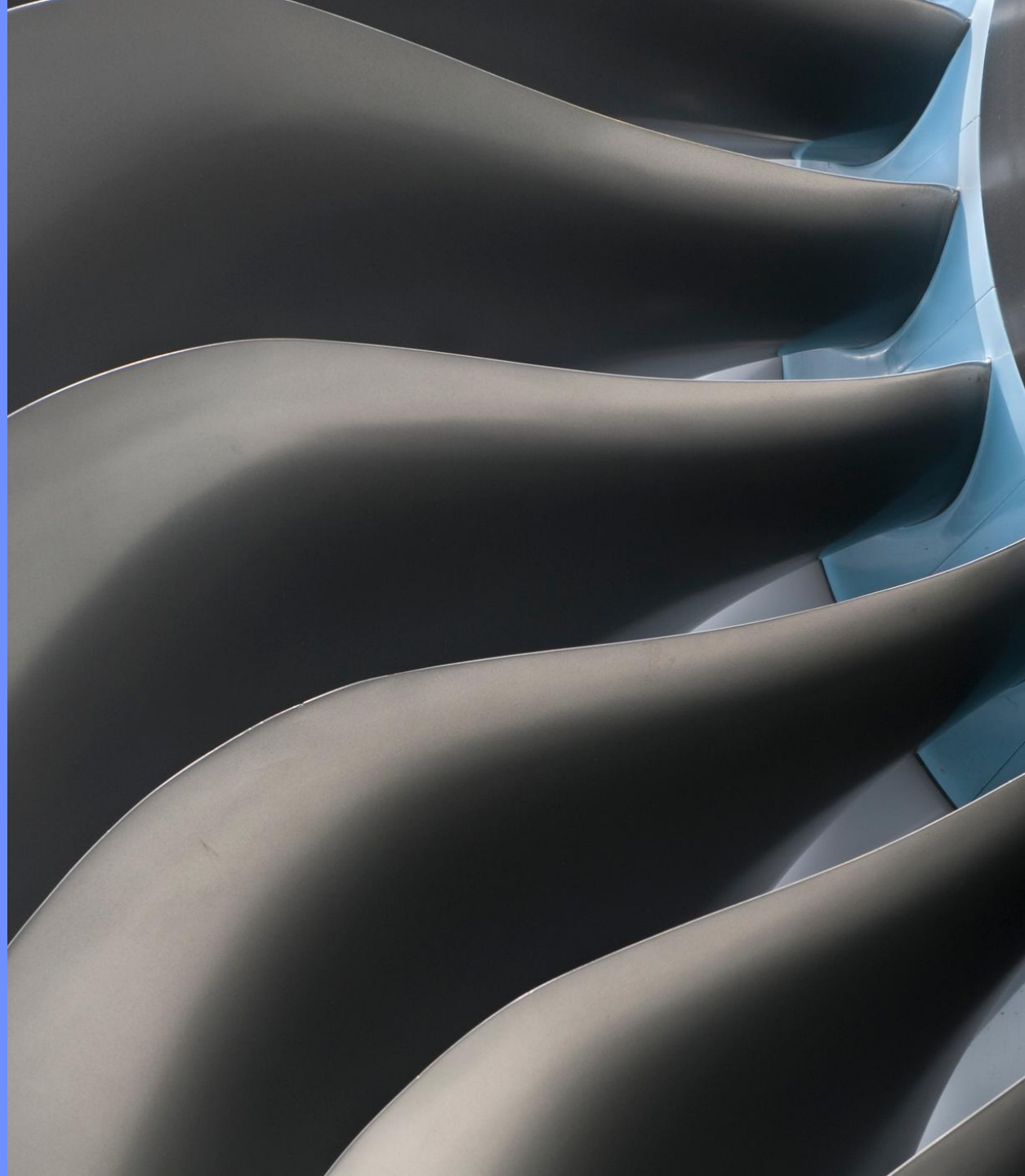


# ICAO ESAF/WACAF & EASA third SAF Workshop Kigali, Rwanda

From Ambition to Investment:  
Making SAF Projects Bankable  
in Africa – A De-Risking Perspective

23 APRIL 2026

**FRESHFIELDS**



# Agenda and speaker

1.

