# Investing in CORSIA Tier 1

## Carbon Credits and the Mandatory Aviation Market

The first mandatory global carbon market.
Mandatory phase begins 1 January 2027.

GC Capital

# About This Report

This report sets out the investment thesis for CORSIA Tier 1 carbon credits, the instruments airlines will use from 1 January 2027 to meet their compliance obligations under the first mandatory global carbon market ever adopted for any industry. It is intended for qualified institutional investors and is structured in nine sections plus References.

Every market, regulatory, and price figure is attributed to the public source from which it is drawn, with full bibliographic detail in the References at the end. Primary sources include ICAO Assembly Resolutions, IATA disclosures, the standard bodies (Verra, ART, Gold Standard, ACR, CAR, Global Carbon Council), ICVCM, and the analyst houses covering the asset class (MSCI Carbon Markets, BloombergNEF, Fastmarkets, Carbon Pulse, Sylvera, Ecosystem Marketplace). Forward-looking statements are reported as the scenarios of the cited third parties.

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# 1. Introduction

## 1.1 The State of the Market

CORSIA is the first and only mandatory global carbon market ever adopted for any industry. ICAO created it in October 2016 [1], completed the regulatory architecture in October 2025 [4], and from 1 January 2027 it becomes the binding compliance obligation for every airline operating international flights from one of 130 participating states. Those states cover roughly 99% of international aviation $CO_2$ [6]. The first compliance retirement deadline is 31 January 2028, covering 2024–2026 emissions [6].

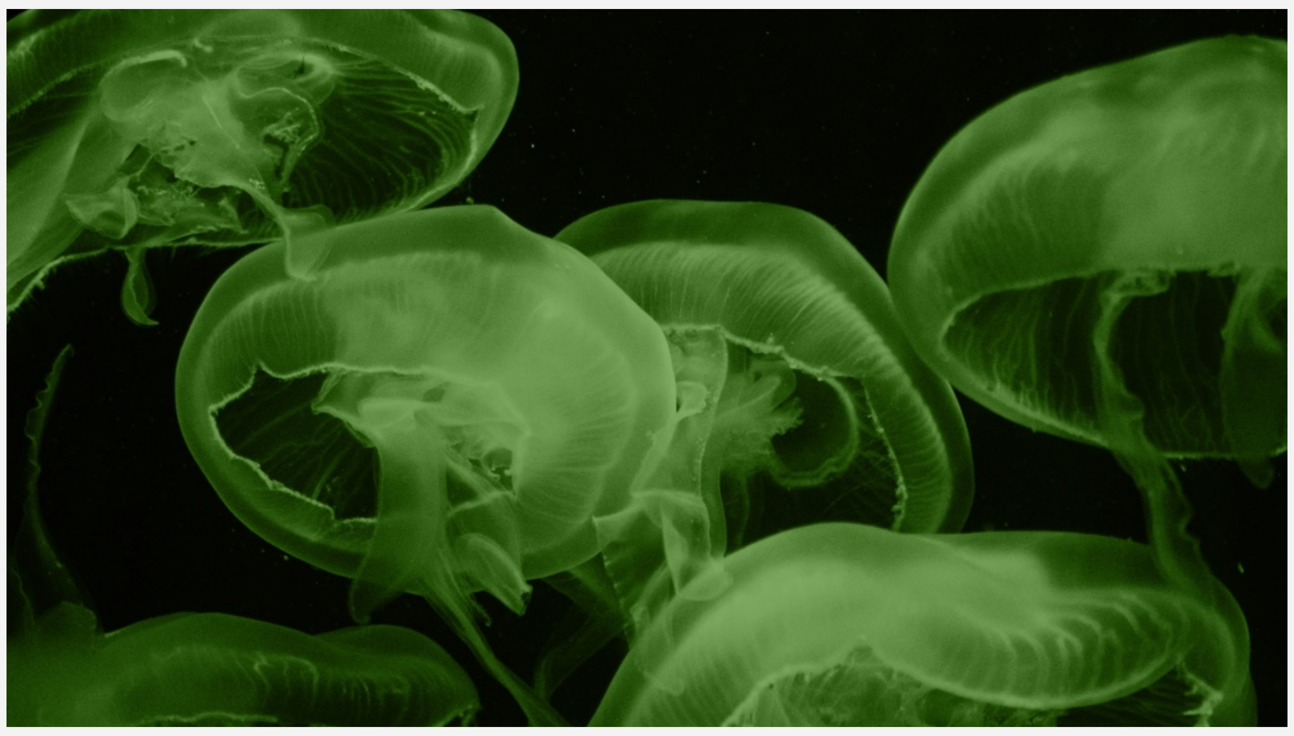
The market today is defined by three features that rarely appear together. Demand is legislated. Supply is sovereign-gated. And price has already diverged about 25-times from non-eligible voluntary credits, before the mandatory airline bid has even arrived [10, 21]. That is the opportunity this report is about.

