least a 50% CI reduction compared with fossil fuels. In Europe, buyers may elect to include the feedstock restrictions imposed by the EU's Renewable Energy Directive (RED). Other buyers set restrictions based on the use of virgin palm oil and palm-related by-products.

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iv The following section should not be taken as advice on ensuring adherence to any standard; guidance on implementing standards is available directly from the standards bodies like RSB, the Sustainable Aviation Buyers Alliance, and the International Sustainability and Carbon Certification.

v The terms in each category are identified and defined in the *Appendix*.



These terms are important because buyers are only willing to purchase products that align with their internal sustainability commitments. Clearly defining methods and expectations reduces the chances that the buyer will reject the product.

To unlock bankability: establish flexible recourse options.

Allowing the buyer to break the contract if a specific SAF production batch has a higher-than-expected CI creates cash flow uncertainty. A more bankable option is to allow the producer to provide alternative EACs to make up the difference or to use a ledger system. A ledger system would allow the producer to make up an EAC volume deficit in one fiscal quarter with an EAC volume surplus in another quarter.

2. **EAC standards and certification terms** establish the buyer's required characteristics for the *virtual product*, including vintage requirements, regulatory additionality, and chain-of-custody requirements.

   These terms are important because EAC standards underpin the legitimacy of the chain-of-custody system. Without clearly defined, transparent steps for creating, transferring, and retiring EACs, the threat of greenwashing could cause buyers to reject the product.

   To unlock bankability: create buffers against potential policy shifts.

   Lenders need guarantees that future policy or EAC standards changes will not undermine the value of the product they are underwriting. Until standards bodies and policymakers establish a stable track record, those guarantees will need to come from contracts. The simplest option is for the buyer to agree to accept the EACs as long as they meet the standards that were in place at the time they were created.

3. **Registry terms** may either establish the characteristics of the registry the buyer and seller will use, or explicitly identify a registry. For clarity, they may also define what actions each party is responsible for taking within the registry.

   These terms are important because registries may have different procedures for registering and managing certificates (see Exhibit 8). Buyers and sellers need to know what rules they are expected to follow. For example, to be accepted onto the RSB registry, EACs must meet RSB's SAF sustainability standards.

   To unlock bankability: establish registry characteristics, not registries.

   Flexibly defining which registry the transaction will use is a way of future-proofing the deal while still ensuring the parties' needs are met. For example, the buyer can specify that the registry must allow certificates under the RSB Global Sustainability standard, rather than explicitly defining the RSB registry as the *only* acceptable registry. That way, if the RSB registry shuts down or changes its rules in the future, the parties can switch to a new registry without triggering a renegotiation.

Exhibit 8 **Comparison of top registry attributes**

PARAMETERS	SAFc REGISTRY	RSB	ISCC International Sustainability & Carbon Certification	CADO Civil Aviation Decarbonization Organization
Allows registration of SAF at multiple points in supply chain	Yes	Yes	At point of airport delivery	Aircraft operators as registrants
Allows transfer of EAC across the value chain (downstream, upstream, and laterally)	Yes	No, downstream only	No, downstream only	No, downstream only
Allows unbundling of EAC into Scope 1 and Scope 3 units	Yes	No	No	No
Allows participation of market intermediaries	Yes	Yes	No	No
Considers additionality of SAF	Yes	Yes	Yes	Yes
Accepts ISCC and RSB CORSIA and EU, ISCC PLUS, and RSB Global certifications	Yes	No, excludes ISCC PLUS	No, excludes RSB Global	Yes
Accepts ISCC and RSB Trader certifications for EAC issuance	Yes	No, does not accept ISCC Trader certification	No, does not accept RSB Book and Claim Trader certification	Unclear
Displays EAC retirements in a public table	Yes	Yes	Yes	Yes

Note: CORSIA = Carbon Offsetting and Reduction Scheme for International Aviation; and ISCC = International Sustainability and Carbon Certification.

