



ALIGHT

SUSTAINABLE AVIATION

D6.2 Final report of SAF for airport sustainability

D6.2

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Author(s):	Blanca de Ulibarri (RSB), Esther Hegel (RSB)
Contact person	blanca.deulibarri@rsb.org / esther.hegel@rsb.org



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1 Executive summary

As aviation works to decarbonise in line with global and EU climate targets, Sustainable Aviation Fuel (SAF) has emerged as a central lever for reducing emissions. While SAF is primarily consumed by airlines, airports play a pivotal enabling role—connecting the operational, commercial, and regulatory systems that make its adoption possible (Chapters 2–3). This report examines how airports can act as strategic facilitators of SAF deployment, building on findings and experiences from the ALIGHT project.

SAF offers airports environmental, regulatory, and reputational benefits (Chapter 2). It can reduce Scope 3 emissions—which account for up to 95% of an airport’s carbon footprint—while improving local air quality. Demonstrations under ALIGHT and at leading airports such as Copenhagen and Rome have shown ~30% reductions in ultrafine particulate emissions from SAF blends, reinforcing its value for both climate and health.

To accelerate SAF adoption, airports must work across the SAF value chain with suppliers, airlines, freight operators, corporate travel buyers, and private aviation (Chapter 3). Even without direct physical supply, airports can enable SAF uptake by integrating credible book and claim systems, supporting incentives for SAF use, and embedding robust emissions tracking to help partners meet sustainability targets (Chapter 5).

The EU policy framework is evolving quickly (Chapter 7). The ReFuelEU Aviation Regulation will require progressive SAF blending from 2025, supported by sustainability criteria under RED III, emissions reporting under the EU ETS and CORSIA, and tracking through the Union Database. While airports cannot set these rules, they can strengthen their position by ensuring infrastructure readiness, building capacity on SAF certification (Chapter 4), and seizing new market access opportunities such as book and claim (Chapter 5).

Barriers remain—high costs, limited feedstock, infrastructure gaps, and low stakeholder awareness (Chapter 8)—but targeted action can address them. The strategic roadmap (Chapter 9) sets out phased priorities: short-term focus on making SAF physically possible through infrastructure and partnerships; medium-term embedding of certification and compliance processes; and long-term expansion of market access via flexibility mechanisms and collaborative procurement models.

SAF is more than a decarbonisation tool—it is a strategic lever for airports to lead aviation’s green transition. By acting now, airports can reduce emissions at scale, meet emerging regulatory demands, and shape the market conditions for a sustainable future. With targeted investments, digital solutions, and multi-stakeholder collaboration, airports can position themselves at the heart of a climate-resilient aviation sector.



2 Airport's Role in SAF Adoption

Airports occupy a unique position in the shift to sustainable aviation fuel (SAF). While they do not burn the fuel, they can make or break its adoption across the aviation value chain. By connecting airlines, fuel suppliers, regulators, and passengers, airports can act as strategic catalysts for SAF deployment, helping drive scale decarbonisation.

2.1 The role of SAF for airport sustainability

SAF is emerging as a critical lever in the aviation industry's efforts to decarbonise, particularly as the sector is expected to see continued growth and rising greenhouse gas (GHG) emissions. While SAF is primarily used by aircraft, airports play a vital enabling role across the value chain—from supporting fuel logistics to advocating policy frameworks and integrating SAF into their broader sustainability strategies.

Airports increasingly recognise that facilitating SAF use aligns with both climate goals and local environmental objectives. However, SAF adoption faces several barriers, including high production costs, limited availability, and unclear airport operational roles in fuel sourcing and certification. Despite these challenges, SAF offers compelling benefits across environmental, regulatory, and reputational dimensions.

2.2 Potential benefits of SAF for airports and the airport environment

Airports across Europe are beginning to realise the tangible environmental and reputational benefits of supporting Sustainable Aviation Fuels (SAF). Copenhagen Airport has positioned itself as a frontrunner by integrating SAF into its broader climate strategy and collaborating with stakeholders to enable SAF supply infrastructure (see Figure 1) ¹. Similarly, Aeroporti di Roma has partnered with fuel providers to deliver SAF at Fiumicino, demonstrating how airports can act as catalysts for cleaner aviation ². These and many more European examples demonstrate that airports recognise SAF's potential to reduce emissions, improve air quality, and future-proof airport sustainability agendas.

This is further supported by findings from the ALIGHT project, which investigated the broader benefits of SAF—beyond direct CO₂ emission reductions—through dedicated measurement campaigns, highlighting its potential to improve air quality and reduce non-CO₂ emissions. During the project's on-site measurement campaign, researchers analysed emissions from an aircraft using a 34% SAF blend during taxiing operations. Ground-based sensors recorded approximately a 30% reduction in ultrafine particulate matter compared to conventional jet fuel. This demonstrates that SAF use at airports can significantly improve local air quality, offering tangible environmental and health benefits for airport staff and surrounding communities.