## 1.2 What Is a Carbon Credit

A carbon credit is a serial-numbered ledger entry representing one tonne of $CO_2$-equivalent reduced or removed from the atmosphere. It's verified by an independent auditor under an approved methodology, issued on a registry, and cancelled when retired by a buyer. The lifecycle has six stages: baseline, validation, registration, monitoring, verification and issuance, and retirement.

## 1.3 What 'Tier 1' Means

ICAO publishes a list of CORSIA Eligible Emissions Units [25]. Eligibility turns on three cumulative filters. The credit must be issued under one of six ICAO-approved programmes (ART-TREES, Verra VCS, Gold Standard, American Carbon Registry, Climate Action Reserve, and Global Carbon Council). It must carry a vintage after 31 December 2020. And it must be backed by an Article 6.2 Letter of Authorization from the host country together with a corresponding adjustment against that host's Nationally Determined Contribution, reported to the UNFCCC [23]. The market calls credits that satisfy all three 'Tier 1.' It's a market convention, not an ICAO legal class.



# 2. The Regulatory Framework

## 2.1 Who Is Subject

CORSIA obligations apply to operators of international flights above 10,000 tonnes of annual $CO_2$ using aircraft with a maximum take-off weight above 5,700 kg (per ICAO Standards and Recommended Practices) [51]. The threshold captures every significant commercial airline. Compliance is transposed through national aviation legislation, the form of which varies by state. EU Regulation 2023/958 is the European version [59]; equivalent rules exist in the US, UK, Japan, Singapore, UAE, and other major aviation states.

## 2.2 Phase Definitions and Exemptions

ICAO Resolution A41-22 sets three phases [3]. The Pilot Phase ran 2021–2023. Phase I runs 2024–2026 (voluntary, 130 participating states) [6]. Phase II begins 1 January 2027 and is mandatory for non-exempt ICAO states [3]. Exemptions apply to Least Developed Countries, Small Island Developing States, Landlocked Developing Countries, and states with less than 0.5% of 2018 global international Revenue Tonne-Kilometres.

## 2.3 Aviation Cannot Decarbonize in Time

Sustainable Aviation Fuel was 0.3% of global jet fuel in 2024 at roughly 3× the cost of regular jet, per IATA [8]. IATA forecasts 0.7% in 2025 at 4× the cost [9]. Hydrogen and battery-electric aircraft don't work at long-haul distances (IEA) [55]. New engine families take a decade to develop. New SAF plants of commercial scale take 4–7 years to build. The fleet replacement cycle is 20–25 years. Every one of those cycles outlasts the Phase II compliance window. Carbon credits are the bridge until the technology arrives [7].

