

# Updated Sustainable Aviation Fuel Strategy for Hong Kong

Policy Whitepaper

Business Environment Council Limited

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# Executive Summary



Hong Kong stands at a critical implementation juncture. As the global aviation sector accelerates its decarbonisation efforts, Sustainable Aviation Fuel (“SAF”) remains the most viable pathway to achieving net-zero emissions. Recently, the HKSAR Government has established a clear policy direction through the 2026 Policy Address and Hong Kong’s First Five-Year Plan. With commitments including a 1% to 3% SAF consumption ratio by 2030, the establishment of a Dongguan SAF production base, the planned construction of a local blending facility, and the study of a mandatory consumption-ratio mechanism and green energy certification system, the policy debate has moved from whether Hong Kong should act to how these measures should be calibrated and implemented. Building upon the foundational analysis of the Hong Kong Sustainable Aviation Fuel Coalition (“HKSAFC”) 2024 Policy Whitepaper, this 2026 update evaluates the rapidly evolving global landscape and outlines a pragmatic roadmap to ensure these new policies are designed to consolidate Hong Kong’s position as a premier regional hub.

## Current Local Context and the Core Challenge

Hong Kong’s position as an international aviation hub acts as a major economic engine for the region. In 2025, Hong Kong International Airport (“HKIA”) handled 61 million passengers and 5.07 million tonnes of cargo [18]. It retained its position as the world’s busiest cargo airport, topping the global ranking for the 15th time since 2010 [17]. Consolidating and enhancing its competitiveness is key to maintaining connectivity, tourism and trade.

However, while the volume of activity is integral to Hong Kong’s prosperity and regional interconnectedness, it also brings a swelling environmental cost. According to Government statistics, 7.9 billion litres of aviation jet fuel were uplifted in Hong Kong in 2025 [6].

This translates into 20 million tonnes of carbon dioxide emissions — a volume equivalent to the annual emissions of over 4 million cars. As passenger and cargo volumes are projected to grow exponentially, so too will emissions unless proactive policies are put in place to support aviation decarbonisation. In the global transition to activity which reduces emissions, Hong Kong’s long-term competitiveness as an aviation hub relies on it becoming

a regional hub for sustainable aviation. Because SAF is the primary solution available for the aviation sector to decarbonise, Hong Kong must become a regional leader in SAF uptake to maintain its hub status.

This revised whitepaper does not dwell on the scale of the challenge; rather, it provides a decision-ready roadmap to bridge the existing gap. As the global SAF market transitions from theoretical target-setting to active policy implementation, three critical lessons emerge for Hong Kong. First, regional ambition is accelerating: APAC peers like Singapore and South Korea are moving aggressively to provide the long-term visibility and financial neutrality that producers require. Second, while the Chinese Mainland has rapidly scaled SAF production, this potential massive and cost-competitive supply surplus is currently being exported to Europe's compliance-driven markets. Without a local demand mechanism, Hong Kong risks missing a narrow opportunity to capture this supply and establish itself as the region's premier international offtake and certification gateway. Finally, policy design matters: rigid supplier mandates (such as the European Union's ReFuelEU) risk doubling fuel prices and damaging hub competitiveness. Instead, Hong Kong must deploy a flexible, tailored demand-side mechanism that preserves open-market liquidity and strictly protects price-sensitive transit and cargo traffic.

### **Strategic Priorities: The Three Pillars**

To successfully integrate SAF without compromising HKIA's global competitiveness, Hong Kong's policy architecture must address critical local gaps across three foundational pillars:

1. **Affordability:** Bridging the green premium through smart demand mechanisms. Hong Kong must calibrate its upcoming consumption-ratio mechanism to meet targets without creating cost distortions.
2. **Supply Security:** Hedging against supply disruptions by overcoming physical and institutional bottlenecks. This requires resolving cross-border customs frictions with the Greater Bay Area ("GBA") and taking forward the planned local blending facility under open-access principles.
3. **Sustainability:** Breaking the corporate accounting gridlock. Hong Kong must ensure its planned green energy certification system aligns with globally recognised digital registries to guarantee environmental integrity and eliminate double counting.

# Summary of Recommendations

To safeguard HKIA's status as a premier international aviation hub and balance the needs of the entire aviation value chain, we recommend an Ecosystem-First approach. The Government should execute the following six strategic actions over the next 12 to 24 months:

## Demand-Side Mechanisms (Creating the Market)

**1. Conduct a Comprehensive Study on Tailored Demand-Side Measures:** Carry out the dedicated technical feasibility study on the impacts of potential demand-side mechanisms (such as a tailored levy or mandate) to meet Government SAF targets whilst enhancing Hong Kong's competitiveness. To effectively build the SAF ecosystem, this study must explore impacts and design choices over a horizon extending beyond 2030 within a range to 2035, so that policy can provide long-term volume certainty for fuel producers and investors. It should also evaluate multi-year compliance flexibility and the exclusion of transit and transfer passengers and transshipment cargo, including the data and reporting basis on which these volumes are identified, to protect the hub's commercial competitiveness.

## Supply-Side Mechanisms (Securing Fuel & Infrastructure)

**2. Guarantee Open-Market Fuel Logistics:** Ensure the entire airport fuel logistics network, including storage and pipelines, operates on strict open-access principles. This regulatory baseline is essential to allow fair, transparent competition among multiple SAF suppliers, preventing localised monopolies and ensuring cost-efficient pricing for end-users.

**3. Phase the Planned Blending Facility Strategically:** As the Government takes forward the construction of Hong Kong's first SAF blending facility, its execution must be carefully managed. The facility should support a dual-pathway approach (allowing both pre-blended imports and local blending of neat SAF), but its commissioning must be timed in lockstep with actual supply availability to avoid stranded assets. Furthermore, the operating model for user fees must not penalise early SAF adopters.

**4. Streamline Cross-Border Processes:** Establish an interdepartmental GBA Taskforce to negotiate "Green Lanes" for mainland-produced SAF and fast-track local regulatory testing, seamlessly linking regional production opportunities with offtake at HKIA.

## Ecosystem Enablers (Clarifying Rules, Finance, and Macro Policy):

**5. Ensure the Planned Green Energy Certification System is Internationally Aligned and Registry-Compatible:** Ensure that eligible SAF complies with global technical and sustainability benchmarks (e.g., ASTM and CORSIA). Furthermore, rather than creating a bespoke local Book and Claim registry, Hong Kong should integrate with established, globally recognised Book and Claim registries. This ensures transparent, double-counting-free Scope 3 accounting, facilitating global corporate sustainability demand.

**6. Operationalise the First Five-Year Plan through a Cross-Bureau SAF Delivery Roadmap:** Formally integrate SAF development plans into Hong Kong's macroeconomic blueprints, and translate the Five-Year Plan commitments into an interdepartmental delivery plan, coordinating finance, customs, infrastructure, and certification delivery to unlock preferential green financing. This elevates SAF from an environmental compliance issue to an industrial strategy, unlocking preferential green financing for infrastructure developers and investors across the value chain.

Ultimately, this whitepaper recommends the Government evaluate a structural and actionable blueprint that explores targeted demand-side measures, market-linked penalty backstops, and flexible compliance/reporting measures, to guide the Government's policy development and ensure Hong Kong remains a highly competitive, sustainable global aviation hub.



# Introduction





## 1.1 Recap of the 2024 HKSAFC Policy Whitepaper and Evolving Landscape

As a leading international aviation hub, Hong Kong plays a critical role in global connectivity, trade, and economic development. At the same time, the aviation sector faces increasing pressure to decarbonise in line with a rapidly changing climate and international climate commitments. Sustainable Aviation Fuel (“SAF”) is widely recognised as the most credible and available pathway to achieving significant emissions reductions.

In response to this challenge, Business Environment Council (“BEC”), through the Hong Kong Sustainable Aviation Fuel Coalition Programme (“HKSAFC”), published its inaugural Policy Whitepaper in November 2024 [4]. The whitepaper set out a structured assessment of the barriers limiting SAF adoption in Hong Kong and proposed policy options to catalyse its development.

The 2024 whitepaper identified three core factors hindering progress towards large-scale SAF adoption in Hong Kong. First, the absence of clear economic signals and policy direction created uncertainty for market participants, limiting investment and long-term commitment. Second, the significant price premium of SAF relative to conventional jet fuel posed a major financial barrier, particularly for airlines operating on thin margins. Third, Hong Kong was observed to be lagging behind its international peers in establishing policy frameworks and ecosystem readiness, thus raising concerns about long-term competitiveness as a global aviation hub.

To address these issues, the 2024 whitepaper assessed international practices and concluded that Hong Kong should adopt a demand-driven strategy, supported by Government leadership and financial mechanisms. Key recommendations included the establishment of a Government-led, multi-stakeholder platform; the introduction of a SAF-related levy or equivalent schemes to generate demand and offset subsequent green premiums, and the development of local blending infrastructure to enhance supply flexibility and cost-competitiveness.

Since the publication of the 2024 whitepaper, the global and regional SAF landscape has evolved rapidly. Most notably, several jurisdictions have transitioned to their implementation stage of SAF demand-side mechanisms, including mandates, levies, and hybrid approaches. These developments have begun to generate early insights into how such policies function in practice, including their implications for cost, market behaviours, and aviation competitiveness.



At the global level, SAF policies are increasingly being tested under real market conditions. Regions where SAF policy has realised maturation and seen crucial commitment, such as the European [15] and the United Kingdom [10], have introduced binding mandates on SAF blending, while others, including Singapore, are implementing levy-based systems designed to generate dedicated funding for SAF procurement [8,32]. These approaches represent different strategies to address the same underlying challenge: how to create sufficient and sustained demand to support SAF uptake. Currently, commercialised SAF trades at a “green premium” of roughly two to three times the cost of conventional jet fuel. This premium is highly volatile and directly influenced by the demand mechanisms and supply subsidies active in different jurisdictions.

On a global scale, voluntary corporate demand is becoming a material driver for SAF uptake. Recently, in June 2026, with the launch of the Corporate Net-Zero Standard Version 2.0, the Science Based Targets initiative (“SBTi”) formally recognised Environmental Attribute Certificates (“EACs”), including SAF certificates, as valid insetting tools for Scope 3 near-term targets. This pivotal update allows corporates to apply high-integrity SAF certificates to abate business travel and air freight emissions. These instruments must adhere to strict integrity principles, be backed by third-party verification, and be recorded on verified registries to ensure one claim per owner. This global accounting shift provides the foundation for increased flows of corporate capital into the aviation sector.