¹ Copenhagen Airports A/S. (2024). https://www.cph.dk/494193/globalassets/8.-om-cph/04_investor/arsrapporter/2024/copenhagen_airports_as_group_annual_report_2024.pdf

² Enac – Italian Civil Aviation Authority. (2024). A roadmap for Sustainable Aviation Fuels in Italy—Enac path for the definition of SAF policy. <https://www.enac.gov.it/app/uploads/2024/05/Italian-SAF-Roadmap-EN.pdf>



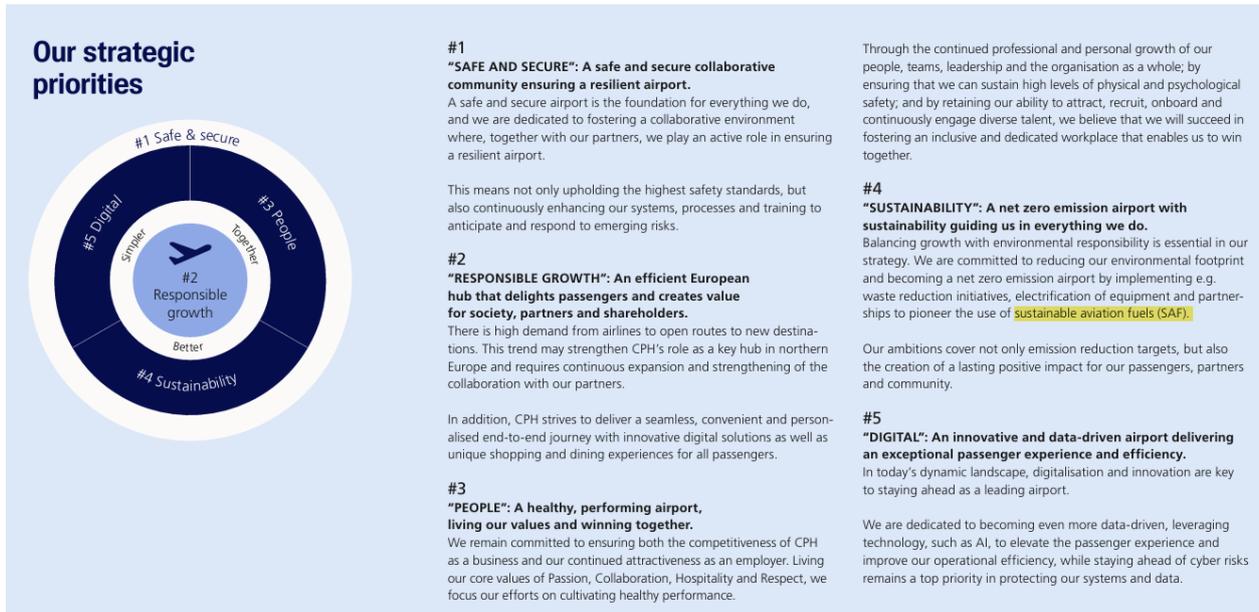


Figure 1: SAF use is mentioned in Copenhagen Airport's (CPH) strategic sustainability priorities to reduce its environmental footprint and become a net-zero emission airport (Copenhagen Airports A/S, 2024).

2.3 Scope 3 emissions benefits from SAF

Airports across the globe are committed to achieving net zero emissions by 2050³, a goal that requires action across all three emission scopes. While Scope 1 (direct emissions from airport-owned sources) and Scope 2 (indirect emissions from purchased electricity) are often the primary focus due to their direct controllability, Scope 3 emissions typically account for over 90% of an airport's carbon footprint (see Figure 2).

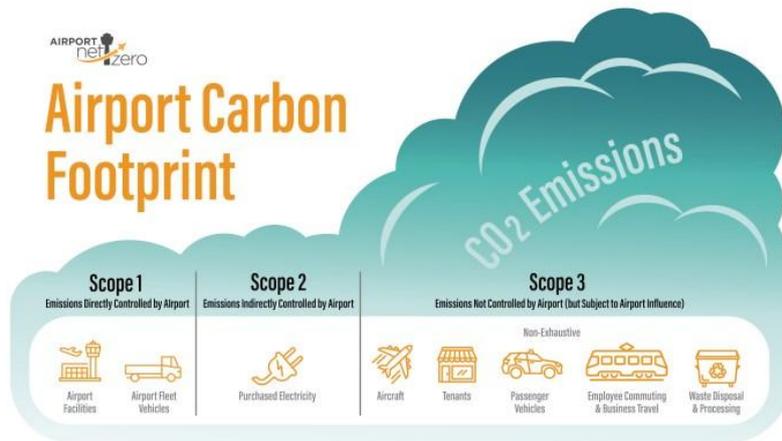


Figure 2 Airport emission by scope (Molly Babitz, 2024)⁴.

³ ACI, Repository of Airports' Net Zero Carbon Roadmaps. (s. f.). Recuperado 6 de agosto de 2025, de <https://www.aci-europe.org/netzero/repository-of-roadmaps.html>

⁴ <https://airportscouncil.org/2024/09/06/the-scoop-on-scope-3-emissions-why-they-matter-and-how-to-address-them/>



Scope 3 include emissions from third-party activities such as aircraft operations, passenger and employee travel to and from the airport, and energy use by airport tenants. Addressing Scope 3 is both complex and essential. Among the various levers available, SAF presents a particularly impactful opportunity, as it directly reduces lifecycle carbon emissions from aircraft operations—one of the largest contributors to Scope 3.