**SAF and project finance –  
the scale of the challenge  
and Africa’s opportunity**

2.

**Bankability issues – practical  
analysis and solutions**



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## **About your speaker**

Amanda is a senior associate in the Freshfields energy, transportation and infrastructure team and a member of the Firm’s global transactions and Africa groups. Prior to joining Freshfields, Amanda was an associate at a top pan-African law firm in Johannesburg, South Africa where she advised on a broad range of finance work. She has a depth of experience in the energy and infrastructure sectors and has worked for both lender and sponsor clients on a variety of mandates including project financings, general financings, restructurings and M&A transactions.

Amanda has been advising on many pioneering projects in nascent and mature industries and has a long track record in dealing with an array of project risks. In SAF, Amanda’s recent experience includes advising a major international investor on acquisition of a leading SAF platform. Amanda was nominated for IFLR Africa Awards 2026 – Rising Star (International) for transactional work in energy and infrastructure across Africa and emerging markets. This recognition reflects Amanda’s role advising on complex, high-impact deals, including the award-winning Sun King sustainability-linked financing, which was named IFLR Sustainability-Linked Loan Deal of the Year.

1.

# Setting the scene – SAF as a structuring problem

Capital is available.

Technology is advancing.

Policy momentum is building.

Yet very few projects reach financial close.

# The SAF value chain is a risk chain

## Every Link in the Chain is a Risk Event

- Feedstock → Conversion → Refining → Distribution → Airline/Offtake
- Each link introduces a distinct risk category
- Risks compound: a failure at any single node can make the whole project unbankable

## Africa-specific overlay risks sit across multiple nodes simultaneously:

- Feedstock aggregation infrastructure does not yet exist at scale
- Policy and regulatory frameworks are not yet harmonised across the continent
- Infrastructure constraints affect distribution and logistics
- Currency and sovereign risk affect the capital stack at every level

**The value chain is also the risk chain.  
Structuring is the discipline of  
managing that chain so that capital can  
flow through it.**

# The SAF value chain is a risk chain

Factor	What it means in practice
<b>Fragmented value chain</b>	No single party controls feedstock → conversion → offtake; coordination costs are enormous
<b>Weak or absent offtake</b>	Without a creditworthy, long-term buyer, there is no revenue certainty to finance against
<b>Policy uncertainty</b>	Mandates exist in the EU and UK but are absent or nascent in Africa; offtake pricing is hard to anchor
<b>Technology scale risk</b>	FOAK plants at TRL 4–8 cannot get standard LSTK EPC contracts; completion risk is effectively unquantifiable
<b>Misallocated risk</b>	Risk sits with the party least able to manage it – the SPV or the developer – rather than those best placed

**The answer is not more capital.  
It is better structure.**

# SAF and project finance: How SAF fits

## Project finance: The natural home for SAF investment

- Energy transition investment reached a record **US\$2.1tn** in 2024 — up 11 per cent from 2023
- Renewable energy technologies accounted for **US\$728bn** in 2024
- Investment needs to **quadruple** to achieve global climate goals by 2050
- Project finance is crucial for ensuring the required investment level — successfully deployed across wind, solar, LNG, roads, and biofuels
- SAF industry development follows the same patterns and faces similar challenges as other renewable energy sectors — enabling the sector to benefit from more mature industries' experience

# The scale of the challenge — and the Africa opportunity

## Global production reality:

- Annual SAF production 2024–25: **1 Mta to 1.9 Mta**
- Target by 2030 under various mandates: approximately **17 Mta**
- **US\$50bn** of new capex needed before 2030
- Long-term: **3,000–6,500** new renewable fuel plants needed to reach net zero CO<sub>2</sub> by 2050
- **US\$50bn** of new capex needed before 2030 - Still no clear policy response to the **source of capital** for this investment

## Africa Opportunity

- Up to 500 million tonnes of unconstrained agricultural residue available by 2030 (IATA) Abundant non-food-competing feedstocks: waste biomass, agricultural residues, vegetable oils
- SAF market opportunity up to US\$10bn by 2035 in Africa, supporting 2 million+ farmers and 325,000 new jobs (Manufacturing Africa)
- Key production hubs: South Africa, Nigeria, Ethiopia, Kenya

- Growing domestic aviation demand + strategic geographic position for export
- Africa currently no binding domestic mandates — but is perfectly positioned to supply **EU/UK mandated markets** with binding mandates as an export hub
- Capital is not arriving at the pace required — because projects are not structured to attract it

## The key takeaway

The Opportunity is real. Africa has the fundamentals to lead in SAF but so is the financing challenge. The missing piece is bankable structure.