RMI Graphic. Source: RMI analysis

4. **Delivery terms** establish required conditions for delivery of the physical fuel, including geographic location and timing of delivery.

   These terms are important because in the United States, some states — like California — have production incentives that require fuel to be used within the state. If the buyer is expecting to receive pass-through subsidy cash flows, they will want a guarantee that the seller will deliver the product to the right market.

   To unlock bankability: implement parallel delivery contracts.

   Lenders prefer all cash flows that are used to raise debt to be secured by offtake agreements. Although sellers may be confident that they can easily sell standard jet fuel in nearly any market, these transactions do involve price risk. Lenders have limited appetite to take that kind of risk. Although long-term offtake is not the norm in the jet fuel market, sellers have other options to emulate price stability, such as financial derivative products.

The bottom line: At a minimum, contracts must clearly define SAF and EAC product specifications, or technical misunderstandings can trigger deal termination. Enabling bankability requires additional measures like flexible recourse options, policy buffers, future-proofing definitions, and parallel contracts.

Using norms and standardization to increase bankability

To bring in more buyers and more capital, the regulators and standards bodies in the book-and-claim ecosystem need to settle on accepted norms and provide standardization. Four key principles can help guide norms and standards to unlock capital at scale: liquidity, fungibility, intermediation, and consistency.

Liquidity

Lenders prefer liquid markets because they make it possible to sell products even if something goes wrong in the offtake agreement. Consider the oil market: if an oil offtake agreement falls through, the seller will have no trouble finding a new buyer for the stranded product.

SAF EAC markets are a long way from this level of liquidity, but the more sales pathways seller has, the more confident lenders will be. The ability to freely transact and transfer certificates across registries would increase opportunities to recoup value if the offtake deal falls through.

However, in the current market, registries may have different rules for what qualifies as a legitimate certificate, which complicates EAC transfers between them. For example, the RSB registry does not accept certificates with the International Sustainability and Carbon Certification (ISCC) PLUS certification, and the ISCC registry does not accept certificates with the RSB Global certification. Some registries also explicitly prohibit transferring EACs to other registries to protect against double counting.

Recommendation: Facilitate multistandard eligibility for voluntary EACs.

Although full interoperability may be a long way off, the top standards bodies should work to harmonize voluntary market standards. This does not mean that standards need to become identical — only that it should be easy for sellers to provide EACs that can be certified under any standard and transferred via

any registry. Otherwise, sellers may have to make up-front decisions that limit the size of their accessible market to buyers willing to accept one standard or the other. In the longer term, the ability to transfer EACs across registries would increase liquidity but is not critical for bankability.

Fungibility

Fungibility means each EAC should be identical to every other EAC. Fungibility increases liquidity and reduces the amount of specialized knowledge lenders need to evaluate projects. It also makes it possible to swap one EAC for another if, for example, a seller needs to procure alternative EACs for the buyer due to unexpected production disruptions.

Standards bodies are working to standardize EACs but must manage the tension between certificate fungibility and preserving real sustainability differences across products. Some SAF feedstocks and production pathways have lower carbon intensities or less severe ecosystem impacts than others. Certificates need to preserve incentives for producers to maximize sustainability while also reducing product differentiation for buyers.

Recommendation: Minimize product specifications that are not interchangeable.

In the short term, sellers can develop projects that meet the highest sustainability standards to maximize the available market. However, this will limit the pipeline of available projects and may slow market growth. In the long term, the SAF sustainability standards ecosystem should either (1) work toward consensus on minimum product standards and eliminate product differentiation beyond that standard, or (2) establish a sustainability conversion rate to allow for exchange between product tiers.

Intermediation

Individual corporate buyers are often willing to purchase much smaller EAC volumes than producers need to secure financing. One option is for producers to sign small-volume contracts with multiple entities, but this significantly increases administrative costs. A better option is to find a highly credible aggregator to buy large volumes and resell them to end-users.