## 1.2 Recent Announcement of Hong Kong’s SAF Policy Plan

Since the preparation of this update, Hong Kong’s policy stance has advanced materially. The HKSAR Government has announced a comprehensive suite of SAF-related policy directions in the 2026 Policy Address and Hong Kong’s First Five-Year Plan. These announcements shift the focus from directional advocacy to the precise calibration and implementation of the following initiatives:

### *1.2.1. 1% to 3% SAF Target and Demand-Side Mechanism Study*

The Government has formally embedded SAF into the First Five-Year Plan, establishing a consumption target of 1% to 3% for flights departing from HKIA by 2030. To achieve this, the 2026 Policy Address announced that the Government is studying the establishment of a mandatory consumption-ratio mechanism, with completion expected by 2028. This foundational objective proactively aligns the local aviation sector with global decarbonisation frameworks.



### **1.2.2. Dongguan SAF Base Construction**

Regarding supply-side pathways, the Government has spearheaded the establishment of a world-leading SAF production base in Dongguan, which is expected to begin production by 2030. This strategy aims to leverage GBA production surpluses and transition Hong Kong into a premier offshore financial trading and certification centre for Chinese-produced green fuels destined for international carriers.

### **1.2.3. SAF Blending Facility Construction**

To develop a complete SAF value chain and reduce logistics costs, the Government is officially taking forward the construction of Hong Kong's first SAF blending facility. This infrastructure is designed to enhance the overall industrial competitiveness of HKIA while bolstering the collective bargaining power of commercial airlines sourcing international green fuels.

### **1.2.4. Education Programme**

Finally, navigating this new phase requires a fundamental shift in market behaviour and active stakeholder participation. Following the 2025 Policy Address, the HKSAR government highlighted the necessity of public and corporate education to build a collective understanding of SAF's role in decarbonisation. As a way to spread awareness and disseminate critical information, the Hong Kong government should launch targeted promotional campaigns to lay the foundation for community and business engagement. Through sustained outreach and a collaborative ecosystem, stakeholders can cultivate a shared vision for SAF, overcome the structural challenges of the SAF transition, and secure Hong Kong's position as a leading international green aviation hub.

## **1.3 Hong Kong's Strategic Positioning and Hub Competitiveness**

Hong Kong contains well-established structural advantages that underpin this positioning. As a world-class international financial centre, Hong Kong can offer deep capital markets, sophisticated green finance instruments, and institutional capacity for project financing. The robust common-law legal framework and internationally recognised regulatory standards can provide a reliable foundation for contractual certainty, sustainability certification, and cross-border transactions. In addition, Hong Kong's long-standing expertise in trading, open-access airport fuelling systems, and connectivity within the GBA create opportunities for efficient physical handling, storage, and distribution of aviation fuels.



As global SAF production volumes expand, demand is rising for transparent tracking systems, attribute certification, Book and Claim mechanisms, and specialised financing of environmental attributes.

Hong Kong's existing ecosystem, including financial intermediation, legal certainty, logistics proficiency, and proximity to Mainland production capacity, enables the city to capture value in these higher-order functions. Government-supported initiatives, including exploration of local blending facilities and collaboration on GBA supply chains, further align these strengths with the emerging needs of the international SAF market.

## 1.4 Green Premium and Ecosystem Perspectives

The SAF green premium represents a structural challenge including demand-side, supply-side, and ecosystem considerations.

### 1.4.1. Demand-side

Regarding the demand side, airlines may face the risk of absorbing elevated fuel costs in the absence of coordinated support mechanisms. Small local airlines are particularly disadvantaged since they may lack the procurement scale and capital reserves of larger operators, and may therefore be unable to independently secure bulk volumes or arrange cost-effective blending without structural financial assistance.

### 1.4.2. Supply-side

On the supply side, producers and infrastructure developers require several years' demand visibility that extends beyond near-term targets. Large-scale production and blending facilities operate on project-finance cycles; if the SAF policy cannot provide clearer long-term volume signals, private capital into SAF will remain constrained, delaying investment decisions, slowing the development of local blending capacity, and prolonging reliance on higher-cost pre-blended imports.

### 1.4.3. Ecosystem Enablers

Regarding ecosystem enablers, voluntary corporate demand for Scope 3 emissions reductions provides a complementary source of offtake. However, airlines consistently prioritise retaining clear ownership of environmental attributes so that these can be transferred directly to their customers. Mechanisms that enable transparent Book and Claim systems and verified certificate registries are therefore preferred over sole reliance on complex corporate tax incentives, ensuring additionality of SAF claims, accounting integrity, and commercial flexibility across the value chain.



## 1.5 Purpose and Scope of This Updated Policy Whitepaper

In light of these developments, this updated whitepaper seeks to build on the 2024 analysis, aiming to:



**Examine early lessons from jurisdictions implementing SAF demand-side mechanisms, including their impacts on cost and competitiveness**



**Assess how developments in the wider APAC region and Chinese Mainland may influence Hong Kong's positioning within the regional SAF ecosystem**



**Evaluate the role of supply-side enablers, including blending infrastructure and regional production initiatives**



**Consider the emerging role of corporate demand as a complementary driver of SAF adoption**

Through these perspectives, the paper develops a more integrated view of how SAF supply and demand could evolve in Hong Kong, considering economic, operational, and regional dynamics.

The objective is not to prescribe a single policy pathway, but to support ongoing dialogue by identifying key trade-offs, enabling conditions, and design considerations that will shape Hong Kong's approach to SAF development in the coming years.

To successfully navigate these structural challenges, Hong Kong must look outwards. As the global SAF market transitions from theoretical target-setting to active implementation, analysing the policy successes and missteps of competing aviation hubs provides a critical baseline. The following chapter evaluates these regional and global developments to extract actionable lessons for Hong Kong.



# SAF Policies and Developments in Other Jurisdictions





## 2.1 Developments Accelerate in the Region

Regional context matters most for Hong Kong's competitiveness as an aviation hub. By the end of 2027, Singapore, South Korea, India, Indonesia, and Thailand are each expected to have legislated SAF policy in force, ranging from Singapore's passenger-and-cargo levy to blending mandates in other regions of 1–5%, and funding support for domestic SAF production in Australia. South Korea has also signalled a longer-term SAF mandate of 7–10% by 2035, which is the highest 2035 ambition in the region. As these are markets with which Hong Kong competes globally for passengers, cargo, and corporate SAF demand, the design of their obligations and reporting frameworks are relevant benchmarks for Hong Kong policy design. [22]



Table 1: Global SAF Demand-Side Policy & SAF Production Progression by Region (As of Aug 2026)

| Country/Region             | Local SAF Production | SAF Policy/ Demand-Side Policy      | Instated Demand-Side Policy Start Year/Mandates |      |      |      |      |      |                |
|----------------------------|----------------------|-------------------------------------|-------------------------------------------------|------|------|------|------|------|----------------|
|                            |                      |                                     | 2025                                            | 2026 | 2027 | 2028 | 2029 | 2030 | 2035 - Onwards |
| Chinese Mainland [7,12,38] | Production Commenced | Feedstock & UCO Export Restrictions |                                                 |      |      |      |      | TBC  |                |
| APAC Region                |                      |                                     |                                                 |      |      |      |      |      |                |
| South Korea [1,27]         | Production Commenced | Legislated Mandate on Suppliers     |                                                 |      | 1%   | 1-2% | 2-3% | 3-5% | 7-10% (2035)   |
| Singapore [8,32]           | Production Commenced | Legislated Levy Mechanism           |                                                 |      | 1%   | 1-2% | 2-3% | 3-5% |                |
| Indonesia [2,29]           | Production Commenced | Ministerial Decree                  |                                                 |      | 1%   | 1%   | 5%   | 5%   |                |
| India                      | In Development       | Proposed Mandate on Suppliers       |                                                 |      | 1%   | 2%   | 3-4% | 5%   |                |
| Japan [26]                 | Production Commenced | Proposed Mandate on Suppliers       |                                                 |      |      |      |      | 1%   | 5% (2034)      |
| Malaysia [2,19]            | Production Commenced | Feedstock Export Restrictions       |                                                 |      |      |      |      |      | 47% (2050)     |
| Australia                  | In Development       | In Development                      |                                                 |      |      |      |      | TBC  |                |

**Table 1: Global SAF Demand-Side Policy & SAF Production Progression by Region (As of Aug 2026)**

| Country/Region             | Local SAF Production | In Development                                                      | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2035 - Onwards           |
|----------------------------|----------------------|---------------------------------------------------------------------|------|------|------|------|------|------|--------------------------|
| Thailand                   | Production Commenced | Voluntary Agreement with Airlines (Future Mandate Planned)          |      | 1%   | 1-3% | 1-3% | 1-3% | 3-5% | 5-8% (2033-2037)         |
| Vietnam                    | In Development       | No Plans Announced                                                  |      |      |      |      |      | TBC  |                          |
| Philippines                | No Plans Announced   | No Plans Announced                                                  |      |      |      |      |      | TBC  |                          |
| Rest of the World          |                      |                                                                     |      |      |      |      |      |      |                          |
| United States              | Production Commenced | No Federal Level Demand-side Policy; State-level Production Support |      |      |      |      |      |      |                          |
| Brazil                     | In Development       | Legislated Mandate on Airlines                                      |      |      | 1%*  | 1%   | 2%   | 3%   | 10% (2037)               |
| Canada                     | Production Commenced | Sub-national Mandate                                                |      |      |      | 1%   | 2%   | 3%   |                          |
| European Union [15]        | Production Commenced | ReFuelEU Mandate on Suppliers**                                     | 2%   | 2%   | 2%   | 2%   | 2%   | 6%   | 20% (2035) to 70% (2050) |
| United Kingdom [5,9,10,11] | Production Commenced | Mandate on Suppliers*                                               | 2%   | 3.6% | 5.2% | 6.8% | 8.4% | 10%  | 22% (2040)               |

\*GHG savings not volume.  
 \*\*Both the EU and the UK include PTL sub-mandates.  
 Note: the above table is based on the latest announcements as of August 2026. Global policy continues to evolve rapidly.



Asia has overtaken the United States as the world's largest source of announced SAF production capacity. Whilst Asia has expanded capacity rapidly, Europe has become increasingly reliant upon imports of feedstock and waste biomass to meet its compliance standards. Under current policy trajectories, Asian jet fuel uplift is forecast to reach an average 11% SAF blend by 2035, compared to Europe's 19% [36].