# The four pillars of bankability

Every SAF project that reaches financial close will have to address these:

## 1. Contractual certainty

### What it requires:

- Feedstock supply agreements
- EPC/construction wrap
- O&M contracts
- Long-term offtake

## 2. Revenue visibility

### What it requires:

- Airline offtake agreements
- Government mandates and incentives
- Carbon markets (CORSA/ETS)
- Structured pricing mechanisms

## 3. Risk allocation discipline

### What it requires:

- Construction → EPC contractor
- Technology → OEM/licensor
- Feedstock → supplier/aggregator
- Political risk → DFIs/guarantees

## 4. Bankable capital stock

### What it requires:

- Equity (strategic + financial)
- DFI/MDB debt
- Climate and blended finance
- Grants/viability gap support

The six bankability issues that follow each map onto one or more of these pillars. The framework turns a list of risks into an actionable structuring checklist

2.

Key bankability and de-risking  
considerations

# Issue No. 1 – Technology risk

## The challenge

- SAF production at commercial scale relies on technologies that are **not yet commercially proven at the required scale**
- Electrolyser technology and e-methanol synthesis still at **TRL 4–8** depending on pathway
- Feedstock preparation and pre-treatment technology issues: **scaling up, efficiency, and integration**
- No commercial-scale, integrated SAF production facility has yet demonstrated consistent full-cycle performance

## The structuring response

- Technology due diligence and independent technical adviser (ITA) reports: assessing technology maturity, performance guarantees, and pathway to commercial operation
- **OEM/licensor step-in rights** and performance guarantees - ring-fencing technology risk with the technology provider
- **Residual technology risk**: where risk cannot be transferred, DFI first-loss instruments and guarantees can bridge the gap to commercial lender tolerance
- **FEED studies (Front-End Engineering and Design)**: de-risking the transition from development to bankable project - without FEED, lenders are financing into an engineering void

**Pillar 3: Risk Allocation Discipline** – technology risk must sit with the OEM/licensor, not the SPV.

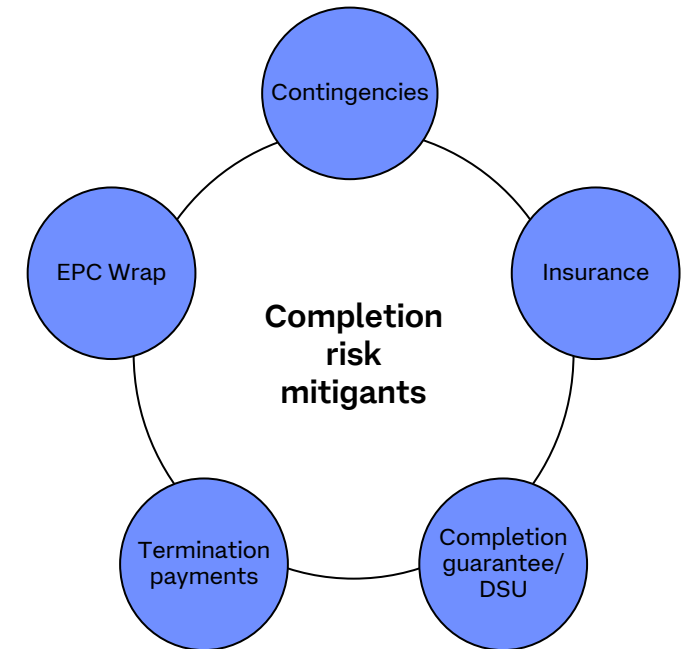
# Issue No. 2 – Completion risk

## The challenge

- Key risk for any project finance deal – construction period – the riskiest phase
- FOAK projects cannot attract standard lump-sum turnkey (LSTK) EPC contracts – the cornerstone of project finance construction risk management
- EPC contractors are not willing to take fixed-price, fixed-time, end-to-end liability for technologies they have not constructed before at scale
- Result: completion risk sits in the SPV – precisely where it cannot be tolerated by lenders