Currently, however, many certificate standards allow down-value-chain EAC transfer only — not lateral-value-chain or up-value-chain transfers. For example, an airline can sell a certificate only to a Scope 3 user or a downstream transportation or logistics provider — not to another airline or an upstream logistics provider. This restriction creates uncertainty about who can serve as the EAC aggregator. To date, airlines have primarily played this role. However, they have such low credit ratings that lenders often require airlines to have parallel contracts with corporate buyers.

Recommendation: Enable high-credit intermediaries.

Lenders would prefer more creditworthy intermediaries to manage the volatility of certificate price and supply. A financial services company, a fuel logistics company, or other EAC traders could theoretically play this role, but it is not clear that these intermediaries are allowed under existing certificate standards. Standards bodies should create a pathway for transfer of unbundled EACs to designated aggregators.

Consistency

Lenders' willingness to finance projects based on EAC cash flows depends on their confidence that the certificates will continue to have value in the future. But the value of certificates depends on compliance with standards and regulatory requirements — both of which can change over time. The potential for policy or standard change undermines investor confidence in the future value of certificates.

Some changes may be unavoidable as standards bodies and regulators improve their understanding of regime design outcomes. However, standards bodies can take steps to protect early adopters from elevated risk.

Recommendation: Reduce uncertainty for early deals.

Regulators and standards bodies should provide guarantees for the following:

- Certification standards will not be changed retroactively.
- "Grandfathering" will be implemented for facilities that came online during previous versions of standards.
- Governance and decision-making processes are fully transparent and of high integrity.

RSB's Market Acceleration Indicator

RSB is currently taking steps to improve consistency and facilitate contracting other sustainability requirements. RSB's new standard, the Market Acceleration Indicator (MAI) is intended to do the following:

1. Provide guidance for contracting sustainability elements, including a "bankability audit."
2. Allow parties to quickly demonstrate that they have satisfied sustainability requirements.
3. Show that a deal provided a critical, market-making function at the time it was signed to indicate that the project should be highly valued, even if standards change.

The MAI will streamline contract review so lenders can focus on the traditional risk assessment with the confidence that the sustainability and commercial uncertainty is reduced if a contract achieves market acceleration status. Please visit RSB.org for further information.

The bottom line: For lenders, EAC transactions are most bankable when they resemble standardized term sheets for other capital projects backed by commodity output, like renewable electricity projects. Capital providers will hedge their risk exposure by seeking consistency in EAC standards and certificate requirements, with offtake by creditworthy buyers.

Standardization from the buyer's perspective

Buyers typically decide which sustainability standards the EAC contract will reflect. Guaranteeing auditable adherence to third-party standards is one of buyer's key priorities when negotiating an EAC deal. Key terms likely to make the top of the buyer's list for deeper review include the SAF feedstock, CI reduction, the selected standards body, and related GHG accounting methodology.

Lack of standardization impacts buyers less than sellers and lenders. This is because buyers can establish an internal, standardized product specification requirement and require sellers to provide compliant product. However, this does require the buyer to develop specialized knowledge about SAF sustainability standards. Standardization would reduce the administrative burden of interpreting disparate standards — and the risk of greenwashing if the buyer interprets incorrectly.

Standardization from the seller's perspective

For sellers, product standardization reduces complexity but can also eliminate incentives to improve sustainability performance if not handled carefully. EACs need to provide standardization for the buyer while still rewarding sellers for improving performance on a per-unit basis. This is relatively easy to accomplish with quantitative attributes like CI. A product with a lower CI will generate more emissions reductions per gallon of SAF than a product with a higher CI, and EACs can be defined to reflect that. Standards bodies should seek to define other attributes in a similarly comparable manner.

Part V: Improving Access to Debt Through Cash Flow Predictability and Managed Risk

In addition to contract standardization, cash flow predictability is another important pillar of project bankability. Debt providers are risk averse — which means they are only willing to provide capital for cash flows that are backed by strong commitments. Key provisions in contracts determine which future cash flows investors are willing to accept as the basis on which to size and structure a loan.