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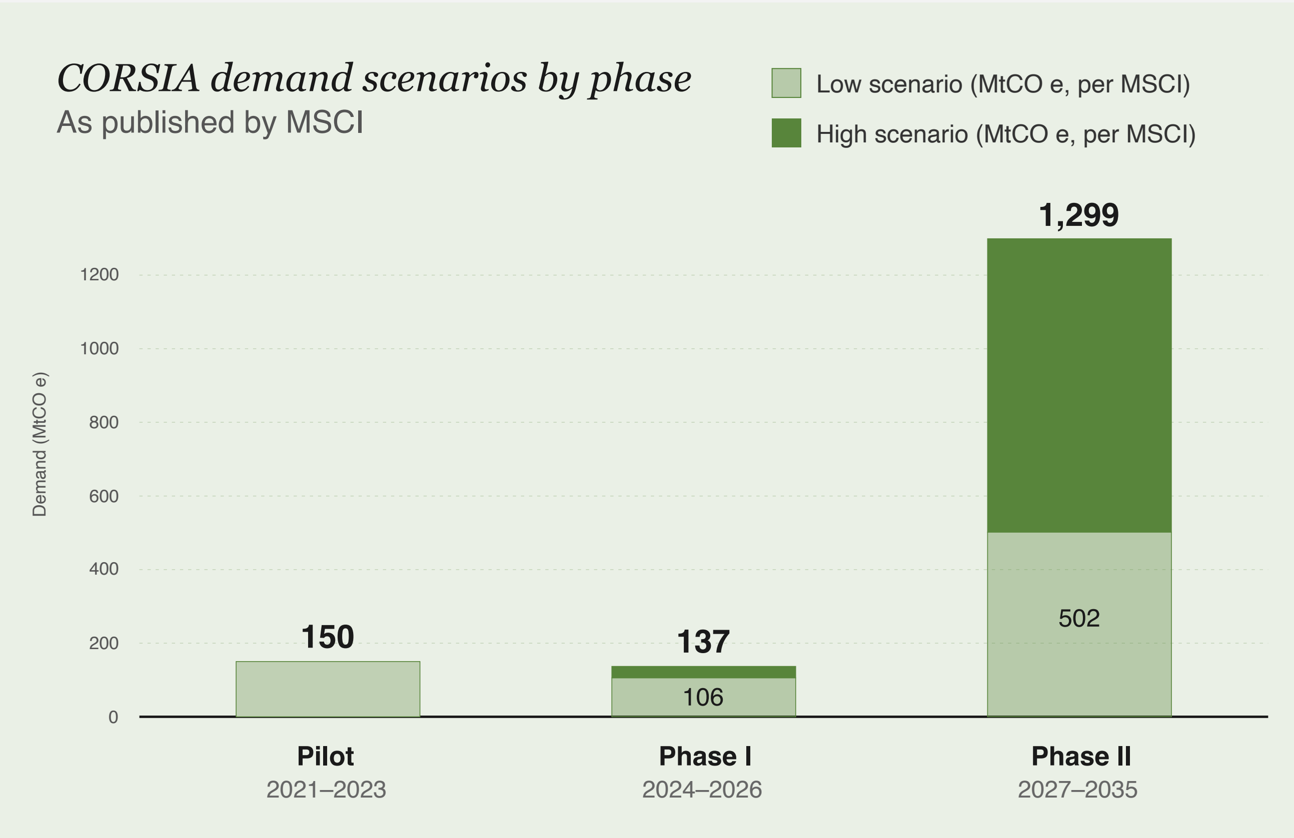
# 3. Market Sizing and Price Scenarios