With countries such as Malaysia and Indonesia positioned as major feedstock and waste oil suppliers, ASEAN generates approximately 500 million tonnes of waste biomass annually [2]. However, countries that historically exported waste-oil feedstocks now seek to increase their domestic value. This is demonstrated by plans for export restrictions and bans of Used Cooking Oil ("UCO") and Palm Oil Mill Effluent ("POME") in Indonesia and Malaysia [29, 19]. For Hong Kong, this presents both an opportunity and a constraint: concurrent regional supply is expanding faster than demand, creating a short-term window where securing access to competitively priced regional production is highly achievable before domestic mandates fully activate across Asia.

## 2.2 Supply-Side: Chinese Mainland as a Regional Powerhouse

While the broader APAC region represents Hong Kong's primary competition for aviation demand, the Chinese Mainland represents Hong Kong's most critical strategic partner for SAF supply.

### 2.2.1 Policy Architecture, Mechanisms, and Strategic Intent

The Chinese Mainland is rapidly mobilising a comprehensive, top-down supply-side framework designed to accelerate domestic manufacturing. The central Government has strategically integrated SAF into the national Green Industry Guidance Catalogue, unlocking preferential green financing. This is reinforced by the upcoming 15th Five-Year Plan for new energy systems and the 2026 Government Work Report, which establish a National Low-Carbon Transition Fund [39].

On a localised level, the National Development and Reform Commission ("NDRC") deploys direct fiscal subsidies covering up to 20% of total capital expenditure for eligible commercial facilities. To facilitate outward trade, the Government has implemented robust supply-side facilitators, including the clearance of dedicated export tax customs codes and an expanding regulatory whitelist framework for approved alternative fuel enterprises, under which manufacturers encounter no restrictive volume quotas.

### 2.2.2 Policy Pros: Supply-Side Acceleration and Regional Synergies

This coordinated public effort has successfully underwritten the high upfront development costs of alternative fuel refineries, securing a massive scale-up in regional production capacity, with up to 3.6 million tonnes of capacity projected by 2030 [38] (e.g. the Dongguan HEFA plant). By utilising the regulatory whitelist mechanism, Mainland producers export freely to capture highly profitable, mandate-driven compliance markets such as the European Union. Because Mainland domestic airlines currently exhibit limited financial appetite for high green premiums, the region is generating substantial production surpluses, positioning the Chinese Mainland as a dominant export powerhouse.

### 2.2.3 Systemic Bottlenecks and Concerns

Conversely, domestic offtake remains significantly constrained due to a prohibitive green premium (SAF currently commands a price two to three times higher than conventional aviation kerosene). Furthermore, midstream logistics are bottlenecked by an impending technological wall: upcoming Chinese production capacities will completely deplete the available UCO supply [38]. To avoid these bottlenecks, higher domestic and regional demand is required, alongside accelerated investments into diversified alternative pathways (like PtL and AtJ).

## 2.3 Demand-Side: Roles of Mandates & Levies

With regional supply and demand dynamics evolving rapidly, jurisdictions are deploying specific policy mechanisms to bridge the green premium.

### 2.3.1 Mandate-Based Mechanisms: Enforcement vs Flexibility

Mandate-based approaches establish legally binding volume certainty. A closer evaluation of regional differences — from the flexibility of South Korea's framework to the stringent binding of the EU and UK — demonstrates how these operate in practice.



#### South Korea

South Korea offers the clearest long-term timeline in Asia. A blending mandate on fuel suppliers is expected from 2027 (1%), rising toward 3–5% by 2030, with a 7–10% blend signalled for 2035. This clear 2035 trajectory de-risks long-term investment and offers a useful benchmark for Hong Kong. South Korea utilises a dual-compliance structure: fuel suppliers must blend SAF by 2027, and airlines must refuel with SAF for at least 90% of their annual volume at the departure airport from 2028 onwards [27]. Crucially, Korea pairs this enforcement with significant compliance flexibility. While non-compliance incurs a penalty set at 150% of the average SAF transaction price, the system allows up to 20% of the annual SAF

obligation to be deferred and fulfilled within the following three years (or waived during natural disasters). Furthermore, rather than relying solely on punitive measures, South Korea incentivises over-compliance: airlines that exceed the mandated blending ratio receive preferential weighting in the allocation of air traffic control rights (1–3.5 points) alongside airport usage fee reductions starting in 2027. Starting in 2027, South Korea will shift away from fee discounts and towards direct subsidies to airlines and producers to reduce the SAF premiums.



### The EU & UK

The EU's ReFuelEU Aviation mandate targets 6% by 2030, placing the absolute legal obligation strictly on upstream fuel suppliers [15]. The UK framework mandates 10% by 2030, introducing a buy-out mechanism and a tradable digital certificate system between suppliers to provide compliance flexibility [10].



- **The Pricing Downside:** EU and UK SAF policy has artificially inflated mandatory SAF unit prices to more than double the prices in the voluntary SAF market, increasing costs for airlines. By placing obligations strictly on upstream suppliers, these frameworks grant market incumbents disproportionate leverage, allowing them to exploit localised oligopolies and pass heavy compliance penalties directly down to carriers.
- **Carbon Leakage:** Because the EU mandate applies only to departing flights, it inadvertently induces carbon leakage when an alternative hub exists. A direct long-haul flight from Europe to Asia is fully subject to the mandate, whereas a competing flight connecting through an out-of-scope Middle Eastern hub only requires SAF for the first leg, penalising direct flights.

**Table 2: Mandate-Based Approaches Comparison (South Korea, EU & UK)**

| Mandate Framework                                | Obligated Stakeholders                                                                                 | Mandate Requirements                                                                                                                                                                                                                                        | Penalty & Compliance Markets                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Drawbacks                                                                                                                                                               |
|--------------------------------------------------|--------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| South Korea SAF Blending Ratio Mandate Framework | 1. Fuel Suppliers (2027)<br>2. Airlines (2028)                                                         | 1% 2027 → 3–5%<br>2030 → 7–10%<br>2035: Targets contingent on capacity review in 2026/2029                                                                                                                                                                  | <b>Penalty:</b> Fines set at 150% of the average transaction price of SAF blended fuel multiplied by the volume shortfall.<br><b>Flexibility:</b> Up to 20% of the annual obligation can be deferred and fulfilled within the following three years. Waivers apply for natural disasters.<br><b>Incentives:</b> Over-compliance rewards airlines, currently with preferential air traffic control rights (1-3.5 points) and airport usage fee reductions.                                                                                                                                                                                                                                        | <b>Penalty may be lower than compliance costs:</b> If companies calculate that deferring is less onerous than immediate costs, they may prefer to just pay the penalty. |
| ReFuelEU Aviation (European Union)               | 1. Upstream Aviation Fuel Suppliers<br>2. Airlines/Aircraft Operators<br>3. EU Airport Managing Bodies | <b>Suppliers:</b> Must supply a minimum SAF blend (2% by 2025, 6% by 2030, 70% by 2050).<br><br><b>Airlines:</b> Must uplift at least 90% of their yearly aviation fuel required for outbound flights directly at EU airports (strict anti-tankering rule). | <b>Strict compliance:</b> Compliance strictly requires physical delivery and blending (but does not have to be in all EU airports yet).<br><br>Suppliers face heavy financial penalties applied for physical volume shortfalls.<br><br>( <b>Penalty: €2,700 per tonne</b> of SAF, <b>€14,000 per tonne of Synthetic Fuel</b> ; penalties set by EASA and subject to revision every year)<br><br>To prevent economic tankering, airlines must uplift 90% of fuel on departing flights from EU airports, and are fined for non-compliance<br><br>( <b>Penalty: Paying at least twice the yearly average price of conventional aviation fuel per tonne</b> according to their volume of shortfalls. | Prone to <b>severe administrative delays</b> in issuing sustainability documentation to airlines.                                                                       |

Table 2: Mandate-Based Approaches Comparison (South Korea, EU & UK)

| Mandate Framework               | Obligated Stakeholders                                                                                | Mandate Requirements                                                                                                                                                                                           | Penalty & Compliance Markets                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Drawbacks                                                                                                                                                                                                                                                                             |
|---------------------------------|-------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                 |                                                                                                       | <b>Airports:</b> Must provide and maintain necessary SAF blending and storage infrastructure.                                                                                                                  | Airlines can credit their SAF usage against Emissions Trading Scheme (“ETS”) obligations and apply for free ETS allowances to help in mitigating green premiums.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                       |
| UK SAF Mandate (United Kingdom) | 1. Upstream Aviation Fuel Suppliers (Applies to those supplying >460,000 litres annually into the UK) | <b>Suppliers:</b> Must ensure SAF makes up an escalating percentage of total fuel supplied (e.g., 10% by 2030).<br><br><b>Compliance Flexibility:</b> They can meet targets flexibly via digital certificates. | <b>Digital Certificate Trading:</b> Suppliers earn tradeable digital certificates for SAF injected anywhere in the UK grid. Under-compliant suppliers can purchase these on an open exchange.<br><br><b>Buy-Out Mechanism (Cost-Cap):</b> If physical SAF or certificates are unavailable, suppliers can pay a <b>fixed 'buy-out' penalty to the Government.</b> (Penalty: £4.70 per litre of SAF shortfall, £5.00 per litre of Power-to-Liquid (“PtL”) shortfall)<br><br>Suppliers are charged a levy to fund a Revenue Certainty Mechanism which de-risks domestic production from 2026 by ensuring a minimum revenue stream. This is a first-of-a-kind support mechanism. | Artificial inflation of SAF unit costs has been observed<br><br>While adding a cap, the buy-out mechanism could effectively act as a tax on the industry if SAF supply globally fails to materialise, leading to continuous buy-out payments rather than actual emissions reductions. |



### 2.3.2 Levy-Based Mechanisms: Preserving Hub Competitiveness

Levy systems aim to generate dedicated funding streams for SAF production and/or usage. Two SAF levy designs have been legislated to date, in Singapore and the UK. However, these models serve different purposes.

#### Singapore vs UK

These two levy models provide useful references for policy design, though they are not directly comparable. Singapore's levy is charged on passengers and cargo and funds the central purchase of SAF — a demand-side funding tool. The UK's Revenue Certainty Mechanism ("RCM") levy is charged on conventional fossil fuel suppliers and guarantees a stable strike price to SAF producers — a supply-side stabilisation tool. In short, Singapore's levy pays for the SAF that the Government buys, while the UK's underwrites the price paid to producers so that domestic production becomes bankable.