The four most important terms for cash flow stability in any offtake contract are as follows:

- Contract length
- Payment obligation structure
- Pricing method
- Recourse for failure to deliver

These terms tend to be a core focus for negotiation in most offtake contracts because lender, buyer, and seller interests often diverge over them. Although this playbook focuses on contracting to give lenders what they need, this section also considers buyer and seller interests that may arise during negotiations.

However, one other factor is critical to lenders, and it colors how they view every other term: counterparty credit.

Counterparty credit: A precursor to bankable contracts

Although counterparty credit is not explicitly an offtake contract term, lenders evaluate the way other terms distribute risk through the lens of each party's credit. Poor credit can turn a highly bankable term into a nonstarter. For example, even if an airline agreed to a 20-year offtake contract, lenders would likely view the agreement as a weak guarantee due to the airline's low credit. This is why airlines are not ideal counterparties for EAC deals in the voluntary markets.

Buyers with highly rated credit and large balance sheets are critical for early deals, when there is less evidence to demonstrate the reliability of sellers' cash flows. However, these kinds of buyers are in limited supply and their appetite for EAC is not infinite. To achieve scale, it will be necessary to structure deals so credit risk is appropriately shared between parties or transferred to an outside party via insurance products or other risk management solutions.

Contract terms that impact cash flow stability

Contract length

For lenders, the contract must guarantee offtake for long enough that the seller can make all scheduled loan payments. In practice, this means that the EAC contract length should typically align with the length, or *tenor*, of the debt. Investors determine the minimum required contract length based on project-specific

economics. For example higher-margin projects can support shorter loan tenors and therefore shorter contract terms, whereas lower-margin projects generally require longer repayment schedules and longer contracts.

Payment obligation structure

Common payment obligation structures (which are not unique to EAC contracts) include the following:

- **Take and pay:** The buyer reserves a specified purchase volume but is not obligated to accept the specified volume. The buyer pays only for volume they take delivery of.
- **Annual obligation:** The buyer specifies a new purchase volume at the beginning of each year and must pay for the specified volume.
- **Pay as produced:** The buyer must pay for the full volume delivered by the seller, regardless of the buyer's demand. In some cases, the buyer may specify a maximum delivery volume.
- **Take or pay:** The buyer pays a set price for the full contract volume whether they choose to take delivery or not.

Lenders prefer payment obligation structures that are as firm as possible, with a take-or-pay structure representing the most stringent obligation to pay. Investors may also accept pay-as-produced structures if technology risk is low or managed by other risk management products.

Take-or-pay structures reduce demand risk for sellers by guaranteeing them a payment from the offtaker. However, this means more risk for buyers, who are locked into long-term procurement obligations, even if market conditions change. As result, take-or-pay structures support bankability but will likely limit the pool of buyers to a small group of early adopters who are committed to catalyzing the SAF market.

Pricing method

Common pricing methods include the following:

- **Fixed price**: The buyer and seller agree to a single price (e.g., $300/ton of CO_2 abated) to be used for the duration of the offtake agreement. This price is typically periodically adjusted for inflation.
- **Cost plus:** The buyer agrees to cover all the seller's production costs, plus a fixed margin that may be periodically adjusted for inflation. This method is also referred to as the contract-for-difference method in renewable electricity models.[8]
- **Indexing:** The price of the product is tethered to the pricing index for some other well-established commodity. The index is typically calculated as a fixed "spread," which is then added to the periodically updated index price. Three common options in the SAF sector are indexing to (1) the price of standard jet fuel (2) the price of carbon, or (3) the prices of feedstocks for the SAF.

For any of these methods, a price floor and/or ceiling can limit exposure to market volatility. Floor prices may improve bankability by providing a firm lower bound for estimating cash flows. Conversely, ceiling prices may reduce bankability if they include an option for buyers to break the agreement following a certain period of high prices.

For lenders, different long-term pricing agreements introduce different types of risk for the seller's cash flows:

- Fixed-cost structures are familiar to investors, but they push most of the market risk onto the producer by holding price constant even if costs increase. This may (1) decrease how much debt financing a project can secure and/or (2) increase the cost of capital.