## The structuring response

- Wrap structures: technology licensor wraps OEM performance guarantees around the EPC contract, effectively providing a quasi-LSTK equivalent
- Phased development: de-risk through pilot and demonstration phases before committing full capex – lenders need milestones, not promises
- Sponsor support mechanisms: completion guarantees, cost overrun facilities, and contingency reserves – sponsors absorb construction risk that cannot be passed to contractors
- DFI construction-phase support: DFIs as lenders of record during construction, converting to pari passu or senior secured positions post-COD



**Pillar 1: Contractual Certainty – the contract structure must bridge the gap left by the absence of LSTK**

# Issue No. 3 – Project-on-project risk

## The challenge

- SAF projects are often dependent on other infrastructure projects that are themselves not yet built or financed
- e-SAF projects require dedicated renewable energy and green hydrogen supply – typically a separate upstream project with its own financing timeline
- If the upstream project slips, the SAF project is stranded – with no feedstock, no revenue, and ongoing debt service obligations
- Circular dependency: each project depends on the other being financed and operational

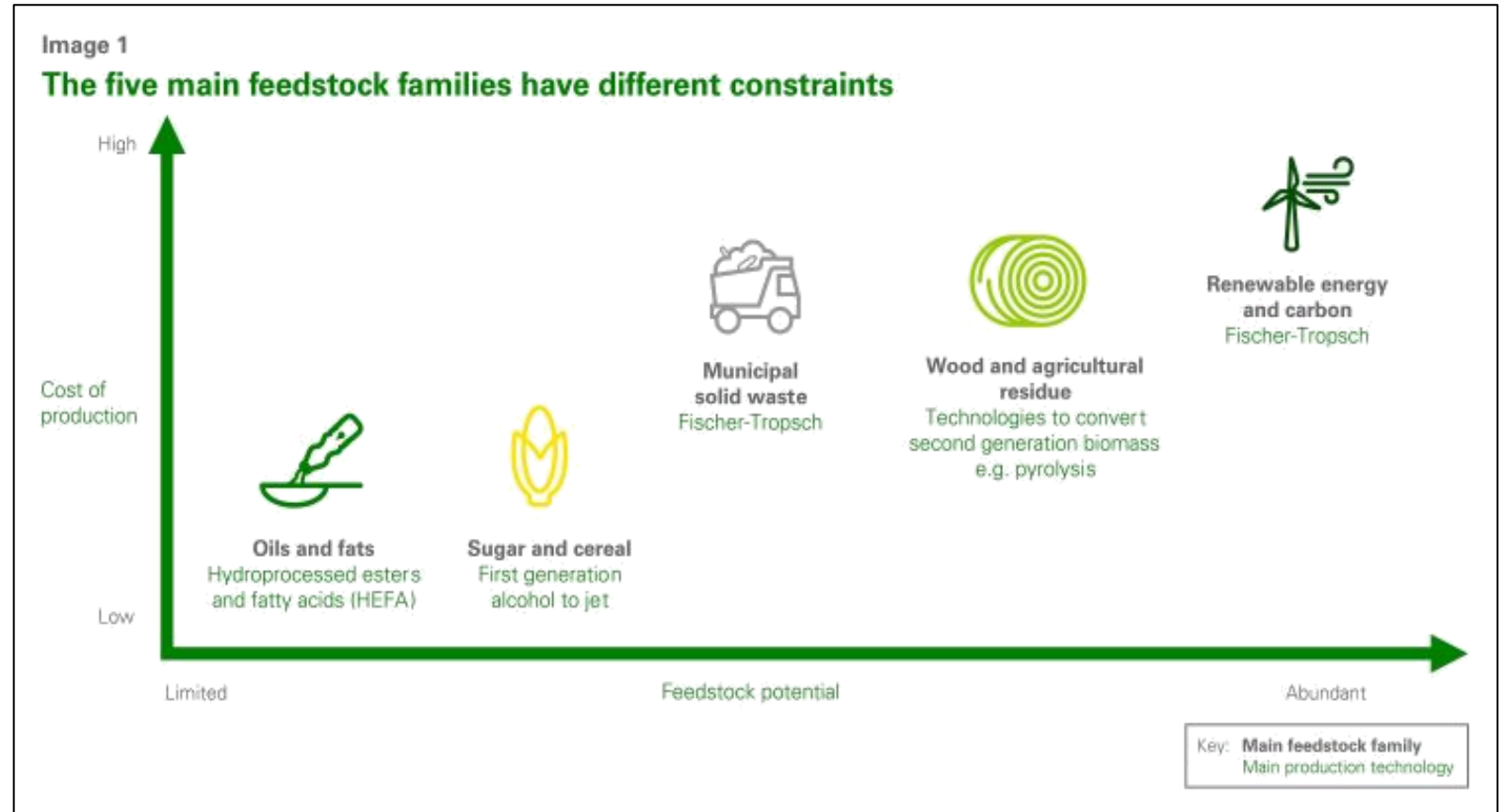
## The structuring response

- Careful analysis of upstream project maturity before committing to SAF plant financing
- Back-to-back contractual protections: SAF project's offtake obligations triggered only on delivery of feedstock/energy inputs
- Integrated project structures: co-financing upstream and downstream under a single financing umbrella where possible
- Long-stop dates, cure periods, and step-in rights built into feedstock supply agreements
- DFI coordination across multiple project financings in the same supply chain

**Pillar 3:** Risk Allocation Discipline – interface risk must be contractually allocated, not left as a gap.

# Issue No. 4 – Feedstock arrangements

- Feedstock (quality, volume and cost) is critical to many SAF projects
- Choice is driven by underlying production technologies
- The following two aspects are key for bankability:
  - **volume** – sources of feedstock are available and secured (normally, by long-term supply agreements)
  - **price** – committed or flows back-to-back into the offtake price formula
- Africa contains abundant waste-based and agricultural feedstocks – Challenges include building collection infrastructure and managing price volatility where feedstock competes for local energy needs.



Source: BP