#### Singapore's Design

Singapore aims for a 1% SAF baseline starting in 2027. Different tiers of levy are paid by passengers (based on class and distance) and cargo operators. Crucially, transit and transfer passengers are excluded to protect hub competitiveness. The collected revenue goes to a centralised procurement entity (SAFCo) to purchase SAF at market pricing [8]. Although some stakeholders worry that visible fees could create negative public backlash against SAF and a reduction in travel demand, others note that if the levy amounts are relatively low, transparently delineated as a line-item on the ticket, and applied evenly across passengers based on travel class and zone, they can create a level playing field without significant consumer pushback. Additionally, while a central procurement model (like SAFCo) shifts direct negotiation power away from individual airlines and may reduce opportunities for them to make long-term SAF investments to develop supply chains and meet the targets, it does not inherently undermine open-access principles; a central entity can procure from multiple suppliers and potentially achieve greater economies of scale than individual airlines could on their own.

#### Macroeconomic Risks and Mechanism Resilience

While levies provide financial neutrality, they are highly sensitive to broader macroeconomic energy shocks. Singapore deferred its initial levy implementation timeline, describing the move as a pragmatic pause, due to the impact of the ongoing conflict in the Middle East on airlines and passengers. (The levy now applies to tickets sold from 1 October 2026, for flights departing from 1 January 2027.) This deferment serves as a crucial cautionary tale for Hong Kong: implementing a levy prematurely, without sufficient and cost-effective SAF supply, risks exposing the aviation sector to unsustainable cost fluctuations. Ultimately, this demonstrates that any demand-side mechanism requires built-in resilience to broader macroeconomic cost shocks, rather than being calibrated solely to SAF supply conditions.

Table 3: Singapore vs UK Levy System Comparison

|                             | Singapore (Government-Administered Levy) [8]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | United Kingdom (Revenue Certainty Mechanism) [9,10,11]                                                                                                                                                                                                                                    |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Levy Payer               | <p><b>Include:</b> Originating passengers and cargo operators (emitter-paid).</p> <p><b>Exclude:</b> Transit and transfer passengers (strictly exempted).</p>                                                                                                                                                                                                                                                                                                                                                               | Upstream conventional fossil fuel suppliers, which are likely to pass on costs to airlines.                                                                                                                                                                                               |
| 2. Funding Allocation       | A centralised procurement entity that uses the collected cash pool to purchase physical SAF.                                                                                                                                                                                                                                                                                                                                                                                                                                | Domestic SAF producers, functioning as a minimum revenue stream to de-risk investments in advanced SAF pathways.                                                                                                                                                                          |
| 3. Mechanism of the System  | The Government collects a fixed or dynamic fee and buys whatever SAF volume the market pricing allows.                                                                                                                                                                                                                                                                                                                                                                                                                      | The levy subsidises producers when the market price of SAF drops below a guaranteed strike price threshold, paired with a tradable credit platform.                                                                                                                                       |
| 4. Benefits                 | <ul style="list-style-type: none"> <li>Does not drain public tax revenue (self-funded via users).</li> <li>Caps price risk for airlines (they do not bear the premium directly).</li> <li>Provides a highly predictable ring-fenced funding pool.</li> <li>Can function without a stable reference price for SAF.</li> </ul>                                                                                                                                                                                                | <ul style="list-style-type: none"> <li>Insulates airlines and passengers from direct green premium shocks (funded upstream).</li> <li>Strongly de-risks long-term capital investments for local SAF refineries.</li> <li>Safeguards the commercial competitiveness of the hub.</li> </ul> |
| 5. Cons & Industry Concerns | <ul style="list-style-type: none"> <li><b>Administrative complexity:</b> Data reporting adds operational complexity and cost for airlines.</li> <li><b>Public Perception Risk:</b> Potential for consumer pushback over rising ticket costs (Counterpoint: Mitigated if fees are low, transparent, and evenly applied).</li> <li><b>Procurement Dynamics:</b> Airlines cannot negotiate directly with SAF suppliers (Counterpoint: Central procurement may achieve better economies of scale by pooling demand).</li> </ul> | <ul style="list-style-type: none"> <li><b>Market Complexity:</b> Highly complex market calculations required to determine accurate strike prices.</li> <li><b>Demand Risks:</b> Demand drops if SAF market prices exceed tax incentives.</li> </ul>                                       |

### 2.3.3 Subsidy and Voluntary Mechanisms

In jurisdictions with domestic refining capabilities, supply-side tax subsidies remain a primary tool. For example, the Ministry of Trade, Industry and Energy of South Korea (“MOTIE”) supports facility investment tax credits of up to 40% for bio-based SAF and 25% for synthetic-based SAF to secure domestic supply chains. Similarly, in the United States, the 2021 Inflation Reduction Act instituted a dedicated SAF blender’s credit of between \$1.25-\$1.75USD/gallon (Section 40B) which was replaced in January 2025 by the Clean Fuel Production Credit (Section 45Z). The One Big Beautiful Bill Act, enacted in July 2025, capped SAF credits at US\$1.00 per gallon and restricted eligibility to North American feedstocks [35].

The wider lesson for Hong Kong is unchanged: heavy production-side subsidies (like those in the US and South Korea) suit jurisdictions with a massive domestic agricultural and refining base. Because Hong Kong lacks this, attempting to replicate these tax credit models would be ineffective. Hong Kong’s fiscal support is better directed at the demand side.

## 2.4 Global Policy Implications for Hong Kong

Upon appraising the global progression of SAF policies — from rigid mandates on fuel suppliers to levy systems and subsidies — a clear consensus emerges: no single mechanism is flawless in isolation. The vulnerabilities of each system highlight the necessity of a balanced, hybrid approach. As observed in the international case studies, mandates on suppliers (like the EU’s) risk hub-competitiveness damage and carbon leakage, while heavy supply-side subsidies (like the US) are geographically constrained. Conversely, while levies (like Singapore’s) provide dedicated funding, they introduce complex procurement dynamics.

Consequently, the emerging global best practice points towards sequencing and dual-compliance structures. Effective policy design requires sequencing to give the supply chain time to adjust before enforcing strict international demand obligations. Furthermore, successful frameworks are increasingly blending the immediacy and firmness of mandate targets (borrowing from the EU) with the de-risking logic of cost-caps and compliance flexibility (borrowing from the UK and South Korea). This balanced structure prevents the liquidity problems created by immediate, rigid payment mandates while conveying the certainty needed to attract regional producers.

The global landscape therefore presents a clear roadmap for Hong Kong's own policy architecture:



### On Supply Side

Hong Kong can leverage its proximity to the Chinese Mainland (Section 2.2), acting as a key regional offtake gateway for the Greater Bay Area's high production capacity, subject to securing cost-competitive supply and retaining open-access principles.



### On Demand Side

Hong Kong must avoid the rigid, upstream-focused mandates of the EU and the UK, which have severely inflated SAF prices and induced carbon leakage. Instead, Hong Kong should look towards its APAC peers — drawing inspiration from South Korea's clear 2035 target signalling and flexible compliance mechanics, while continuing to monitor emerging policy developments from other surrounding regions such as Indonesia and India, simultaneously heeding their relevant cautionary tales. Although lessons may not translate as evidently for Hong Kong, interpretations can be considered, as depicted by Singapore's delayed levy, thereby ensuring that any demand-side policy mechanism is implemented only when supply is secure, and transit competitiveness is strictly protected.

How these global lessons and hybrid concepts specifically intersect with Hong Kong's unique aviation ecosystem and market constraints will be examined in Chapter 3.

2.5 Global Policies Summary

Table 4: Global Policies Summary

| Jurisdiction     | Core Supply-side Mechanics                                                                                                                                   | Core Demand-side Mechanics                                                                                                                                                       | Strategic Advantages (Pros)                                                                                                                                                                                                                        | Systemic Bottlenecks (Cons)                                                                                                                                                                                             |
|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Chinese Mainland | <p>NDRC deploys up to 20% CapEx subsidies for eligible facilities.</p> <p>Export tax clearance and “whitelist” framework for quota-free manufacturing.</p>   | <p>Top-down green financing (15<sup>th</sup> Five-Year Plan).</p>                                                                                                                | <p>Rapidly secures massive structural scale-up in capacity (e.g., Dongguan).</p> <p>High export volumes capture profitable mandate-driven markets (EU).</p> <p>Creates a potent synergy combining Mainland scale with HK international demand.</p> | <p>Prohibitive two to three times domestic green premium stalls local adoption.</p> <p>Cross-border pre-blended fuel logistics inhibited by strict customs.</p>                                                         |
| EU (ReFuelEU)    | <p>Strict legal obligations on upstream suppliers with shortfall penalties.</p> <p>Anti-tankering rules to prevent cheap, carbon-intensive fuel imports.</p> | <p>6% SAF mandate by 2030; 70% by 2050.</p> <p>90% annual airline refuelling mandate.</p> <p>Free EU ETS allowances for airlines to reduce SAF premiums on intra-EU flights.</p> | <p>Guarantees absolute, long-term volume certainty for producers.</p> <p>Ensures competition between EU airports.</p> <p>Prevents geographic emissions shifting.</p>                                                                               | <p>Introduces severe cost, administrative hassle, and operational rigidity.</p> <p>Empowers supplier oligopolies to pass heavy penalties to carriers.</p> <p>Erodes price competitiveness of regional transit hubs.</p> |

Table 4: Global Policies Summary

| Jurisdiction | Core Supply-side Mechanics                                                                                                                                                                                                    | Core Demand-side Mechanics                                                                                                                                                                                      | Strategic Advantages (Pros)                                                                                                                                                                                                                                                                                              | Systemic Bottlenecks (Cons)                                                                                                                                                                                                                                          |
|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| South Korea  | <p>7-10% SAF blend by 2035</p> <p>Penalty system to punish non-compliance up to 150% of average transaction price</p>                                                                                                         | <p><b>Airline Mandate:</b> Airlines must refuel with SAF for at least 90% of their annual volume at departure airports starting in 2028.</p> <p><b>Incentives:</b> Over-compliance by airlines is rewarded.</p> | <p>Long-term goal in preparation to meet projected demand spike.</p> <p>Allows greater flexibility to meet SAF mandate within the following three years.</p> <p>Provides greater motivation to use SAF blend.</p>                                                                                                        | <p>Fuel suppliers comply with 2027 mandate, but airlines are staggered until 2028.</p> <p>20% multi-year deferral weakens near-term demand signals — also may be sufficiently punitive for airlines.</p> <p>Lack of explicit mechanism to address green premium.</p> |
| UK           | <p>Buy-out mechanism and tradable digital certificates for compliance.</p> <p>RCM: Upstream fossil fuel levy funds strike-price subsidies for domestic SAF producers. Voluntary compliance aligned with ReFuelEU targets.</p> | <p>10% SAF mandate by 2030; 22% SAF Mandate in 2040.</p>                                                                                                                                                        | <p>Certificate trading blocks localised supplier monopolies.</p> <p>RCM insulates airlines and passengers from green premium shocks.</p> <p>De-risks local SAF refinery investments.</p> <p>Fosters authentic, consumer-led market demand.</p> <p>Drives market liquidity without requiring physical fuel transport.</p> | <p>Mandate framework retains rigid compliance constraints.</p> <p>RCM requires highly complex market calculations for strike prices.</p> <p>Demand drops if SAF open-market prices outpace tax incentives.</p>                                                       |