2.4 SAF and the Airport Carbon Accreditation (ACA) Framework

Although the Airport Carbon Accreditation (ACA) program does not explicitly require SAF promotion, it strongly encourages third-party engagement to reduce emissions, particularly from Level 3 (Optimisation) and above. These higher accreditation levels mandate that airports go beyond their own emissions and influence the carbon performance of airlines, ground handlers, tenants, and other stakeholders within their sphere of operations⁵. This creates a clear alignment between SAF initiatives and ACA objectives. Since SAF use primarily reduces aircraft emissions—classified under Scope 3 from the airport’s perspective—airports that actively support SAF deployment contribute directly to third-party decarbonisation goals. ACA recognises and rewards such efforts as part of its structured pathway toward higher levels of accreditation, especially Level 4 (Transformation) and Level 4+ (Transition), which place stronger emphasis on absolute emissions reductions and systemic stakeholder collaboration.

In this context, airports are well positioned to act as key enablers of value-chain decarbonisation—especially by supporting SAF uptake. Even though airports are not the direct purchasers or users of jet fuel, they can play a catalytic role in facilitating SAF adoption across the aviation ecosystem. Under ACA Level 3 and above, airports are expected to:

- Engage with third parties to influence their carbon performance;
- Develop joint emission reduction strategies, specifically with airlines and fuel suppliers;
- Report transparently on the outcomes of these partnerships.

Facilitating SAF usage is a powerful way to meet these requirements. Examples include:

- Providing SAF-compatible infrastructure, such as blending and storage facilities or refueling systems;
- Partnering with SAF producers and airlines through supply agreements or joint procurement initiatives;
- Implementing Book & Claim systems, enabling airlines and corporate customers to claim SAF-related emissions benefits irrespective of the physical SAF delivery;
- Supporting emissions tracking and carbon accounting, helping stakeholders quantify and report Scope 3 reductions.

These efforts demonstrate tangible progress in reducing Scope 3 emissions and strengthen an airport’s case for achieving higher ACA accreditation levels—supporting its broader net-zero commitments.

⁵ Airport Carbon Accreditation (ACA) Program. (s. f.). Airport Carbon Accreditation. Recuperado 14 de agosto de 2024, de <https://www.airportcarbonaccreditation.org/>



3 Airport as SAF enablers

Airports occupy a unique position within the aviation ecosystem—operating at the intersection of infrastructure, operations, policy, and market dynamics. While they are not direct consumers of SAF, they are critical enablers of its adoption. From providing the infrastructure needed for SAF delivery to coordinating with airlines, fuel suppliers, regulators, and cargo operators, airports connect the operational, commercial, and regulatory systems that make large-scale SAF deployment possible.

This chapter explores the key stakeholder groups airports must engage with to accelerate SAF uptake:

- **Operational stakeholders**, such as fuel handlers, ground service providers, and airport operations teams, who ensure SAF can be physically integrated into airport systems.
- **Commercial stakeholders**, including airlines, freight operators, and corporate travelers, who create demand for SAF and are central to emissions accounting and market development.
- **Regulatory and policy stakeholders**, such as government bodies, industry coalitions, and certification schemes, who influence the economic and legal conditions for SAF deployment.

By understanding and engaging these groups, airports can activate multiple levers for accelerating SAF uptake. The following sections explore each stakeholder group in detail, including their role in SAF deployment, challenges they face, and actions airports can take to support them.



3.1 Operational Stakeholders

To make SAF a routine part of airport operations, physical integration must be seamless, safe, and scalable. This responsibility lies largely with a group of operational stakeholders who ensure that SAF can be moved, stored, blended, and delivered within the airport environment.

These stakeholders—including SAF suppliers, fuel infrastructure operators, airport operations teams, ground handling services, and general aviation service providers—may not purchase or claim SAF emissions benefits themselves. However, their role is indispensable: without their coordination, infrastructure readiness, and adherence to safety protocols, SAF simply cannot flow to aircraft.

According to the Clean Skies for Tomorrow SAF Policy Toolkit, one of the most immediate barriers to SAF deployment is the lack of technical readiness across fuel handling and delivery systems⁶. Overcoming these barriers requires airports to actively convene and align with operational actors on infrastructure adaptation, fuel logistics, and safety procedures.

The following overview in Table 1 summarises the roles of key operational stakeholders involved in SAF deployment and outlines potential actions airports can take to engage and support each of them in scaling SAF use.

Table 1: Operational Stakeholders in SAF Deployment – Roles, Challenges and Airport Enabling Actions

1. SAF Supplier

<i>Role in SAF Integration</i>	Produce and deliver SAF to airports; critical for ensuring reliable, certified supply for airline use.
<i>Key Challenge</i>	Limited production volumes, high costs, and lack of consistent airport infrastructure for blending and storage.
<i>Airport Enabling Actions</i>	Facilitate supplier access to airport systems, coordinate fuel logistics, and support long-term offtake agreements to improve demand visibility.

2. Fuel Infrastructure Operators

<i>Role in SAF Integration</i>	Manage the on-airport fuel storage, blending, and distribution systems (e.g., fuel farms, hydrant networks). Critical for enabling physical SAF delivery.
<i>Key Challenge</i>	Infrastructure may not be compatible with blended fuels; SAF requires separate storage or blending; investment risks without guaranteed demand.
<i>Airport Enabling Actions</i>	<ul style="list-style-type: none"> - Invest in SAF-compatible infrastructure (e.g., tanks, pipelines). - Engage early with fuel consortia and suppliers. - Facilitate on-site blending operations.