- Cost-plus models push most of the risk onto the buyer and so require buyers with very high credit rating. By fixing the seller's margin, this method reduces the incentive for producers to be efficient and also eliminates upside potential, which makes it difficult to attract equity investors.

- For indexing, the choice of index heavily impacts how investors perceive risks. Indexing to known commodities increases transparency and hedging opportunities, while indexing to other SAF feedstocks may leave investors exposed to illiquid commodities — like beef tallow or used cooking oil — or proxy markets.

Recourse for failure to deliver

For lenders, recourse options that allow the buyer to terminate the agreement based on failure to deliver product specifications undercut the benefits of signing a long-term agreement. Options that require the seller to provide additional EAC volumes at no cost to the buyer can introduce unpredictable expenses for the seller, which creates cash flow uncertainty. The best option is for buyers to allow some flexibility in product specifications or volume requirements. This could mean accepting a range of delivery volumes instead of one fixed value or creating a delivery ledger, as described in Part IV.

Bankability from a producer's perspective

Contract length

Long-term contract conditions provide stable revenue for producers but may also limit their ability to flexibly respond to rapidly changing conditions in nascent markets. However, when technology and market risks are high, producers typically prefer the longest-term contracts that buyers will support.

EAC payment obligation structure

Producers also prefer firm payment obligation structures but are less risk averse than debt providers. Although take-or-pay structures are appealing to producers, pay-as-produced structures provide comparable benefits and are more appealing to buyers. Producers may also accept annual obligation structures, though the lack of year-over-year revenue certainty cannot support final investment decision for new facilities.

EAC pricing method

Producers strongly prefer cost-plus models, which manage their operating cost uncertainties while guaranteeing a fixed margin. However, they may not initially be comfortable disclosing detailed cost factors or implementing an independent audit process to verify shared data. Producers may also accept indexing to the SAF feedstock, which also limits the risk of production cost increases. The fixed-price model creates

risk for the seller by eliminating the option to raise prices if production costs increase and/or trapping the seller in a below-market-rate agreement if the value of the product increases.

Recourse for failure to deliver

Meeting SAF and EAC product specifications for the full production volume requires complex supply chain and operational coordination. The producer prefers recourse options that allow flexibility for missed volumes.

Bankability from the buyer's perspective

Contract length

For buyers, openness to long-term offtake may depend on the buyer's perspective on the near-term scarcity of the product and price volatility. If buyers expect prices to increase, they may be more willing to lock in present prices with a long-term contract. Supply availability can be a valid concern in nascent markets where producers may halt operations under unfavorable pricing conditions, especially when they can shift operations to other products like road fuels or conventional oil and gas options.

EAC payment obligation structure

Buyers generally prefer less firm commitment options like annual obligation and take-and-pay structures. These structures do not lock the buyer into procurement commitments but rather allow flexibility to size volumes based on external market conditions and internal financial or operational parameters.

EAC pricing method

For price predictability, buyers generally prefer indexing to known commodities like standard jet fuel or ethanol, or fixed-price models. In a similar way, indexing to external markets such as regional costs of carbon for EAC pricing offers transparency and may create the opportunity to hedge commodity market risks. The fixed-price model creates planning certainty. Conversely, the cost-plus model may be unappealing to buyers because it requires the buyer to bear most of the risk of production cost increases.

Recourse for failure to deliver

Recourse options that require the sellers to provide alternative EACs at equivalent cost create the greatest certainty for buyers that they will be able to meet their public commitments. Options that accept reduced volumes with no recourse may leave buyers with insufficient emissions reductions to report, especially if they are unable to procure additional EACs in the spot market. The option to break the agreement protects the buyer from becoming locked into an agreement with a perpetually underperforming counterparty.