Table 4: Global Policies Summary

| Jurisdiction | Core Supply-side Mechanics                                                                 | Core Demand-side Mechanics | Strategic Advantages (Pros)                                                                                                           | Systemic Bottlenecks (Cons)                                                                                                                        |
|--------------|--------------------------------------------------------------------------------------------|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| US           | 2025 Clean Fuel Production Credit:<br>Baseline \$0.35/gallon credit for low-emission fuels |                            | Strengthens business case for domestic production.<br><br>Directs public capital domestically, expanding the local tax base and jobs. | Cannot be replicated in outward-focused hubs lacking domestic refining.<br><br>Highly vulnerable to feedstock supply constraints and price spikes. |



## Global Evidence and Lessons Learned

The global SAF market has transitioned from theoretical target-setting to active policy implementation. Analysing these developments provides critical lessons for Hong Kong:

### Regional Ambition is Accelerating

APAC peers are moving aggressively. At least four countries will have SAF requirements in force in 2027. South Korea has set a 7-10% mandate by 2035, providing the long-term visibility that producers require, while Singapore has pioneered a passenger-and-cargo levy to achieve financial neutrality for SAF procurement.

### Regional Supply Exceeds Regional Demand

The Chinese Mainland has rapidly scaled SAF production through state-backed subsidies and export whitelists, creating a massive regional supply surplus which is actively exported to meet Europe's mandate-driven demand. However, in the absence of a demand policy mechanism in Hong Kong, Mainland Chinese producers have no incentive to prioritise the local market, thus continuing to prioritise and optimise supply chains for Europe's more profitable, compliance-based markets. However, prohibitive green premiums stall domestic absorption, presenting Hong Kong with a unique, yet narrow opportunity to act as the region's premier international offtake and certification gateway.

### Policy Design Matters

Supplier mandates (like the EU's ReFuelEU) may lead to mandatory SAF unit prices at more than double the voluntary market rates, at airports with local supplier monopolies. Conversely, flexible compliance architectures preserve open-market liquidity and protect hub competitiveness.



# Challenges



## Addressing SAF Challenges in Hong Kong

Drawing upon the international learnings from Chapter 2, it is evident that a successful SAF strategy requires a delicate balance of market intervention and infrastructure readiness. This chapter evaluates Hong Kong's current policy landscape against three foundational pillars — Affordability, Supply Security, and Sustainability—to identify critical challenges across the demand, supply, and ecosystem levels.

The successful integration of sustainable aviation fuel into Hong Kong's aviation ecosystem depends on carefully balancing three foundational pillars: affordability, supply security and sustainability. These pillars inform a set of strategic priorities that address demand-side mechanisms, supply-side infrastructure and cross-border linkages, and the broader ecosystem enablers required for effective market functioning. The following analysis examines the key gaps and design considerations under each priority area in Hong Kong's specific context, including the calibration of consumption targets, the choice between rigid and flexible compliance architectures, physical and institutional bottlenecks in the supply chain, followed by the accounting and registry frameworks needed to support credible Book and Claim transactions for corporates. These priorities aim to guide the development of a coherent, internationally aligned policy framework that strengthens Hong Kong's position as a competitive and resilient aviation hub.

### 3.1 Framework: Core Pillars for SAF Development

#### 3.1.1 Affordability, Supply Security, and Sustainability of SAF



Figure 1: The SAF Triangle: Essential Pillars of SAF Success (Image generated by Gemini)

The successful integration of SAF into Hong Kong's aviation ecosystem relies on balancing three foundational pillars:

**01**

### **Affordability**

This pillar establishes the baseline economic viability required to navigate the green transition without imposing undue financial stress on the aviation sector. Because SAF commands a substantial green premium over conventional jet fuel, the architectural design of Hong Kong's demand-side pulling mechanisms is critical. To preserve a fair and transparent marketplace, cost-mitigation instruments must be deployed. Ensuring affordability means preventing price distortions from cascading down to carriers, shielding highly cost-sensitive segments like transit-transfer passengers and air cargo from SAF costs and so potential regional traffic diversion, and establishes essential procurement safety nets for smaller base carriers that lack independent bulk-buying leverage.

**02**

### **Supply security**

This pillar focuses on the resilience and stability of Hong Kong's aviation fuel supply. Integrating SAF is not just an environmental obligation; it is a vital strategy to manage energy risk. By beginning to shift away from a total reliance on conventional fossil fuels, SAF offers a solution into the near future, acting as the most viable near-term decarbonisation alternative amidst the rapid expansion of the aviation industry. However, to achieve true energy security, Hong Kong must avoid creating new vulnerabilities within the SAF supply chain itself.

While tapping into cost-competitive supply options in GBA is a logical first step, relying exclusively on a single geographic region or a single feedstock type (such as Used Cooking Oil) could expose the hub to local supply shortages or sudden regulatory changes. Therefore, the core principle of supply security is diversification. Hong Kong's policy framework must be technology-neutral by embracing all SAF production methods and prioritising the creation of open, frictionless trade corridors that allow airlines to seamlessly source SAF from both the GBA and the broader global market.

## 03

**Sustainability**

This pillar guarantees the ultimate environmental integrity, international alignment, and tracking transparency of Hong Kong's decarbonisation pathway. Policy implementation must establish rigorous lifecycle emissions calculations to satisfy strict international climate standards, such as those in the International Civil Aviation Organisation ("ICAO")'s Carbon Offsetting and Reduction Scheme for International Aviation ("CORSIA"), thereby shielding corporate clients and visiting airlines from reputational risks. To unlock authentic and sustained corporate demand, the policy framework must deliver absolute accounting clarity. By enforcing a strict globally aligned rulebook that distinguishes reporting of Scope 1 operational reductions from Scope 3 corporate travel attributes, the framework effectively eliminates double-counting risks across mandatory and voluntary carbon markets, allowing Hong Kong to securely link international capital with regional physical supply.

## 3.2 Hong Kong's Demand-Side Challenges

### 3.2.1. Matching Ambition Gaps

The Government's formal commitment to a 1% to 3% SAF consumption ratio by 2030 in the First Five-Year Plan represents a crucial and highly positive milestone for local SAF development. However, while this near-term target establishes a baseline, uncertainty remains regarding the legal architecture, interim milestones, and the long-term post-2030 trajectory.

Unlike jurisdictions like South Korea, which has established firm 2035 target blends of 7–10%, Hong Kong currently lacks a formal post-2030 vision. Standard project finance lifecycles for SAF infrastructure and bulk procurement require a ten-year visibility window. The absence of a clear 2035 trajectory denies private equity and project financiers the long-term certainty required to calculate internal rates of return, potentially freezing capital allocation for critical supply chains. To secure corporate sustainability investments and standardise the local rulebook, Hong Kong must bridge this gap by defining the long-term compliance pathway.

### 3.2.2. Operationalising the Demand-Side Mechanism

While the Government has now signalled its intent to study a mandatory consumption-ratio mechanism, an operational demand-side vacuum exists during this interim study period. The challenge is no longer an absence of policy direction, but rather the need for timely design clarity and market confidence.

Without a finalised regulatory framework or support mechanism to help bridge the high cost of SAF, airlines and investors face structural policy risks. If the eventual mechanism defaults to an un-optimised upstream supplier mandate (as seen in the EU), it could restrict market transparency, inflate SAF premiums, and overburden smaller local base carriers. Furthermore, any residual costs that cannot be fully passed on risk dampening travel demand and driving highly price-sensitive transit and cargo traffic to competing regional airports. Therefore, the rapid and careful calibration of this mandatory mechanism is critical to preserving the aviation sector's competitiveness.

### **3.2.3. Risks of Strict Demand-Side Measures vs Flexible Compliance**

International evidence highlights a stark contrast in demand-side measure design. Upstream-focused models like ReFuelEU demonstrate that rigid blending mandates on suppliers introduce high costs, administrative burdens and still have operational loopholes. A SAF uplift obligation on departing flights is necessary, but if not designed well, it may induce carbon leakage, inadvertently penalising airlines flying direct routes while handing a competitive price advantage to carriers routing through unregulated, out-of-scope transit hubs. For a premier international transfer hub like Hong Kong, replicating this model exactly would be disastrous for direct long-haul competitiveness.

Conversely, flexible compliance architectures illustrate how a jurisdiction can maintain open-market liquidity. A rigid mandate on suppliers would disproportionately burden smaller carriers to prevent carbon leakage. Therefore, the strategic priority is to evaluate how a digital, certificate-based compliance architecture can be adapted to a single hub airport. In principle, this involves assessing the potential for a localised trading mechanism where smaller carriers can purchase SAF certificates from larger base carriers that possess the logistical scale to physically import and uplift large volumes of SAF at Hong Kong. Physical SAF supply into Hong Kong is necessary for sustainable aviation leadership. Strategically, decoupling the physical fuel from its environmental attributes inherently levels the playing field between airlines. The Brazilian mandate on airlines legislated in August 2026 [3], combined with domestic Book and Claim system, provides a unique case study.

### **3.2.4. Balancing Market Dynamics with Procurement Models**

While some jurisdictions use government-mandated levies to bridge the financial premium of SAF, the architectural calibration of these funding mechanisms requires careful consideration. Singapore's model, for example, relies on a centralised passenger levy to fund a government-backed procurement vehicle [8]. This centralised model shifts the traditional procurement dynamic. While some stakeholders raised concerns that it limits the ability of individual airlines to negotiate directly with fuel suppliers and make long-term investments to spur the development of the SAF industry, potentially conflicting with free-market, "Open-Access" fuelling systems, others argued that a central entity could achieve superior economies of scale by pooling demand.