# Issue No. 4 – Feedstock arrangements

## The challenge

- SAF feedstock supply must be secure, consistent, sustainable, and competitively priced over the life of the project (typically 15–25 years)
- Feedstock supply chains in Africa are fragmented and immature: aggregation infrastructure does not exist at scale; no established logistics chains; price discovery is difficult
- Competing uses and sustainability certification requirements add complexity

## Africa's strategic advantage — and how to unlock it

- Africa has the most abundant non-food-competing feedstock of any region globally: agricultural residues, municipal solid waste, dedicated energy crops on marginal land
- Feedstock cost advantage could be a genuine competitive moat — if aggregation infrastructure is built

## What is needed:

- Long-term feedstock supply agreements with aggregators (minimum 15-year tenor to match debt)
- Sustainable aviation fuel certification (ISCC, RSB) built into supply contracts from day one
- Aggregation infrastructure investment — potentially a role for DFIs and development-oriented equity
- Price floors and volume guarantees to give farmers revenue certainty and lenders supply certainty

## The Structuring Response

- Feedstock supply agreements: volume, price, sustainability certification, delivery, and termination mechanics — all must be bankable
- Feedstock diversification across multiple suppliers and pathways reduces concentration risk Government support for aggregation: land access, logistics infrastructure, certification frameworks

**Pillar 1** Contractual certainty + **Pillar 3:** Risk allocation — feedstock risk must be managed at the contract and infrastructure level, not left to the market.

# Issue No. 5 – Offtake risk

## The challenge

- Offtake is the single most critical bankability issue for SAF projects
- Without a creditworthy, long-term, take-or-pay off-taker, there is no revenue certainty to finance against – the project simply cannot be financed on a non-recourse or limited-recourse basis
- SAF production costs are currently 3–5x conventional jet fuel – airlines will not pay a premium without a regulatory obligation or commercial incentive

## Execution challenges in Africa

- African airlines are smaller and have weaker credit ratings than their EU/US counterparts – they cannot be anchor off-takers without credit support
- Domestic SAF mandates do not yet exist in most African jurisdictions
- Solution pathway: target EU/UK airlines and corporates with SAF obligations under ReFuelEU Aviation and the UK SAF mandate as priority off-takers – export-oriented SAF projects can anchor revenue on creditworthy EU counterparties