⁶ https://www3.weforum.org/docs/WEF_Clean_Skies_for_Tomorrow_Sustainable_Aviation_Fuel_Policy_Toolkit_2021.pdf



Example: In 2021, Heathrow Airport collaborated with Vitol Aviation and Neste to feed SAF into its primary fuel supply as a proof of concept. This illustrates how fuel infrastructure operators enabled SAF integration at scale.⁷

3. Into-Plane Fuelling and Ground Handling Services

<i>Role in SAF Integration</i>	Execute final fuelling operations—connecting fuelling trucks or hydrant pits to aircraft. May also manage SAF volume tracking and operational safety.
<i>Key Challenge</i>	Lack of training or procedures for SAF handling; limited access to SAF when fuel is blended off-site; coordination with multiple airline fueling protocols.
<i>Airport Enabling Actions</i>	<ul style="list-style-type: none"> - Develop SAF-specific fuelling protocols. - Provide training to ground handling staff. - Ensure safety compliance and coordination between handlers and airlines.

4. Airport Operations & Safety Teams

<i>Role in SAF Integration</i>	Oversee airside safety, ramp logistics, and compliance. Play a key role in approving infrastructure changes and maintaining fuelling standards.
<i>Key Challenge</i>	SAF handling may require adjustments to operating procedures; regulatory clarity may lag behind technical needs.
<i>Airport Enabling Actions</i>	<ul style="list-style-type: none"> - Incorporate SAF into operational SOPs and fuelling protocols. - Coordinate with safety regulators on SAF-specific procedures. - Facilitate stakeholder workshops to address safety and procedural consistency.

5. General Aviation Tenants / Fixed Base Operators (FBOs)

<i>Role in SAF Integration</i>	Provide fuelling and services for business jets and private aviation. Often operate independent fuelling systems outside the central fuel farm.
<i>Key Challenge</i>	May lack access to SAF due to lower volumes and decentralised operations; limited demand awareness from customers.
<i>Airport Enabling Actions</i>	<ul style="list-style-type: none"> - Engage FBOs early in SAF planning. - Explore SAF delivery partnerships tailored to general aviation. - Promote SAF adoption as a premium service offering. <p>Example: Clay Lacy Aviation began offering SAF at its FBOs in Van Nuys and Orange County starting in 2021. This aligns with FBOs enabling SAF usage in general aviation⁸.</p>

⁷ <https://www.heathrow.com/latest-news/sustainable-aviation-fuel-to-partly-power-heathrow-jets>

⁸ <https://www.claylacy.com/company/news-views/sustainability/sustainable-aviation-fuel-saf-at-clay-lacy-fbos/>



3.2 Commercial Stakeholders

Commercial stakeholders are at the heart of SAF demand. While they are not responsible for fuel infrastructure or physical operations, their procurement decisions, sustainability commitments, and public decarbonisation targets directly shape the pace and scale of SAF adoption. Therefore, engaging with these stakeholders is essential for airports looking to accelerate SAF deployment within their ecosystem. This group includes airlines, freight operators, corporate travel buyers, and private aviation clients. Among them, airlines, freight operators, and corporate buyers are particularly influential: they represent the majority of current SAF uptake and are expected to drive most near-term market demand through direct procurement or emissions reduction targets. As such, airports should prioritise collaboration with these actors—whether through SAF incentive schemes, digital tracking platforms, or joint procurement models. Airports can act as key enablers by coordinating procurement schemes, offering incentives, facilitating voluntary climate action platforms, and integrating emissions data into digital tracking systems. These measures support SAF uptake and position the airport as a partner in its stakeholders’ decarbonisation journeys.

Spotlight: Narita Airport – Pioneering Scope 3 SAF Value Trading

Narita International Airport is pioneering airport-led SAF enablement through the world’s first Scope 3 Environmental Value Trading demonstration ⁹ (see Figure 3). The initiative brings together fuel suppliers, airlines, logistics providers, and the airport itself to share the environmental value of SAF across the aviation value chain. As part of this effort, Narita Airport operates the trading platform, leads project planning, and has even purchased SAF environmental attributes to offset Scope 3 emissions from its own employee business travel. This approach shows how airports can move beyond infrastructure provision to become active market facilitators, directly supporting SAF adoption through collaboration, innovation, and internal action.

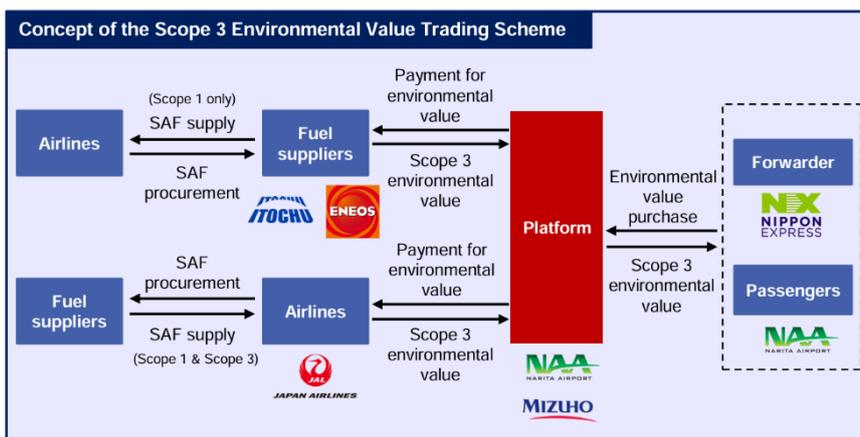


Figure 3: Multi-Stakeholder concept of a scope 3 environmental value trading scheme piloted at Narina Airport ¹⁰.