## 3.1 Demand

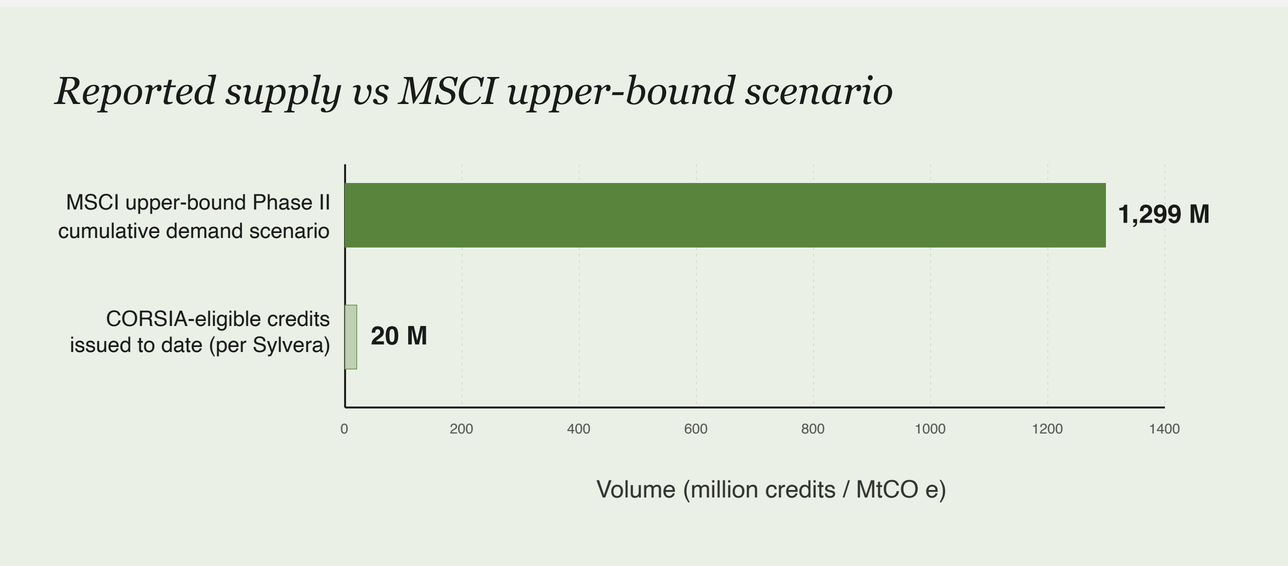
MSCI Carbon Markets reports Phase I (2024–2026) demand at 106 to 137 million tonnes of $CO_2$ [13], and Phase II (2027–2035) at 502 to 1,299 million tonnes [14]. IATA's parallel Phase I estimate is 146–236 million Eligible Emissions Units [6]. BloombergNEF's base case projects ~$62 billion of cumulative airline spend through 2035, with eligible-credit prices peaking at ~$96.50 per tonne in 2027 [15]. MSCI values the total Phase II market at $13–109 billion across price scenarios [14]. IATA estimates a Phase I compliance bill of $4–5 billion cumulative [20].




*CORSIA demand by phase, MSCI low/high scenarios.*
*Source: MSCI Carbon Markets, 'Carbon Credits Come of Age' 2025.*