Furthermore, the implementation of passenger levies requires balancing public perception. While there is a risk of consumer pushback if ticket surcharges are perceived as too high, industry feedback suggests that transparent, low-cost levies clearly delineated on tickets can be implemented smoothly. When these fees are applied evenly and segregated by travel class and flight distance, they create a level playing field across passengers without distorting airline competition. The procurement model should be carefully structured to ensure any financial burden is managed equitably while preserving the hub's competitiveness, particularly for highly price-sensitive segments like air cargo and transit passengers.

### **3.2.5. Targeting Financial Support at Procurement**

Jurisdictions like the US utilise massive direct supply-side tax credits (e.g., the One Big Beautiful Bill Act) to accelerate SAF production. However, this model relies entirely on a closed loop of domestic funds going to domestic refining using domestic feedstocks. For an outward-focused hub like Hong Kong, which lacks native refining capabilities, attempting to replicate direct production subsidies is not applicable. Directing public funds towards external or cross-border production facilities could lead to macroeconomic value leakage and raise concerns regarding market monopolies.

Therefore, Hong Kong's fiscal strategy must focus on demand-side enablers. If subsidising feedstock collection costs or the production of fuel, ensure the benefits of this financial support flow to the full SAF value chain. In addition, by providing localised corporate tax benefits for enterprises that voluntarily purchase Scope 3 emissions reductions, and by deploying appropriate incentives to help airlines offset the pump price, Hong Kong can stimulate market liquidity and bridge the green premium without requiring a domestic manufacturing base.

## **3.3 Hong Kong's Supply-Side Challenges**

### **3.3.1. Physical Infrastructure Limits and Cross-Border Bottlenecks**

Neat SAF must be blended with fossil jet fuel before it can enter an airport's fuelling system, which concentrates commercial leverage for SAF with parties that control both conventional jet fuel and blending capacity. Local blending infrastructure provides an alternative route for SAF producers and airlines to transact directly, and such infrastructure becomes more valuable as SAF volumes ramp up. A high local market share for SAF is required to justify the capital expenditure for purpose-built blending infrastructure. Hong Kong's modest 1% to 3% target by 2030 translates to roughly 60,000-180,000 tonnes of SAF, if jet fuel demand remains at 2025 levels, and this volume can be met through discrete shipments of pre-blended fuel which is not enough on its own to justify investment into a blending facility.



The strategic case for local blending infrastructure rests instead on preserving open access and competitive pricing. The facility should therefore be timed and scaled to match demand as it develops, and paired with a firm demand mechanism to underpin throughput.

While local blending capability remains a longer-term strategic option that can enhance supply flexibility and operational resilience, any future blending facilities must operate under strict open-access principles. This will ensure that all airlines retain the commercial autonomy to import neat SAF from diverse global sources. Also, it should be recognised that even blended SAF continues to carry a degree of oil-price volatility since its pricing remains partially linked to conventional jet fuel markets. A local blending facility should be designed with a gradual SAF ramp-up in mind, while the usage fee should not penalise early SAF adopters.

From an operational perspective, scaling SAF use will still require careful management of physical and safety constraints. Adhering to strict international standards necessitates the clearance of three strict operational checkpoints before the final product reaches an aircraft:

#### **Product Segregation**

The storage of pure SAF in separate tanks before blending with standard jet fuel to attain safe, operational standards.

#### **Dedicated Pipeline Flushing**

Rinsing shared pipes clean of any chemical residue before filtering SAF through the system.

#### **Specialised Testing Facilities**

Standardised, scheduled inspections of SAF through lab-checking of batches on-site to ensure the fuel will not freeze at high altitudes (below -40°C) or damage engine seals.

While only a brief overview of the comprehensive operational checkpoints necessary for enabling the usage of SAF, it creates significant land-allocation and interface challenges within the existing airport fuel system. Furthermore, although the Chinese Mainland has a structural production surplus, cross-border flows from it face institutional bottlenecks that include complex payment protocols, uncertainties over export tax rebates and quotas for biofuels and the absence of streamlined customs clearance between Greater Bay Area production sites and Hong Kong.



If left unresolved, these frictions risk diverting blending and logistics activity to more integrated ports in Southeast Asia and diverting more supply to Europe.

Apart from cross-border issues, local regulatory bottlenecks continue to impede the import of neat SAF. Although Hong Kong is a free port, imported aviation fuel is subject to a fixed excise duty under the Dutiable Commodities Ordinance. Ambiguity remains as to whether neat SAF should be classified as a novel chemical product or as standard aviation fuel. This uncertainty triggers extensive testing and classification procedures by the Fire Services Department (“FSD”) and the Customs and Excise Department (“CED”) which have historically taken up to six months. Therefore, it may delay dynamic deployment of fuel and discourage suppliers from prioritising the Hong Kong market.

### **3.3.2. Synergy of Cross-Border Supply**

The Chinese Mainland’s aggressive supply-side acceleration presents a unique structural dynamic. The Mainland possesses immense, rapidly scaling production infrastructure underwritten by green financing, but suffers from weak domestic absorption due to prohibitive green premiums. Conversely, Hong Kong boasts concentrated international aviation demand, world-class green financial infrastructure, and globally recognised certification frameworks, but lacks physical supply. This contrast reveals a potent complementary synergy, indicating that Hong Kong’s most viable pathway is not domestic manufacturing, but rather positioning itself as the premier international export gateway and financial certification hub for GBA-produced SAF, if cost-competitive supply options become available or are enabled by policy.

## **3.4 Ecosystem Enablers Required**

### **3.4.1. Corporate Accounting Gridlock and Registry Fragmentation**

To successfully bridge the SAF green premium without placing the entire financial burden on airlines, the industry must tap into voluntary corporate sustainability budgets. Multinational corporations are increasingly eager to invest in SAF to reduce their Scope 3 (business travel and freight) emissions. This investment is facilitated through Book and Claim mechanisms, which decouple the environmental attributes of SAF from the physical fuel, allowing corporates to claim verified emissions reductions regardless of where the physical fuel is uplifted.

However, the commercial viability of this mechanism in Hong Kong is currently bottlenecked by a fragmented local reporting landscape. At present, the voluntary corporate SAF market is siloed; various airlines and logistics providers operate proprietary registry and SAF claims platforms that lack mutual recognition. This digital isolation breeds transparency issues and creates severe market confusion.



Corporate buyers require absolute assurance that their sustainability budgets are funding genuine, verifiable emissions reductions via purchases of environmental attributes. Without a transparent system governed by standardised rules, the risk of double counting remains high. Consequently, corporate sustainability officers are hesitant to commit their procurement budgets, fearing greenwashing risks and audit failures under strict international climate disclosure standards.

### **3.4.2 Global Registry Integration**

The primary structural barrier in Hong Kong is not just about the lack of corporate demand, but the absence of formal policy alignment with established, globally recognised digital registries.

As observed in European and UK rollouts of mandates on suppliers, the absence of a globally aligned, unified digital tracking framework leads to severe administrative friction and inaccurate, inconsistent or delayed SAF information from suppliers to airlines. For Hong Kong, attempting to build a bespoke, proprietary local platform from scratch would be redundant and lack the immediate international credibility that multinational corporations demand.

Currently, Hong Kong lacks formal integration with established, globally recognised Book and Claim registries, such as the Roundtable on Sustainable Biomaterials (“RSB”) or the International Sustainability and Carbon Certification (“ISCC”). Because the local system is not yet formally anchored to these international verification standards, it lacks the perceived credibility required to unlock large-scale corporate investment. Addressing this digital infrastructure gap by formally recognising and aligning with existing international platforms is essential to overcoming corporate hesitation and mobilising the capital needed to support Hong Kong’s SAF transition.



# Policy Reflections and Strategic Recommendations



## 4.1 Recommended Actions and Industry Engagement

To address the structural challenges identified in Chapter 3 and safeguard HKIA's status as a premier international aviation hub, the Government has now established the broad policy direction. The next priority is coordinated implementation. The following recommendations provide a decision-ready, ecosystem-first roadmap designed to operationalise, refine, and safeguard the announced policy directions across demand, supply, and ecosystem enablers.

### Pillar 1: Demand Side (Creating the Market)

#### 4.1.1 Conduct a Comprehensive Study on Tailored Demand-Side Measures

To successfully transition the stated 1% to 3% SAF consumption target by 2030 into a sustainable long-term reality, the Government should prioritise the design and calibration of its upcoming mandatory consumption-ratio mechanism. Rather than locking into a rigid regulatory model, this study must ensure the mechanism protects HKIA's hub competitiveness while providing volumetric certainty. We recommend the study focus on:



**Establishing a 2035 Target Horizon:** While a cautious 2030 target of 1% to 3% serves as a pragmatic operational stress test, standard project finance lifecycles for SAF infrastructure and bulk procurement require a ten-year visibility window. The study should evaluate establishing a firm post-2030 trajectory, specifically exploring a 2035 target range. Defining this extended horizon is essential to unlock private capital, underwrite multi-year offtake agreements, and ultimately drive down the green premium. Furthermore, this 2035 trajectory must be continuously benchmarked against policy developments in competing Asia-Pacific aviation hubs to ensure Hong Kong remains commercially competitive.



**Protecting Hub Competitiveness via Exemptions:** The study must explicitly evaluate mechanisms to exclude or minimise the cost impact on highly price-sensitive segments. This excludes transit and transfer passengers, transshipment cargo as a core design principle mirroring Singapore's proven model and thus reflecting a broad industry consensus. This exemption design must stipulate a clear data and reporting protocols, including aspects such as passenger origin-destination data, air cargo tracking and multimodal documentation. These protocols must be transparent and undergo appropriate third-party auditing to ensure an exemption integrity is upheld, whilst preventing traffic leakage to competing regional hubs.



**Evaluating the Optimal Obligated Party:** The study should assess various compliance architectures to see which best preserves HKIA's historic open-access fuelling system. This includes comparing the impacts of an upstream supplier-based obligation (which risks creating local monopolies and inflating premiums), an airline-based obligation, and a user-funded levy model, determining which model offers the most commercial flexibility and cost-efficiency for the local market.



**Exploring Flexible Compliance/Reporting Windows:** To help the industry navigate the current volatility in global SAF supply and pricing, the Government is encouraged to study flexible compliance timelines. Evaluating multi-year averaging or extended compliance windows (such as a 24-month window for delivering SAF to meet an annual obligation) could allow airlines to procure SAF when market conditions are most favourable, preventing cost spikes during temporary supply shortages.