⁹ <https://www.itochu.co.jp/en/news/press/2024/240802.html>

¹⁰ https://press.jal.co.jp/en/items/uploads/%28FNL%29_SAF_Scope3.pdf?



Spotlight: Airports Enabling Airlines Through SAF Incentive Funds

To support airline adoption of SAF, several airports have introduced financial incentive schemes to help bridge the cost gap between SAF and conventional jet fuel (see Figure 4). These SAF Incentive Funds are a direct airport-led mechanism to reduce barriers for airlines and accelerate SAF uptake. Airports such as Heathrow, Schiphol, and Swedavia have already launched such programs. For example, Heathrow offers airlines a rebate of up to £460 per tonne of SAF uplifted, funded through environmental charges. Similarly, Schiphol provides €500 per tonne for bio-based SAF and €1,000 per tonne for e-fuels, supporting airlines in meeting their decarbonization goals¹¹. These initiatives demonstrate how airports can act as catalysts in the SAF value chain—not by consuming SAF themselves, but by creating the economic conditions that make its use viable for airlines.

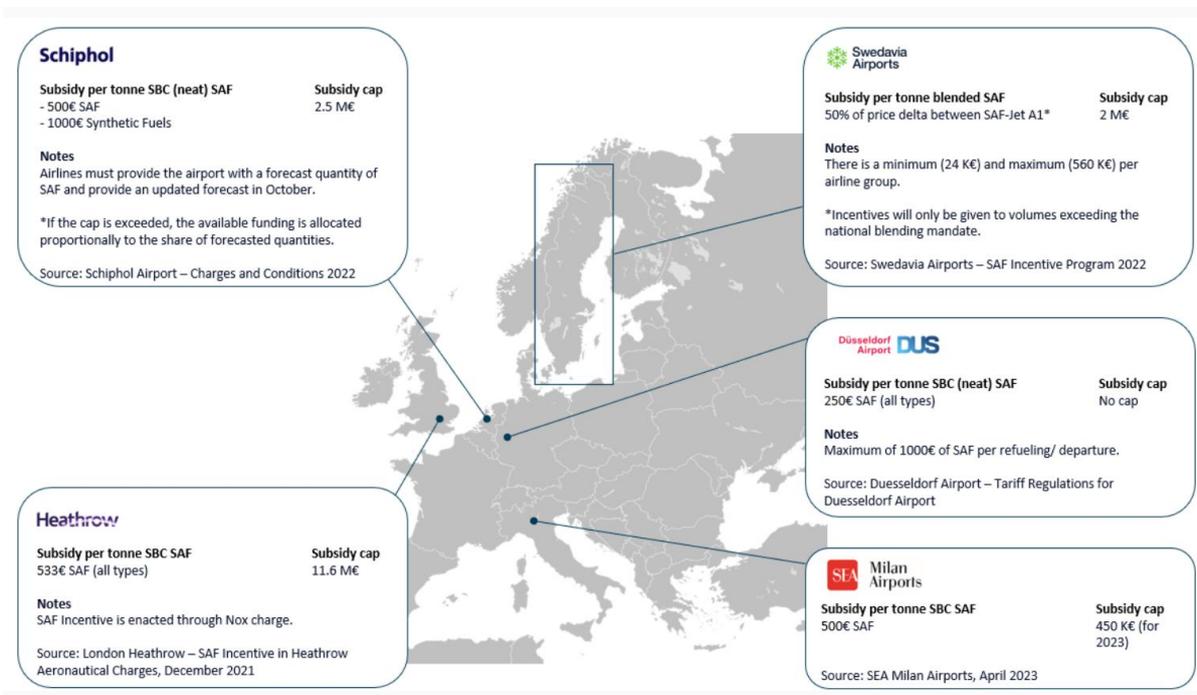


Figure 4: Leading airports in establishing SAF incentive programs (Ullrich, 2023)

¹¹ <https://to70.com/airports-as-catalysts-driving-saf-adoption-through-incentive-funds/>



The following overview in Table 2 summarises the roles of key commercial stakeholders involved in SAF deployment and outlines the specific actions airports can take to engage and support each of them in accelerating SAF adoption.

Table 2: Commercial Stakeholders in SAF Deployment – Roles, Challenges and Airport Enabling Actions

1. Airlines

<i>Role in SAF Integration</i>	Primary consumers of SAF; their uptake signals demand and activates supply chains.
<i>Key Challenge</i>	SAF is significantly more expensive than conventional jet fuel; lack of volume commitments can deter suppliers.
<i>Airport Enabling Actions</i>	Implement financial incentives to reduce SAF cost premium. Example: Heathrow’s SAF incentive scheme provides airlines with a rebate of approximately £460 per tonne, supporting targeted SAF use increases ¹² . Another example: Schiphol subsidises airlines’ SAF uplift by €500 per tonne for biofuels and up to €1,000 for e-fuels ¹³ (see Figure 4).