## 3.2 Supply

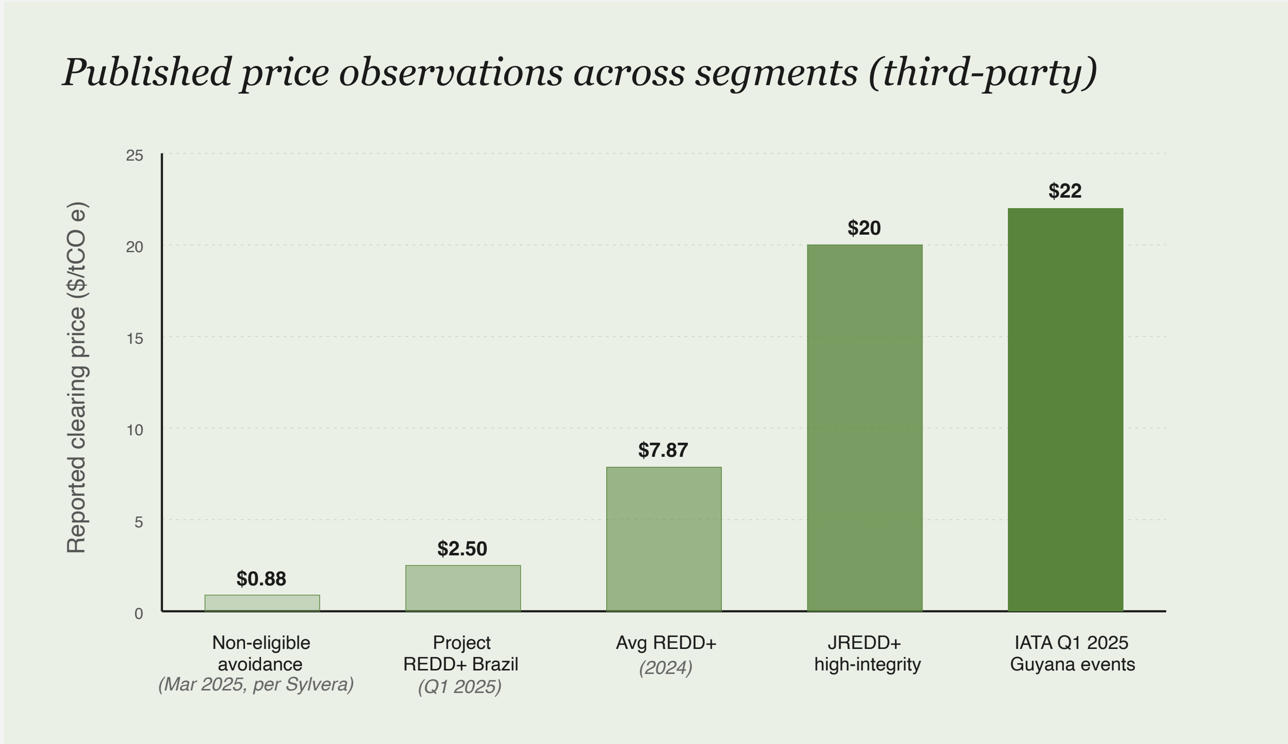
Sylvera reports approximately 20 million CORSIA-eligible (Tier 1) credits issued globally to date [19]. Most of that supply comes from Guyana's ART-TREES jurisdictional REDD+ programme. ART has issued ~33.47 million Guyana credits for the 2016–2020 vintage (December 2022) [41] and ~7.14 million for the 2021 vintage (February 2024) [42]; about 15.84 million of those have been CORSIA-tagged so far [19]. DelAgua disclosed ~4.78 million credits across Rwanda, The Gambia, and Sierra Leone (Verra VM0050) in Q3 and Q4 of 2025 [43, 44], the first non-Guyana CORSIA issuance at material scale. The supply side of the only mandatory global carbon market currently fits on a single page.