## The structuring response

- **Long-term offtake agreements:** minimum 15-year tenor, take-or-pay or take-and-pay structure, indexed pricing, and creditworthy counterparty
- **Blended offtake structures:** combination of corporate SAF buyers (SAF Book & Claim), government-backed offtake, and carbon credit revenue (CORSIA)
- **Government offtake guarantees:** where private offtake is insufficient, governments can underwrite a revenue floor
- **SAF mandate design:** domestic blending mandates – even at low initial percentages – transform the demand landscape for local production

**Revenue visibility – no bankable project without a bankable revenue stream.**

# Issue No. 6 – Equity

## The challenge

- SAF projects require significant equity contributions – typically >20–35 per cent of total project costs – before lenders will commit
- Equity investors in early-stage SAF face technology risk, construction risk, offtake risk, and policy risk simultaneously – requiring a return commensurate with that risk profile
- Equity gap: the risk-adjusted returns available may not be sufficient to attract purely commercial equity without blended finance support

## The structuring response

- Strategic equity: offtakers, airlines, feedstock suppliers, and technology licensors taking equity stakes – aligning interests across the value chain
- Financial equity: infrastructure funds, energy transition funds, climate-focused private equity – increasingly active in SAF as the asset class matures
- DFI equity and quasi-equity: development banks taking equity or subordinated debt positions to crowd in commercial equity
- Blended finance structures: concessional capital from climate funds (Green Climate Fund, CEEP, IFC MCPP) deployed alongside commercial capital to reduce the overall cost of capital to bankable levels
- Grants and viability gap funding: one-off capital contributions that reduce the equity requirement and improve the economics for remaining investors

**Pillar 4:** A bankable capital stack – the right blend of equity types determines .

# Issue No. 6 – Equity

- Debt to equity ratio
  - 70/30 – the golden standard of project finance
  - More equity for emerging industries like SAF – 60/40 or even higher. Africa also faces an additional ‘political risk’/‘emerging market’ overlay which could push equity higher
- Shortage of equity is often a bottleneck to wider use of project finance in certain industries or geographies
- Need for sponsors experienced in project finance – strategics and financial sponsors
- What to expect from an experienced sponsor
  - Buying through share subscription rather than through a standard SPA – funds to go into the business
  - JDA:
    - To develop and test the project before FID can be taken (could be six to 18 months)
    - To deal with costs, governance, exclusivity, non-compete and exits/options during that period
  - FID – a sophisticated set of CPs to sponsor’s final investment decision (normally predates financial close under senior financing)
- Pipeline of deals and promise for secondary markets is essential for the inflow of equity:
  - Economies of scale
  - Liquidity of assets
  - Predictability of costs and returns

# The role Of DFIs in de-risking

Development Finance Institutions: The Enabling Layer

DFIs and MDBs are not lenders of last resort for SAF — they are the enabling infrastructure that makes commercial finance possible

DFI Instrument	Risk Addressed	How It Works
<b>Senior secured debt</b>	Overall project viability	DFI as lender of record; signals project quality to commercial co-lenders
<b>Subordinated/mezzanine debt</b>	Equity gap, capital stack viability	Junior tranche absorbs first losses; improves senior lender coverage ratios
<b>Partial risk guarantees (PRGs)</b>	Political risk, regulatory risk	DFI backstops sovereign commitments — critical in emerging markets
<b>First loss facilities</b>	Technology and completion risk	DFI absorbs defined first tranche of loss; commercial lenders take senior position
<b>Political risk insurance (PRI)</b>	Expropriation, currency transfer	Enables commercial lenders to take project risk without sovereign risk exposure
<b>Equity/quasi-equity</b>	Equity gap	DFI equity crowds in commercial equity; aligns DFI and sponsor interests

**The GFI e-SAF Report finding:** Residual technology risk in e-SAF projects — after all commercial risk transfer mechanisms are exhausted — requires targeted DFI first-loss support. This is the critical intervention point where public finance unlocks private capital.