2. Freight Operators

<i>Role in SAF Integration</i>	They transport cargo aviation—growing in sustainability relevance—and demand SAF as part of supply chain decarbonisation.
<i>Key Challenge</i>	Similar cost barriers; limited supply and logistical uncertainty.
<i>Airport Enabling Actions</i>	Facilitate SAF procurement agreements or participation in book and claim value chains to reduce barriers to SAF uptake.

3. Corporate Travelers

<i>Role in SAF Integration</i>	Represent growing volumes in business travel; can drive SAF usage through voluntary action and corporate responsibility.
<i>Key Challenge</i>	Multi-destination travel makes program implementation complex; cost-effectiveness and transparency are key concerns.
<i>Airport Enabling Actions</i>	Enable corporate SAF participation via book and claim models or digital platforms. Example: Heathrow’s platform (powered by CHOOOSE) allows passengers—and corporate travellers—to purchase SAF to offset flight emissions, regardless of airline or destination ¹⁴ .

¹² <https://www.icf.com/insights/aviation/role-of-airports-scaling-saf>

¹³ <https://to70.com/airports-as-catalysts-driving-saf-adoption-through-incentive-funds/>

¹⁴ <https://mediacentre.heathrow.com/pressrelease/detail/13483?>



4. Private Aviation Customers

<i>Role in SAF Integration</i>	High-value niche users from business and private aviation who can pilot SAF use and drive early adoption through premium services.
<i>Key Challenge</i>	Small-scale operations face logistical and awareness barriers; higher SAF costs need client buy-in.
<i>Airport Enabling Actions</i>	<ul style="list-style-type: none"> - Engage FBOs early in SAF planning. - Explore SAF delivery partnerships tailored to general aviation. - Promote SAF adoption as a premium service offering.

3.3 Regulatory and Policy Stakeholders

The successful deployment of SAF depends not only on operational readiness and commercial demand, but also on the regulatory and policy framework that governs aviation. Regulatory and policy stakeholders—including government agencies, industry bodies, and certification organisations—shape the economic, legal, and sustainability conditions under which SAF can be produced, traded, and used.

These actors influence SAF adoption through measures such as blending mandates, tax incentives, emissions reporting requirements, and sustainability certification schemes. For airports, engaging with this group is critical to ensure that local, national, and international policies support infrastructure investment, create stable demand signals, and recognise SAF’s environmental benefits in emissions accounting.

The following section outlines the main regulatory and policy stakeholders in the SAF value chain and identifies practical ways airports can collaborate with them to accelerate SAF up-take.

Table 3: Regulatory and Policy Stakeholders in SAF Deployment – Roles, Challenges and Airport Enabling Actions

1. National and Regional Aviation Authorities

<i>Role in SAF Integration</i>	Develop and enforce regulations affecting SAF use, such as fuel specifications, sustainability criteria, and emissions accounting rules.
<i>Key Challenge</i>	Slow regulatory processes; lack of harmonisation across jurisdictions; uncertainty around SAF crediting in carbon markets.
<i>Airport Enabling Actions</i>	Participate in consultations and working groups to advocate for airport-inclusive SAF policies and ensure infrastructure readiness requirements are addressed.



2. Government Policy Makers

<i>Role in SAF Integration</i>	Shape fiscal and policy incentives such as tax credits, blending mandates, or direct SAF subsidies.
<i>Key Challenge</i>	Policy volatility; competition for subsidies with other sectors; need for long-term certainty to attract SAF investment.
<i>Airport Enabling Actions</i>	Engage directly with policymakers to promote stable incentive frameworks and funding mechanisms for SAF infrastructure at airports.

3. Industry Coalitions and Trade Bodies

<i>Role in SAF Integration</i>	Build consensus, develop voluntary targets, and lobby for supportive SAF policies (e.g., IATA, ATAG, ACI).
<i>Key Challenge</i>	Need to balance diverse stakeholder interests; voluntary targets lack enforceability.
<i>Airport Enabling Actions</i>	-Collaborate on joint advocacy campaigns and leverage coalition platforms to showcase airport SAF initiatives. Example: Airports Council International (ACI) and partners endorsed the ICAO net-zero 2050 goal and pressed member states for supportive frameworks for SAF transit ¹⁵ .

4. Certification and Standards Schemes and Bodies

<i>Role in SAF Integration</i>	Certification schemes (e.g., RSB, ISCC) develop standards to ensure SAF meets recognised sustainability criteria, while standards bodies (e.g., ASTM International) define the technical specifications for safe blending and use in aviation.
<i>Key Challenge</i>	Limited awareness among airport staff and local stakeholders about certification processes; complexity of sustainability criteria; variation in recognition across markets.
<i>Airport Enabling Actions</i>	Increase awareness and understanding of credible sustainability certification among airport teams and partners, enabling informed engagement with suppliers and airlines. Provide access to trusted resources and guidance materials. Example: RSB joined the ALIGHT project consortium to host a Sustainable Airport Platform (SAP) and produce the <i>SAF Sustainability Guidance for Airports</i> , helping airports integrate certification understanding into their SAF strategies ¹⁶ .