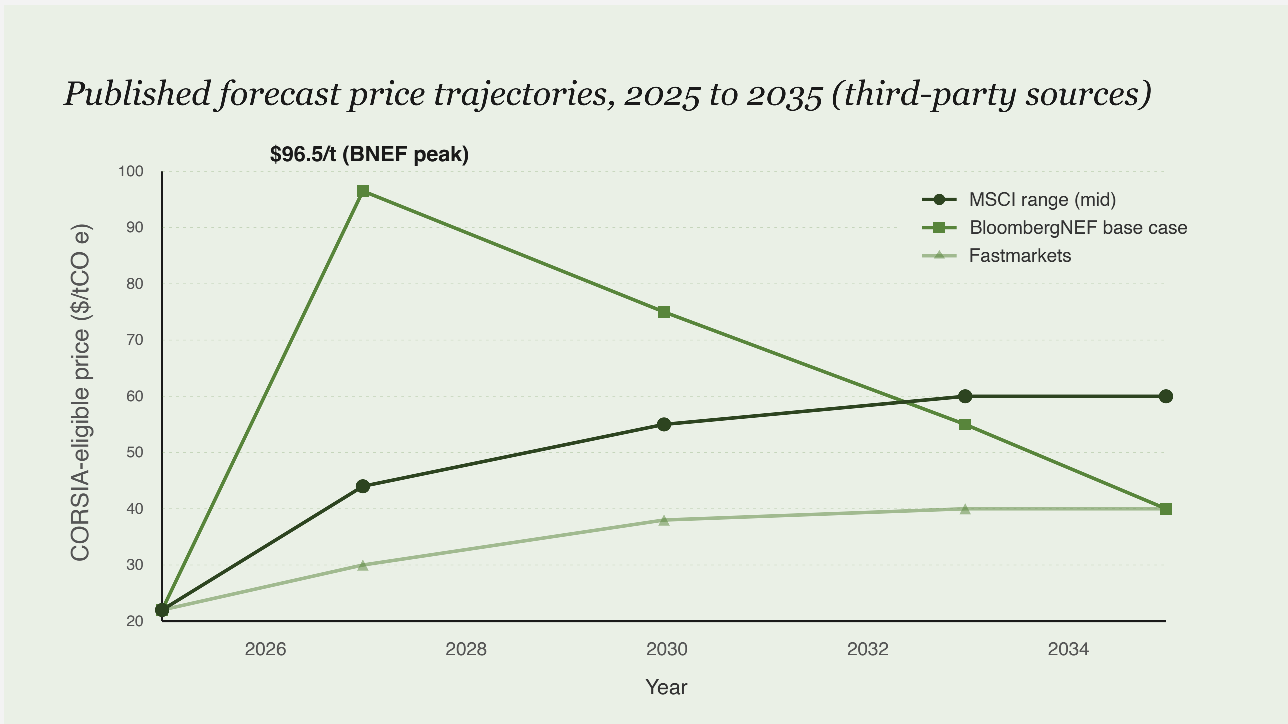

*Issued supply against MSCI's upper-bound Phase II demand scenario.*
*Source: Sylvera, MSCI Carbon Markets.*

## 3.3 Price

IATA's Q1 2025 Guyana procurement events cleared between $21.70 and $22.55 per tonne [10]. Sylvera reported generic voluntary credits, the kind that don't qualify for CORSIA, below $1 per tonne in March 2025, with a floor of $0.88 [21]. Two credits doing the same environmental work, one usable for compliance and one not, traded about 25 times apart. Secondary pricing for eligible credits is published daily by S&P Global Platts and shows up on the Bloomberg Terminal [28].




*Reported clearing prices across credit segments.*
*Source: IATA, Sylvera, Ecosystem Marketplace, analyst commentary.*




*Forecast eligible-credit price trajectories from third-party analysts.*
*Source: MSCI, BloombergNEF, Fastmarkets.*

## 3.4 The Reference Transaction: Guyana and Hess (December 2022)

In December 2022, Hess Corporation announced an agreement with the Government of Guyana [29, 30, 31]. The structure: 37.5 million ART-TREES credits across vintages 2016–2030, for about $750 million, paid over 2022–2032 [30]. Floor prices: $15 per tonne for pre-2021 vintage, $20 per tonne for 2021 and later [31]. Guyana keeps 60% of any upside above the floor [30]. It is the deal most often cited as a template for sovereign CORSIA offtakes. Terms as disclosed by the parties in public filings.

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# 4. Principal Risk Factors

The risk factors below are a non-exhaustive summary of material risks identified in public sources. Readers must conduct their own independent due diligence. Ordering is not a ranking of materiality. All risks are capable of resulting in total loss of capital.

## 4.1 Sovereign LoA and Corresponding-Adjustment Risk

Article 6.2 Letters of Authorization are issued at sovereign discretion. They can be delayed, amended, or refused, and they depend on host-country reporting to the UNFCCC [23, 52]. KOKO Networks, a Kenyan bioethanol cookstove company with significant venture backing, filed for administration in 2024 after reported authorization difficulties [22, 54]. Reuters, Bloomberg, and The Japan Times have reported that UAE-backed Blue Carbon signed MoUs covering large forest concessions in Liberia, Zimbabwe, Zambia, and Tanzania [46, 47, 53]. None had progressed to formal Article 6 authorization filings as of late 2025 [46].

## 4.2 Methodology Revision and De-Listing Risk

Standard bodies (Verra, Gold Standard, ART, ACR, CAR, Global Carbon Council) and ICVCM periodically revise or supersede methodologies. ICVCM approved three REDD+ methodologies in November 2024 [37] and three cookstove methodologies in March 2025 [38]. Credits issued under earlier or superseded methodologies can trade at a discount or be restricted.