## Pillar 2: Supply Side (Securing Fuel & Infrastructure)

### 4.1.2

#### Guarantee Open-Market for Aviation Fuel Logistics

To support the physical delivery of SAF at the scale required for the 2030 target and the subsequent 2035 trajectory, a critical regulatory component is maintaining an open-market model across all fuel infrastructure. The Government should ensure that existing and future logistics networks support multi-supplier integration. By guaranteeing unrestricted access for multiple certified SAF producers and blenders to storage tanks and pipeline networks, Hong Kong can prevent any single entity from monopolising the physical supply chain. This structural guarantee is vital to ensure the market remains competitive, transparent, and resilient as global SAF volumes grow.

### 4.1.3

#### Phase the Planned Blending Facility Strategically

As the Government officially takes forward the construction of Hong Kong's first SAF blending facility, the physical execution and commercial phasing of this infrastructure must be carefully managed. Developing purpose-built blending capabilities provides fuel suppliers with a critical additional option: importing neat SAF to be blended locally. This dual-pathway approach, allowing both pre-blended imports and local blending, enhances supply chain flexibility. However, to avoid creating stranded assets, the commissioning of these physical facilities must be timed in lockstep with actual supply availability and airline demand. Additionally, the operating model and user fees for the facility should be designed to encourage usage and explicitly avoid penalising early SAF adopters.



## 4.1.4

**Streamline Cross-Border Processes via a GBA Taskforce**

Currently, the physical flow of SAF into Hong Kong is severely bottlenecked by institutional friction. To overcome the physical and institutional cross-border bottlenecks highlighted in Section 3.3, the Government must establish a dedicated, interdepartmental GBA Taskforce comprising Hong Kong and Mainland authorities. This taskforce must focus on two critical areas:

- **Cross-Border Friction:** Negotiating formal “Green Lanes” to ease customs procedures, secure dedicated SAF export quotas, and clarify cross-border tax treatments (such as mainland export rebates for biofuels).
- **Local Regulatory Fast-Tracking:** Resolving the acute local regulatory ambiguity regarding the dutiable status of neat SAF. The taskforce must establish a fast-track regulatory pathway to eliminate the redundant, multi-month laboratory testing and classification delays currently imposed by the Fire Services Department (“FSD”) and the Customs and Excise Department (“C&ED”), allowing fuel to be deployed dynamically.

While streamlining GBA supply is critical, these cross-border arrangements must not create unintended regional preferences; the framework must preserve airlines’ open-access rights to procure globally competitive SAF from any international market.

## Pillar 3: Ecosystem Enablers (Rules, Finance, and Macro Policy)

### 4.1.5

#### Ensure the Planned Green Energy Certification System is Internationally Aligned and Registry-Compatible

To break the corporate accounting gridlock detailed in Section 3.4 so to ensure that SAF uplifted in Hong Kong is globally recognised and commercially viable for international carriers, the local regulatory framework must seamlessly align with international standards.

- **Sustainability Standards:** Eligible SAF must adopt a technology-neutral approach that strictly aligns with globally recognised technical and sustainability frameworks, such as ASTM and CORSIA standards. By anchoring local policies to these rigorous international benchmarks, Hong Kong inherently ensures that only high-integrity, sustainable feedstocks are utilised, ruling out unsustainable options by default. This eliminates environmental risks while simultaneously encouraging a broad, viable range of next-generation feedstock alternatives.
- **Scope 3 Attributes and Book and Claim:** To unlock vital corporate sustainability budgets, the framework must guarantee that airlines retain clear ownership and allocation rights over the Scope 3 emissions attributes of the SAF they purchase. Rather than developing a bespoke local system, Hong Kong should utilise established, globally recognised Book and Claim registries. By utilising these international platforms, airlines can transparently pass these environmental benefits directly to their corporate freight and passenger clients, effectively reducing the green premium while strictly eliminating the risk of double counting across global jurisdictions.

### 4.1.6

#### Operationalise the First Five-Year Plan through a Cross-Bureau SAF Delivery Roadmap

With SAF now formally embedded into Hong Kong's First Five-Year Plan, the Government should translate these macroeconomic commitments into an interdepartmental delivery plan. Establishing clear implementation governance will help coordinate finance, customs, infrastructure, and certification delivery. By operationalising this roadmap, Hong Kong can fully leverage its world-class green finance ecosystem, unlocking preferential transition financing and reinforcing its status as a premier global financial and trading hub.

## 4.2 Key Takeaways for Hong Kong

As outlined in Recommendation 1, the Government should leverage its study of the establishment of a mandatory consumption-ratio mechanism to determine the optimal demand-side mechanism for Hong Kong. To guide this study, an appraisal of the global approaches detailed in Chapter 2 is useful.

Specifically, we recommend the Government's study test a framework including these three key design elements:

**An Enforceable Demand-Side Measure:** The feasibility study should evaluate all viable demand-side options, specifically a passenger/cargo levy, a mandate on airlines, or a mandate on fuel suppliers, to determine which model best protects Hong Kong's competitiveness during the initial market-building phase. Any chosen mechanism should focus strictly on Hong Kong-origin traffic, explicitly exempting price-sensitive transit and transfer passengers and transshipment cargo.

**Exploring Flexible Compliance/Reporting Windows:** To help the industry navigate the current volatility in global SAF supply and pricing, the Government is encouraged to study flexible compliance timelines. Evaluating multi-year averaging or extended compliance windows (such as a 24-month window for delivering SAF to meet an annual obligation) could allow airlines to procure SAF when market conditions are most favourable, preventing cost spikes during temporary supply shortages.

**A Flexible Compliance/Reporting Window:** Rather than rigid requirements of a 12-month window to deliver SAF to meet annual obligations, the framework should evaluate a 24-month rolling compliance window with the flexibility to defer a percentage of the obligation to future years.

By testing a model that includes these three elements, the Government can construct a bespoke framework for Hong Kong, which borrows the immediacy of the EU's mandate policy and the de-risking logic of the UK's framework, conveying the strong market credibility and certainty needed to attract regional and competitive SAF supply to Hong Kong.



# Call to Action





## 5. Conclusion: Call for Action

The next 12 to 24 months represent a critical window for Hong Kong to transition from directional target-setting to concrete policy execution. The accelerating policy activity across APAC means that Hong Kong must act to retain a path to regional leadership and sustainable aviation competitiveness. The industry consensus is also clear: prematurely enforcing strict mandates on suppliers without structural financial support will damage the commercial viability of local airlines and the broader aviation hub. Instead, Hong Kong must adopt an ecosystem-first strategy.

By utilising this immediate window to proactively evaluate customised demand mechanisms (such as a hybrid approach combining levies, market-linked penalties, and flexible compliance windows), secure cross-border supply chains through government-to-government negotiations, and establishing a globally recognised certification hub, Hong Kong can successfully protect its short-term competitiveness whilst laying a strong foundation for long-term competitiveness. Crucially, policymakers must view the initial 1% to 3% target as an operational stepping stone for a longer-term target, such as a strategic intent of locking in a 2035 trajectory, while recognising that building a robust SAF ecosystem is not just an environmental obligation, but a fundamental energy security policy. Executing this strategic timeline will mitigate the cost of inaction, break the current market deadlock, and ensure HKIA remains a highly competitive, sustainable, and resilient global aviation hub within the international regulatory shift towards SAF.

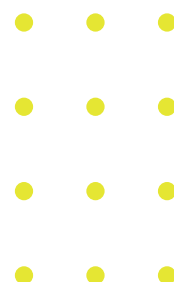


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## Hong Kong Sustainable Aviation Fuel Coalition Partners

AFSC Operations Limited  
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Atlas Air  
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Board of Airline Representatives Hong Kong  
Cathay Pacific Airways Limited  
China Aviation Oil (Hong Kong) Company Limited  
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# References

1. ASAFA (2025). Korea unveils SAF mandate to drive aviation decarbonisation. [online] ASAFA. Available at: <https://www.asiasaf.org/post/korea-unveils-saf-mandate-to-drive-aviation-decarbonisation> [Accessed 7 Aug. 2026].
2. Atmowidjojo, A., Rianawati, E., Chin, B.L.F., Yusup, S., Quitain, A.T., Assabumrungrat, S., Yiin, C.L., Kiatkittipong, W., Srifa, A. and Eiad-ua, A. (2021). Supporting clean energy in the ASEAN: Policy opportunities from sustainable aviation fuels initiatives in Indonesia and Malaysia. IOP Conference Series: Earth and Environmental Science, 940(1), p.012031. doi:10.1088/1755-1315/940/1/012031.
3. Brumatti, G., Damazio, V., Murer, M. and Candil, A.P. (2026). Brazil signs SAF mandate, adopts world's first policy-based book-and-claim system. [online] S&P Global. Available at: <https://www.spglobal.com/energy/en/news-research/latest-news/refined-products/081226-brazil-signs-saf-mandate-adopts-worlds-first-policy-based-book-and-claim-system>.
4. Business Environment Council (2024). Sustainable aviation fuel strategy for Hong Kong. [online] Available at: <https://bec.org.hk/sites/default/files/publications/SAF%20Strategy%20for%20HK.pdf> [Accessed 17 Aug. 2026].
5. Business Traveller (2025). What does the new UK SAF Levy Mean for business travellers? [online] Business Traveller. Available at: <https://www.businesstraveller.com/insights/what-does-the-new-uk-saf-levy-mean-for-business-travellers/> [Accessed 17 Aug. 2026].
6. Census and Statistics Department (2026). Web table. [online] Censtatd.gov.hk. Available at: [https://www.censtatd.gov.hk/en/web\\_table.html?id=915-91106#915-9110](https://www.censtatd.gov.hk/en/web_table.html?id=915-91106#915-9110) [Accessed 27 Aug. 2026].
7. Civil Aviation Administration of China (2024). China launches pilot project for the application of sustainable aviation fuel. [online] Caac.gov.cn. Available at: [https://www.caac.gov.cn/English/News/202409/t20240927\\_225510.html](https://www.caac.gov.cn/English/News/202409/t20240927_225510.html) [Accessed 17 Aug. 2026].
8. Civil Aviation Authority of Singapore (2026). Civil Aviation Authority of Singapore. [online] Civil Aviation Authority of Singapore. Available at: <https://www.caas.gov.sg/resources/media-and-publication/newsroom/new-sustainable-aviation-fuel-levy-to-apply-from-1-april-2026-for-flights-departing-from-1-october-2026/> [Accessed 11 Aug. 2026].
9. Department for Energy Security and Net Zero (2026). UK emissions trading scheme: Treatment of sustainable aviation fuel. [online] GOV.UK. Available at: <https://www.gov.uk/government/consultations/uk-emissions-trading-scheme-treatment-of-sustainable-aviation-fuel> [Accessed 17 Aug. 2026].
10. Department for Transport (2024). Sustainable aviation fuel (SAF) mandate. [online] GOV.UK. Available at: <https://www.gov.uk/government/collections/sustainable-aviation-fuel-saf-mandate> [Accessed 11 Aug. 2026].