¹⁵ <https://aci.aero/2023/11/27/aci-applauds-and-supports-visionary-icao-goal-for-sustainable-aviation-fuel/>

¹⁶ <https://rsb.org/wp-content/uploads/2023/01/SAP-2022-SAF-Guidance-for-Airports.pdf>



5. Environmental Regulatory Agencies

<i>Role in SAF Integration</i>	Oversee compliance with schemes such as CORSIA, EU ETS, and national GHG reporting programs, including rules for recognising SAF in emissions reductions.
<i>Key Challenge</i>	Complex and evolving rules for SAF accounting; risk of double counting; variation in how SAF is credited across schemes and jurisdictions.
<i>Airport Enabling Actions</i>	Monitor regulatory developments and ensure airport SAF-related activities (e.g., infrastructure provision, Book & Claim facilitation) are aligned with recognised reporting rules. Act as a knowledge bridge for airlines and tenants by sharing updates on SAF crediting requirements.

3.4 Airports as enablers for SAF

The stakeholder analysis in this chapter shows that airports' enabling role in SAF deployment depends on how effectively they connect operational capacity, market demand, and regulatory recognition. Each group contributes essential levers, but none can drive large-scale adoption in isolation. The most effective airports act as integrators — aligning infrastructure readiness with commercial incentives and policy frameworks to create a self-reinforcing cycle of SAF uptake.

This integrative role is being tested and scaled across Europe through collaborative initiatives such as ALIGHT¹⁷, TULIPS¹⁸, and STARGATE¹⁹. These projects demonstrate how coordinated action can accelerate deployment — from SAF-powered test flights and local production assessments to policy engagement. Public-facing efforts like GreenGate and the FlyGreen Fund further strengthen impact by engaging passengers directly and raising awareness of SAF's role in decarbonising aviation.

From this analysis, four enabling action pillars emerge for airports:

1. **Make SAF physically possible** – ensuring infrastructure, logistics, and operational capacity are ready for SAF supply, blending, and delivery.
2. **Make SAF economically attractive** – supporting uptake through incentives, pooled procurement, and partnerships.
3. **Make SAF credible** – embedding certification, traceability, and compliance to build trust and meet regulatory requirements.
4. **Make SAF visible** – engaging passengers, corporate clients, and partners through transparent reporting and awareness initiatives.

¹⁷ <https://alight-aviation.eu/projects/>

¹⁸ <https://tulips-greenairports.eu/>

¹⁹ <https://www.greendealstargate.eu/>



Within the ALIGHT project, one of these pillars — making SAF credible — was addressed directly through targeted capacity-building on SAF certification. This work responded to a clear knowledge gap among airports and provided practical guidance for implementation.

In parallel, the project identified Book & Claim as a promising opportunity that connects directly to several pillars: it enables airports to make SAF economically attractive by widening access to SAF markets, make it credible through robust certification and traceability, and make it visible by integrating SAF use into emissions reporting and stakeholder engagement. This approach offers a practical pathway for airports to contribute to Scope 3 emissions reductions, even when physical SAF supply is limited.

The following chapters explore both topics in detail, presenting insights, practical considerations, and examples from ALIGHT and wider industry practice.

4 Deep Dive: SAF Certification – Building Credibility in SAF Adoption

A robust certification system is one of the most critical enablers for accelerating the adoption of Sustainable Aviation Fuel (SAF) at airports. Certification verifies the sustainability of SAF, ensures its emissions performance, and aligns it with key regulatory frameworks such as the EU Renewable Energy Directive (EU RED II) and the International Civil Aviation Organization’s Carbon Offsetting and Reduction Scheme for International Aviation (CORSA). This alignment is essential for airlines seeking to account for emissions reductions and for airports striving to support credible and reportable decarbonisation efforts. Strengthening airport capacity in this area directly supports the “Make SAF credible” pillar and reinforces the effectiveness of other enabling actions.

By providing assurance on feedstock sustainability, lifecycle emissions, and supply chain traceability, certification reduces uncertainty, mitigates greenwashing risks, and builds confidence among stakeholders. It also helps unlock financial incentives and policy support—making it a foundational element in overcoming barriers to SAF deployment at airports.

Within the ALIGHT project, capacity-building on SAF certification was a central activity. On 4 April 2024, RSB hosted a dedicated webinar featuring Copenhagen Airport and RSB, highlighting certification as a tool for regulatory compliance (Figure 5) , building stakeholder trust, and integrating SAF into airport operations and reporting with confidence. The session underscored that certification not only supports credible emissions accounting but also strengthens the case for SAF-related investments and long-term planning. The main takeaways from this session were:

1. **Certification builds trust** by assuring sustainable sourcing and verified emissions reductions, fostering confidence among regulators, airlines, and the public.



2. **It enables regulatory compliance** with international standards such as EU RED II and CORSIA, which is vital for emissions reporting and compliance readiness.
3. **It supports airport sustainability goals** by allowing airports to credibly reduce Scope 3 emissions, improve ESG reporting, and progress toward net-zero targets.