## 4.3 Vintage Eligibility Risk

CORSIA eligibility rules, including approved programmes, vintage cut-offs, and methodology inclusions, are set by ICAO and can be revised at future Assemblies [25, 26]. Today's rules aren't locked in forever.

## 4.4 Counterparty, Delivery, and Custody Risk

Primary-market transactions involve host governments, operators, validators, registries, intermediaries, and ultimate buyers. Each link presents counterparty, delivery, and settlement risk. Insurance for delivery risk, where available, doesn't eliminate counterparty or project risk.

## 4.5 Integrity and Reputational Risk

In October 2024 the U.S. SEC filed an administrative proceeding against CQC Impact Investors LLC ('C-Quest Capital') over cookstove-project representations [48], and the DOJ indicted its former CEO on related charges [50]. Verra suspended a number of cookstove projects and cancelled credits for over-issuance [49]. Public reporting in 2023–2024 raised concerns about Blue Carbon's stalled MoUs in Africa [46, 47].

## 4.6 Major-State Non-Participation Risk

Phase I participation is voluntary, and states can decline to participate under ICAO procedures [3]. If a major aviation state opts out, or weakens its national CORSIA legislation, demand could fall.

## 4.7 Technology-Substitution Risk

If SAF, hydrogen, or other abatement technologies scale faster than IATA and IEA forecasts assume [8, 9, 55, 56], demand for eligible credits could come in below analyst base cases [15].

## 4.8 Liquidity, Valuation, and Mark-to-Market Risk

Primary credit transactions are negotiated over-the-counter. Listed futures exist (Xpansiv CBL has listed GEO CORSIA CP1 contracts) but disclosed volumes are limited [27]. Holders should expect illiquidity, wide bid-ask spreads, and valuation uncertainty.

## 4.9 Legal, Tax, Accounting, and Regulatory Risk

Tax, accounting, and regulatory treatment of carbon credits varies by jurisdiction and is changing. Some jurisdictions are still developing specific tax regimes. Readers should obtain independent legal, tax, and accounting advice before acting.

## 4.10 Fraud and Operational Risk

Public enforcement actions in the broader carbon market [48, 49, 50] underline how important it is to diligence origination, monitoring data, and disclosures. No counterparty, project, methodology, or registry should be assumed free from operational or fraud risk.

## 4.11 Aggregate Risk Notice

The risks above can hit individually or in combination. Each is capable of producing total loss of capital. Nothing in this section is an endorsement of any specific counterparty, project, or programme.

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# 5. Market Structure and Settlement

## 5.1 Primary and Secondary Channels

Primary-market channels: bilateral sovereign offtakes (Guyana and Hess) [29], IATA procurement events (Q1 2025 Guyana, publicly reported) [10], and direct placements from programme issuers (DelAgua, Q3–Q4 2025) [43, 44]. Secondary channels: exchange-traded contracts on Xpansiv CBL [27], plus over-the-counter bilateral transfers.

## 5.2 Settlement and Registry Infrastructure

Credits live on the registry of whichever programme issued them (Verra, ART, Gold Standard, ACR, CAR, or Global Carbon Council). Transferring credits between accounts happens on that registry, under its rules. Secondary pricing is published daily by S&P Global Platts and shows up on the Bloomberg Terminal [28].

## 5.3 Buyer Segments

Per IATA, the 130 participating states' airlines are the primary Phase I demand [6]. The Science Based Targets initiative registry has more than 1,500 companies with validated net-zero targets [57]; some of those buy CORSIA-eligible credits to back their voluntary commitments. Analyst commentary names specialist carbon funds, hedge funds, and single-family offices as additional participants [13, 14, 15].