Part VI: Conclusion

The SAF market is at an inflection point. Although demand signals are growing, the challenges of today's market structure — fragmented value streams, evolving standards, and uncertain pricing mechanisms — make it difficult to unlock financing at the scale needed. Throughout this playbook, we explored how carefully designed EAC contracting structures can transform this challenge into an opportunity.

Bankability arises not from one lever but from the alignment of many: sound terms, reliable revenue streams, verified disclosures where applicable, and balanced risk sharing across buyers, producers, and financiers. For lenders, strong cash flow predictability and product specification guarantees reduce uncertainty and enable access to cheaper capital. For producers, take-or-pay structures and long-term counterparties stabilize investment decisions. For corporate buyers, multiyear agreements paired with EACs provide certainty of supply and demonstrate credible decarbonization leadership.

By bringing these perspectives together, the market can move beyond one-off transactions toward standardized, scalable models that unlock larger capital flows and accelerate SAF deployment.

The path forward

1. **Prioritize contract alignment:** Secure both the EAC and fuel agreements to demonstrate a financeable package that reflects both cash flows. A fuel logistics supplier is ideally positioned in the supply chain to act as an offtaker for the physical fuel. Standardizing treatment of core terms — from CI thresholds to payment obligations — will simplify negotiations and reduce perceived risk.

2. **Engage across the value chain:** Producers, corporate buyers, registries, and financiers must work collaboratively to ensure contract language aligns with evolving standards while preserving market flexibility and EAC tradability.

3. **Accelerate standardization and transparency:** A shared framework for pricing mechanisms, registry requirements, and reporting expectations will lower diligence costs, improve lender confidence, and catalyze additional investment.

4. **Develop additional risk-sharing mechanisms:** Contracted offtake is just one way to spread risk among the parties. Offtake agreements are well suited to manage risks like price and demand uncertainty. Other risks, like technology and performance uncertainty, may be better addressed through insurance products, concessional capital, or other risk-mitigating mechanisms. For example, creatively assembling co-investor groups (commonly referred to as "deal syndicates" by investors) can help spread risk across multiple investors to reduce risk for each individual investor.[9] The sector is poised for ambitious financial service providers to develop innovative deal structures. After all, more bankable projects means more deal flow.

Call to action

The SAF ecosystem cannot scale without deeper partnerships and aligned incentives. Producers need the security of long-term offtakes, buyers need access to credible decarbonization pathways, and lenders need confidence in stable returns. By leveraging the EAC contracting practices outlined in this playbook, stakeholders can collectively accomplish the following:

- **Reduce financing costs** through improved risk allocation
- **Support capacity build-out** by de-risking investment decisions
- **Signal demand durability** and accelerate SAF market maturity

The opportunity is here. Creating standardized, bankable EAC contracts is not just a financing innovation — it is an essential step toward unlocking the volumes of SAF needed to meet global climate targets.

Part VII: Glossary

Annual obligation — A payment obligation structure in which the buyer defines the purchase volume at the beginning of every yearly period during the life of the contract. It may include a volume floor or ceiling that specifies a maximum or minimum that can be purchased each year. It can also be specified on a quarterly, monthly, or other timescale basis.

Balance sheet financing — A mechanism for financing new equipment, facilities, or other projects in which the developer uses its unencumbered assets as collateral to secure debt financing.

Bankability — A project finance term representing an assessment of how attractive a project is to financial institutions, including lenders and/or investors.

Book-and-claim — Chain-of-custody model in which the administrative record flow does not necessarily connect to the physical flow of material or product throughout the supply chain.[10]

Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) — A global market-based measure for the aviation sector to reduce emissions from international aviation activity.[11]

Chain-of-custody model — Any process of tracking a product or material through its supply chain to validate claims about origins, production process, or other attributes.

Commoditization — The process by which the perceived differentiation among competing goods or services diminishes to such an extent that the majority of buyers regard them as broadly interchangeable, resulting in competition being driven primarily by price. In practice, few products or services achieve complete commoditization; even widely traded "commodities" such as crude oil, natural gas, or agricultural staples may retain distinguishing attributes — including origin, quality, technical specifications, or associated services — that influence market valuation. Commoditization is therefore most accurately described as existing along a spectrum rather than as an absolute state.