11. Department for Transport (2025). SAF revenue certainty mechanism: Levy design. [online] GOV.UK. Available at: <https://www.gov.uk/government/consultations/saf-revenue-certainty-mechanism-levy-design> [Accessed 17 Aug. 2026].
12. Department of Resource Conservation and Environmental Protection (2021). 【 Action plan for carbon dioxide peaking before 2030 】 -national development and Reform Commission (NDRC) People's Republic of China. [online] en.ndrc.gov.cn. Available at: [https://en.ndrc.gov.cn/policies/202110/t20211027\\_1301020.html](https://en.ndrc.gov.cn/policies/202110/t20211027_1301020.html) [Accessed 17 Aug. 2026].
13. DGCA (2025). 60th conference of directors general of civil aviation Asia and Pacific regions promoting the establishment of supporting infrastructure for regional adoption of book and claim systems to accelerate SAF deployment.
14. Energy Report] Korea struggles to collect used oil (2026). [Energy report] Korea struggles to collect used oil. [online] KBS 뉴스. Available at: <https://news.kbs.co.kr/news/pc/view/view.do?ncd=8628749> [Accessed 10 Aug. 2026].
15. European Commission (2023). ReFuelEU Aviation - European commission. [online] transport.ec.europa.eu. Available at: [https://transport.ec.europa.eu/transport-modes/air/environment/refuelev-aviation\\_en](https://transport.ec.europa.eu/transport-modes/air/environment/refuelev-aviation_en) [Accessed 17 Aug. 2026].
16. Helou, Dr.I. El and Siméon, Dr.M. (2024). Book and Claim – A system for Sustainable Aviation Fuels (SAFs). Future Cleantech Architects. [online] Available at: <https://fcarchitects.org/wp-content/uploads/2024/07/Aviation-Policy-Brief-Book-and-Claim.pdf> [Accessed 17 Aug. 2026].
17. HKIA (2026). Press releases, media centre - Hong Kong International Airport. [online] Hong Kong International Airport. Available at: [https://www.hongkongairport.com/en/media-centre/press-release/2026/pr\\_1859](https://www.hongkongairport.com/en/media-centre/press-release/2026/pr_1859) [Accessed 27 Aug. 2026].
18. HKIA (2026). Welcome to zscaler directory authentication. [online] Hongkongairport.com. Available at: [https://www.hongkongairport.com/en/media-centre/press-release/2026/pr\\_1849](https://www.hongkongairport.com/en/media-centre/press-release/2026/pr_1849) [Accessed 27 Aug. 2026].
19. International Trade Administration (2025). Malaysia energy sustainable aviation fuel. [online] International Trade Administration | Trade.gov. Available at: <https://www.trade.gov/market-intelligence/malaysia-energy-sustainable-aviation-fuel> [Accessed 11 Aug. 2026].
20. IRS (2024). Sustainable aviation fuel credit | internal revenue service. [online] www.irs.gov. Available at: <https://www.irs.gov/credits-deductions/businesses/sustainable-aviation-fuel-credit> [Accessed 17 Aug. 2026].



21. ISCC (2024). Mass balance explained. [online] ISCC System. ISCC System GmbH. Available at: <https://iscc-system.org/mass-balance-explained/> [Accessed 17 Aug. 2026].
22. Kistamah, H. (2026). Green aviation practices in Singapore and Malaysia: A two-country exploratory policy analysis. *Transportation Research Interdisciplinary Perspectives*, [online] 38, p.102134. doi:10.1016/j.trip.2026.102134.
23. Kranich, C. and Haas, S.J. (2024). Book-and-claim system for sustainable aviation fuels. *Journal of Air Law and Commerce*, 89(1), pp.111–156. doi:10.25172/jalc.89.1.5.
24. Lau, J.I.C., Wang, Y.S., Ang, T., Seo, J.C.F., Khadaroo, S.N.B.A., Chew, J.J., Ng Kay Lup, A. and Sunarso, J. (2024). Emerging technologies, policies and challenges toward implementing sustainable aviation fuel (SAF). *Biomass and Bioenergy*, [online] 186(1), p.107277. doi:10.1016/j.biombioe.2024.107277.
25. Martinez-Valencia, L., Garcia-Perez, M. and Wolcott, M.P. (2021). Supply chain configuration of sustainable aviation fuel: Review, challenges, and pathways for including environmental and social benefits. *Renewable and Sustainable Energy Reviews*, 152(2), p.111680. doi:10.1016/j.rser.2021.111680.
26. Ministry of Economy, Trade & Industry (2026). 第9回 持続可能な航空燃料（SAF）の導入促進に向けた官民協議会（meti/ 経済産業省）. [online] Meti.go.jp. Available at: [https://www.meti.go.jp/shingikai/energy\\_environment/saf/009.html](https://www.meti.go.jp/shingikai/energy_environment/saf/009.html) [Accessed 24 Aug. 2026].
27. Ministry of Land, Infrastructure and Transport (2025). SAF blending becomes mandatory for international flights departing Korea in 2027.
28. Pei, M. and Zhou, O. (2026). China focused on voluntary SAF markets over demand mandates: CAAC research body official. [online] S&P Global. Available at: <https://www.spglobal.com/energy/en/news-research/latest-news/crude-oil/071626-china-focuses-on-building-voluntary-demand-for-saf-over-issuing-mandates> [Accessed 27 Aug. 2026].
29. Rahmanulloh, A. (2025). Voluntary report -voluntary -public distribution. In: USDA. [online] Available at: [https://apps.fas.usda.gov/newgainapi/api/Report/DownloadReportByFileName?fileName=Indonesia%20Curbing%20Palm%20Waste%20Exports%20%20Discouraging%20CPO%20Mixture%20Practices\\_Jakarta\\_Indonesia\\_ID2025-0009.pdf](https://apps.fas.usda.gov/newgainapi/api/Report/DownloadReportByFileName?fileName=Indonesia%20Curbing%20Palm%20Waste%20Exports%20%20Discouraging%20CPO%20Mixture%20Practices_Jakarta_Indonesia_ID2025-0009.pdf) [Accessed 7 Aug. 2026].



30. Roundtable on Sustainable Biomaterials (2025). [RSB-PRO-20-001-001] -version 4.1 -RSB book & claim manual 1 RSB -roundtable on sustainable biomaterials RSB book & claim manual (RSB chain of custody procedure for book and claim). [online] Available at: <https://rsb.org/wp-content/uploads/2024/06/RSB-PRO-20-001-001-RSB-Book-and-Claim-Manual-4.2-1.pdf> [Accessed 17 Aug. 2026].
31. Roundtable on Sustainable Biomaterials Association (2025). RSB -roundtable on sustainable biomaterials RSB procedure for book and claim chain of custody (the RSB book and claim manual) RSB reference code: RSB-PRO-20-002 (version 4.2).
32. s4.markrecto@wearesection.com (2025). Funding Singapore's sustainable aviation future | SAFCo Singapore. [online] Singapore Sustainable Aviation Fuel Company. Available at: <https://safco.com.sg/saf-levy/> [Accessed 17 Aug. 2026].
33. Surgenor, C. (2026). Singapore defers introduction of SAF levy due to Middle East conflict. [online] GreenAir News. Available at: <https://www.greenairnews.com/?p=8786> [Accessed 17 Aug. 2026].
34. Tse, K. (2025). Towngas - media resources. [online] Towngas.com. Available at: <https://www.towngas.com/en/Media-Resources/Press-Releases/2026/Ecoceres-Dongguan-Saf-Hub> [Accessed 19 Aug. 2026].
35. US Department of Energy (2026). Sustainable aviation fuel initiative. [online] Energy.gov. Available at: <https://www.energy.gov/cmei/fuels/sustainable-aviation-fuel-initiative> [Accessed 17 Aug. 2026].
36. Van Dijk, M. and Galpin, D. (2026). SAF market outlook. [online] Available at: [https://marketing.skynrg.com/hubfs/SAF%20Market%20Outlook%20-%202026.pdf?utm\\_campaign=429956282-2026%20%7C%20Report%20%7C%20Market%20Outlook%202026%20%7C%20NL&utm\\_medium=email&\\_hsenc=p2ANqtz-9OCvc-FJ1wBIODQTAVw9tovdlv3ruo0Wq7APY0mkJ-IrxatTS8UUpKEP6I8TBTRzrh-DC2r0Rfe0QVvd5msoSfxoNdnw&\\_hsmi=138001780&utm\\_content=138001780&utm\\_source=hs\\_automation](https://marketing.skynrg.com/hubfs/SAF%20Market%20Outlook%20-%202026.pdf?utm_campaign=429956282-2026%20%7C%20Report%20%7C%20Market%20Outlook%202026%20%7C%20NL&utm_medium=email&_hsenc=p2ANqtz-9OCvc-FJ1wBIODQTAVw9tovdlv3ruo0Wq7APY0mkJ-IrxatTS8UUpKEP6I8TBTRzrh-DC2r0Rfe0QVvd5msoSfxoNdnw&_hsmi=138001780&utm_content=138001780&utm_source=hs_automation) [Accessed 7 Aug. 2026].
37. Verma, V., Mishra, A., Anand, M., Farooqui, S.A. and Sinha, A.K. (2023). Catalytic hydroprocessing of waste cooking oil for the production of drop-in aviation fuel and optimization for improving jet biofuel quality in a fixed bed reactor. Fuel, [online] 333, p.126348. doi:10.1016/j.fuel.2022.126348.



## References

38. Xu, Y., Zhang, Y., Deng, X., Zhang, A. and Yu, H. (2026). Navigating the trilemma of sustainable aviation fuel development in China: Status and prospects. *Transport Policy*, 180, p.104035. doi:10.1016/j.tranpol.2026.104035.
39. 王晶晶 (2026). Draft outline of China's 15th five-year plan submitted to top Legislature for Review. [online] [Www.gov.cn](http://www.gov.cn). Available at: [https://english.www.gov.cn/news/202603/05/content\\_WS69a8fd53c6d00ca5f9a098c2.html](https://english.www.gov.cn/news/202603/05/content_WS69a8fd53c6d00ca5f9a098c2.html) [Accessed 7 Aug. 2026].