# 6. Factors Analysts Use to Screen CORSIA Credits

Analyst commentary (MSCI, Sylvera, BloombergNEF, Fastmarkets, Ecosystem Marketplace) [13, 14, 15, 16, 19, 24] consistently uses the same factors to grade eligible credits:

- Programme and approved methodology
- Sovereign authorization track record
- Registry and post-2020 vintage
- ICVCM Core Carbon Principles label
- Custody, delivery, and insurance terms
- Buyer diversification
- Monitoring, reporting, and verification (MRV) infrastructure: current methodology version, audit history, VVB reports

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# 7. Third-Party Quantitative Forecasts

## 7.1 MSCI Carbon Markets

MSCI's 2025 research ('Carbon Credits Come of Age' and 'VCM in Review 2Q25') [13, 14] estimates Phase I demand at 106–137 million tonnes and Phase II cumulative demand at 502–1,299 million tonnes. Price ranges: $18 to $51 per tonne for Phase I, $26 to $63 per tonne for Phase II.

## 7.2 BloombergNEF

BloombergNEF's 'Aviation Credits Market Outlook: CORSIA Gets Its Wings' [15] offers three scenarios. Base case: ~$62 billion cumulative airline spend through 2035, peak near $96.50 per tonne in 2027, settling at ~$40.40 per tonne by 2035. EU-aligned high case: peak near $477 per tonne. US-exit low case: peak near $44 per tonne.

## 7.3 Fastmarkets and Carbon Pulse

Fastmarkets reports approximately $25 to $36 per tonne by 2027 and $30 to $45 per tonne by 2030 [16, 17]. Carbon Pulse's analyst consensus places 2027 prices near $16 per tonne [18].

## 7.4 Forecast Uncertainty

The dispersion between the most bearish view (Carbon Pulse, ~$16) [18] and the most bullish (BNEF EU-aligned, ~$477) [15] shows the scale of uncertainty. These models are highly sensitive to assumptions about how fast sovereign LoAs come through, what ICVCM does on methodology approvals, and how quickly SAF and other abatement scale.

# 8. Recent Public Developments

## 8.1 Sovereign Authorizations

KliK Foundation reported the first Article 6.2 cross-border credit transfer in January 2024, between Thailand and Switzerland (~1,916 units from a Bangkok electric-bus programme) [33]. The Swedish Energy Agency reported an Article 6 MoU with Rwanda the same month [34]. Guyana reported the world's first corresponding adjustment to the UNFCCC in February 2024 [42]. UNDP Geneva and KliK reported Ghana's first Article 6.2 transfer to Switzerland in July 2025 (~11,733 units) [32].

## 8.2 ICVCM Methodology Approvals

ICVCM approved three REDD+ methodologies in November 2024 (ART TREES v2.0 Crediting Level, Verra VM0048 v1.0, and the JNR Framework v4.1) [37] and three cookstove methodologies in March 2025 (Gold Standard TPDDTEC v4.0, Gold Standard Metered and Measured v1.2, and Verra VM0050 v1.0) [38, 45].

## 8.3 Issuance Developments

DelAgua disclosed approximately 4,776,194 CORSIA-eligible credits across Rwanda, The Gambia, and Sierra Leone (Verra VM0050) in Q3 and Q4 2025 [43, 44]. It was the first non-Guyana CORSIA issuance at material scale.

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# 9. Summary

CORSIA is the first and only mandatory global carbon market ever adopted. The mandatory phase begins 1 January 2027, with the first compliance retirement deadline on 31 January 2028 (covering 2024–2026 emissions) [1, 2, 3, 4, 6]. MSCI estimates cumulative 2024–2035 demand at 600–1,800 million tonnes [13, 14]; BloombergNEF's base case projects ~$62 billion of cumulative airline spend through 2035 [15]. Sylvera reports about 20 million eligible credits issued globally to date [19].

Forward-looking statements are inherently uncertain and reflect the assumptions of the cited parties. The asset class is subject to material risks (Section 4) capable of resulting in total loss of capital. Nothing in this report constitutes an offer, solicitation, endorsement, or recommendation. Prospective investors must conduct their own independent due diligence and consult their own legal, tax, accounting, and investment advisers before making any decision.

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