# Role of DFIs in de-risking

- DFIs can play a critical role in de-risking SAF projects through the following mechanisms (which may complement private financing in certain circumstances):
  - **First Lender Impact:** DFIs provide large-scale, risk-tolerant capital that ‘crowds in’ commercial banks, which helps supplement liquidity in the private sector market and build confidence in the bankability of this nascent industry
  - **Risk acceptance:** DFIs can accept structures/risks (eg certain political risks) which commercial lenders may be unlikely to assume
  - **Terms:** Longer debt tenors and lower cost of funding are vital for technology risks
  - **Recoverable FEED Grants/Loans:** FEED can be expensive for FOAK technology and difficult for developers to fund. DFIs can match private investment with FEED studies against a convertible loan upon FID, repayable during operation
  - **Contingent credit facilities:** DFIs can provide such instruments that may be accessed after project contingencies are depleted, allowing projects to address essential remediation requirements
  - **Extending Global Insurance Capacity:** The global insurance market for FOAK SAF projects is currently capped at roughly €450m per policy. DFIs can fill the capital gap for projects that insurance alone cannot cover

**Africa angle:** Opportunity for governments in Africa to partner with DFIs to secure financing and create export revenue streams in SAF projects, despite lack of domestic mandates.

# Global SAF policy frameworks and Africa opportunity

## Mandates, incentives, and the African positioning

### EU: ReFuelEU Aviation & ETS (the ‘Stick’)

- **Mandate:** 2 per cent SAF blending mandate from 2025, rising to 6 per cent by 2030, 70 per cent by 2050. Synthetic fuels sub-mandate: 1.2 per cent by 2030, 35 per cent by 2050

### United Kingdom: Mandate and revenue certainty

- **Mandate:** Applies to UK-departing flights, requiring 2 per cent SAF in 2025, 10 per cent by 2030, and 22 per cent by 2040
- **Support:** A Contracts for Difference (CfD) revenue certainty mechanism is actively under development to be implemented by the end of 2026

### United States: Incentive-driven (the ‘Carrot’)

- **Tax Credits:** The Inflation Reduction Act (IRA) offers a SAF Blender’s Tax Credit of up to \$1.75/gallon Note: policy uncertainty under current administration; African projects targeting EU/UK markets are better insulated

### ICAO – CORSIA

- Global offsetting scheme creating carbon credit demand for SAF — revenue stream supplementary to offtake agreements

### Africa: The Export Hub

- No binding domestic mandates yet — but the export opportunity to mandate markets is available now
- African Union and individual states developing SAF roadmaps — South Africa, Kenya, Ethiopia, Nigeria in early-stage policy development
- Ask for governments in this room: blending mandate design, revenue protection mechanisms, feedstock certification frameworks, and DFI coordination

# What works in practice: The practical playbook

## For project developers

- Invest in FEED before approaching lenders. Without bankable engineering, you are not ready for financing conversations — you are still in development
- Secure anchor offtake before approaching lenders. Even a heads of terms with a creditworthy airline or corporate buyer transforms the bankability conversation
- Engage DFIs in project design, not at financial close. DFI involvement from the feasibility stage shapes the structure, reduces later surprises, and accelerates lender due diligence
- Use a phased approach. Pilot → demonstration → commercial scale. Each phase de-risks the next and creates the track record lenders need

Allocate risk to those who can manage it — not to the SPV. This is the discipline that separates bankable projects from ones that stall

## For governments and regulators

- Design blending mandates with revenue certainty mechanisms — floor prices, contracts for difference, government offtake guarantees where private offtake is insufficient
- Establish feedstock certification frameworks aligned with ICAO/ASTM standards — without certification, feedstock cannot be monetised in export markets
- Coordinate DFI engagement — align AFDB, IFC, DFI Europe, and bilateral DFIs around common project pipelines rather than competing for the same transactions
- Harmonise cross-border policy — feedstock flows across borders; policy fragmentation creates aggregation risk that no contract can fully mitigate

# The opportunity is real. The tools exist.



Capital is available –  
it needs structure  
to deploy



Technology is  
advancing – it needs  
risk allocation  
to finance



Feedstock is  
abundant – it needs  
aggregation  
infrastructure and  
contractual certainty



Demand is mandated  
– in the EU and UK  
today, and growing  
in Africa



DFI instruments exist  
– they need to be  
deployed at the right  
intervention point

## The structuring gap is closeable.

SAF projects don't fail because the economics are impossible. They fail because the structure hasn't been built. Build the structure.

Questions?

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