Cost-plus pricing — A pricing method in which the product or service is sold at a fixed profit margin above the total cost of production, as calculated by the producer.

Creditworthiness — A lender's assessment of a borrower's ability to pay back a loan. It is often defined by credit rating agencies like Moody's, S&P, or Fitch.

Debt service coverage ratio (DSCR) — A metric used to understand the borrower's ability to repay its annual debt obligations.

Environmental attribute certificate (EAC) — A contracting mechanism that represents the intangible environmental benefits associated with a unit of energy. In the SAF certificate and RSB registries, one EAC is equivalent to the emissions reductions associated with 1 ton of SAF.[12]

Fixed-price model — A pricing method in which the buyer and seller agree to a set per-unit price for the duration of the offtake agreement. The price does not change if market conditions or the cost of production changes. In some cases, the fixed price may be adjusted for inflation at a specified cadence.

Indexing model — A pricing model that links the cost of the product to the cost of one or more of the input materials for the product manufacture.

International Air Transport Association (IATA) — An industry trade association that represents more than 80% of global air traffic and operates the CADO registry.

International Civil Aviation Organization (ICAO) – a United Nations "that works with its member states to support the safe, secure, sustainable, and efficient operation of international civil aviation" and manages the CORSIA standard.[13]

International Sustainability and Carbon Certification (ISCC) — An independent stakeholder and certification initiative for sustainable supply chains.

Long-term offtake agreement — An agreement where a buyer agrees to purchase a certain quantity of a seller's product for a defined period to ensure cash flow needed for the seller's financing activity.

Offtake agreement — A binding contract between a company that provides goods or services and a company that needs to procure those goods or services.[14]

Offtakers — The people or companies that will purchase the product created by a new project.[15]

Pay-as-produced model — An agreement where the seller is paid by the product quantity both produced and delivered to the buyer.

Payment obligation structure — A framework that defines the payment terms of a contract, typically for finance agreements.

Power purchase agreement (PPA) — A long-term contract between an electricity generator and a purchaser.

Registry — An organization confirming registration and validation of a specified attribute.

Regulatory additionality — The requirement that a project must provide environmental benefits beyond what is already guaranteed by regulatory mandates.

Renewable energy certificate (REC) — A market-based instrument representing the property rights to the environmental, social, and other nonpower attributes of renewable electricity generation. RECs are issued when 1 megawatt-hour of electricity is generated and delivered to the electricity grid from a renewable energy resource.[16]

Renewable identification number (RIN) — Tax credits awarded for fuel production under the US Renewable Fuel Standard.[17]

Roundtable on Sustainable Biomaterials (RSB) — A global nonprofit that administers sustainability programs including one for book and claim and various certifications.

Scope 1 emissions — Emissions generated by owned or controlled sources, that is, by direct activity, as defined by the Greenhouse Gas Protocol.[18]

Scope 3 emissions — A company's supply chain emissions, that is, all other indirect emissions produced within a company's value chain, as defined by the Greenhouse Gas Protocol.[19]

Sustainable Aviation Buyers Alliance — A member-based organization promoting net-zero aviation through investment and adoption of SAFs.

Take and pay — A contractual provision stating a buyer has an obligation to take delivery of and pay for a minimum quantity of goods during a defined period.[20]

Take or pay — A contractual provision stating a buyer that the buyer will pay a set price for the full contract volume, whether they choose to take delivery or not.

Term — A key component of a contractual agreement.

Term sheet — A document outlining the key conditions of a proposed business agreement.

Appendix: SAF EAC Contract Term Sheet

Exhibit A1 provides supplementary information to complement the contents of this playbook.

Exhibit A1 Term sheet for unique SAF and EAC contract provisions

CATEGORY	DESCRIPTION
Neat SAF Production	
ASTM Certification	Establishes the seller's obligation to provide aviation fuel in compliance with international safety and product standards.
Certification or Verification Body	Defines the third-party entity that will certify that the underlying fuel meets the required SAF standards throughout the value chain.
CI Requirement Specification	Establishes the minimum CI reduction required from the SAF. Parties often align this requirement with a regulatory standard like the LCFS in the United States, RED in the EU, or a well-recognized voluntary emissions reduction scheme like CORSIA.
CI Timeline Calculation	Establishes when CI will be calculated and identifies when the data needed to calculate it will be collected.
Feedstock Requirements	Defines allowable source material from which the contracted SAF volumes must be derived or imposes other conditions or specifications on the source material.
GHG Accounting Methodology	Defines the methodology that will be used to measure the CI of the SAF produced, including the scope of the calculation, the GHGs included, and the allocation method. The methodology may be dictated by the standards body.
Production Facility	Defines the particular asset from which all or part of the contracted SAF volume must originate. It can also be used to guarantee a particular production process — for example, HEFA, alcohol-to-jet, or Fischer-Tropsch.
SAF Blending	
EAC Created	Defines producer's responsibility to generate EACs for eligible SAF in the registry designated by the parties, including complying with certificate requirements. For example, RSB requires certificates to be created no more than 90 days after the physical fuel is delivered to a buyer.
EAC Vintage Requirement	Defines the EAC for which the EAC is valid.
Payment Schedule	May impact invoicing because delivery volume is contingent on per-unit CI reduction.
Periodic Verification	Defines document/data retention conditions for the seller and establishes supply chain audit requirements for the producer.
Responsibility for Regulatory Incentive Monetization	Defines, at a minimum, (1) which party is responsible for monetizing incentives, (2) which incentives are included in the pricing structure, and (3) recourse for failure to monetize. May also define which party will receive compensation from regulatory incentives, though this may alternatively be incorporated into the pricing structure/formula (see "Pricing Structure" below). Incentives may include national and subnational regulatory and incentives (e.g., RINs, LCFS).
SAF Blending	Defines responsibility for blending SAF and standard jet fuel in a specified ratio or ratio range. Typically, the point at which the producer generates the EACs in the designated registry.

Exhibit A1 **Term sheet for unique SAF and EAC contract provisions, continued**

CATEGORY	DESCRIPTION
EAC Standards Adherence	
Duration	Defines the contract duration between buyer and seller and may also include (1) the option to extend the agreement after the term expires, or (2) conditions for early termination.
EAC Management and Registry Responsibilities	Defines (1) parties right to transact the EACs in question, vis-à-vis a registry or other recordkeeping mechanism; (2) parties responsibilities to transfer, retire, and report on EACs; (3) parties agreement to not duplicate, double count, or resell the committed EACs; and (4) recourse in the event of failure to fulfill obligations. May also include the obligation to ensure retirement of the Scope 1 certificate, a critical precursor to retiring the Scope 3 certificate.
EAC Resale Conditions	Defines how the parties agree to manage EACs if they are resold by the buyer, usually in relation to branding or sales data sharing.
Pricing Structure	Defines the method the seller will use to calculate price. Common methods include cost plus, fixed price, or indexing. May also include an agreed-upon method for indexing price to inflation.
Registry Definition	Defines registry or alternative methodology agreed upon by buyer and seller to publicly validate the EACs.
Strength of Commitment	Defines the buyer's obligation to purchase the product, either at a fixed volume or according to a minimum purchase requirement, which may or may not be contingent on the volume delivered. Outlines the conditions under which either party may refuse to buy or sell the product or may seek to terminate the agreement.
Volume Delivery Obligation	Defines (1) minimum delivery obligation(s) for the seller, including procedures for scheduled maintenance events; and (2) recourse in the event the seller is unable to deliver the full volume.
Physical Delivery	
Physical Delivery	Establishes responsibility for ensuring physical fuel delivery to an aviation fuel user. May also include the requirement to ensure delivery within a specified geographic area, if necessary to secure regulatory incentives.

RMI Graphic. Source: RMI analysis

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