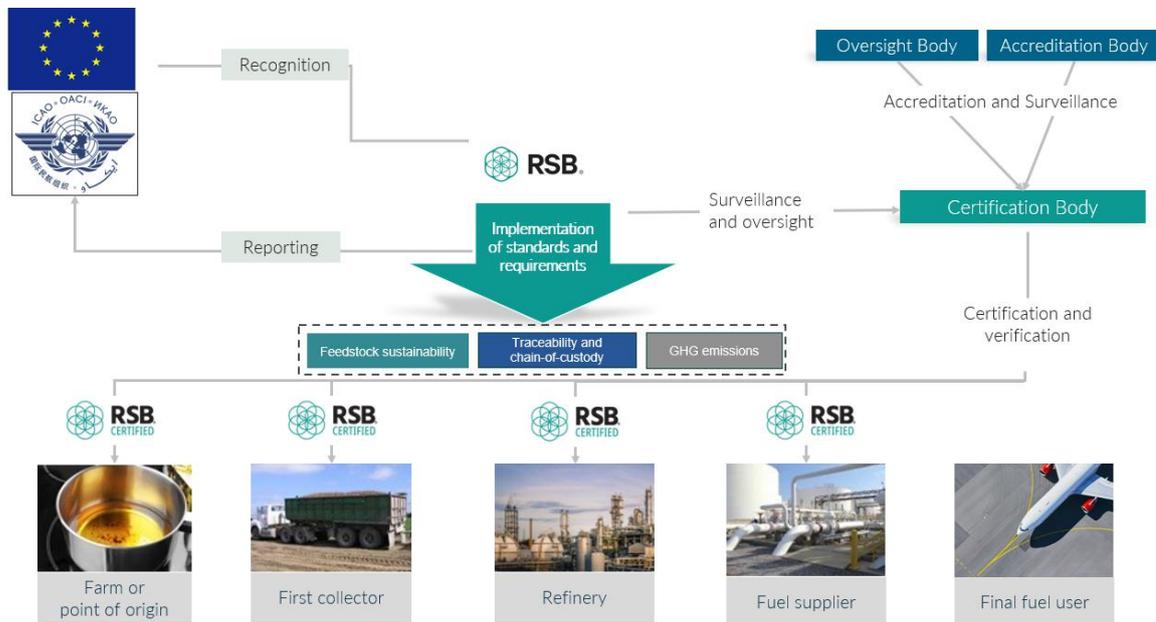


Figure 5 Scheme of RSB certification system for SAF²⁰

A second webinar, held on 4 September 2024 and co-led by IATA and RSB, deepened understanding of certification in the SAF value chain. It introduced the jointly developed SAF Sustainability Certification Guidance (June 2024), designed to harmonise practices and clarify documentation requirements for all stakeholders—from producers to airports. The guidance responds to uncertainty among airlines about the documentation needed to claim SAF under EU ETS and CORSIA, and to the need for fuel suppliers and state authorities to avoid conflicting practices. The session emphasised the importance of a common framework, clear documentation, and stakeholder education, with airports positioned as integrators who must understand and apply certification processes to support Scope 3 claims.

The ALIGHT webinars illustrate that airports can take practical steps to strengthen their role in certification. Building internal literacy across sustainability, fuel operations, and procurement teams ensures SAF-related data is correctly captured and integrated into carbon accounting. Coordinating with fuel suppliers and airlines to request certified SAF and retain proof of sustainability documentation supports accurate reporting and compliance. Engaging directly with recognised certification bodies enables airports to stay aligned with evolving standards and to explore digital traceability solutions that can further strengthen credibility.

²⁰ Provided by Roundtable on Sustainable Biomaterials from webinar held 4th April 2024



D6.2 Final report of SAF for airport sustainability

Certification is not an administrative formality—it is the mechanism that underpins market trust, enables credible reporting, and supports policy compliance. For airports, embedding certification processes ensures that SAF claims are verifiable, that emissions reductions are recognised, and that emerging mechanisms such as Book & Claim are grounded in robust sustainability attributes. In doing so, airports reinforce their credibility, support industry integrity, and position themselves as leaders in scaling sustainable aviation fuels.



5 Deep Dive: Book & Claim – Linking Airports to SAF Use and Scope 3 Reductions

As the aviation industry continues to grow, airports face the challenge that most of their carbon footprint comes from indirect sources, particularly aircraft fuel burn. In some cases, Scope 3 emissions account for up to 95% of an airport's total footprint. For example, Copenhagen Airport (CPH) has committed to net-zero Scope 1 and 2 emissions by 2030 and net-zero Scope 1–3 emissions by 2050. While Scope 1 and 2 can be addressed through measures such as renewable electricity and HVO fuels, Scope 3—particularly aircraft landing and take-off (LTO) emissions—requires solutions like SAF to make a meaningful impact. At CPH, LTO accounts for over half of all reported emissions, while full-flight emissions, amounting to 2.58 MtCO₂e, are not currently included in formal reporting.

One promising mechanism to address Scope 3 is the Book & Claim (B&C) system. This model enables SAF to be produced and consumed where it is most economical or logistically feasible, while still allowing the environmental attributes of that SAF to be claimed by another party elsewhere in the network. For airports, B&C offers a low-cost, high-impact pathway to promote SAF use even without direct physical supply, and to support partner airlines, cargo operators, and corporate customers in meeting their climate goals.

However, integrating B&C into greenhouse gas (GHG) accounting remains complex under current standards such as the GHG Protocol, the Corporate Sustainability Reporting Directive (CSRD), and the Airport Carbon Accreditation (ACA) framework. For example, there is still no clear guidance under the GHG Protocol²¹ or the European Sustainability Reporting Standards (ESRS) on how to account for SAF purchased via B&C in Scope 3.6 (business travel) or Scope 3.11 (use of sold products). There is also uncertainty around categorisation within ESRS indicators E1-6 versus E1-7, which affects how SAF use is reported and verified.

Insights from the RSB's work on B&C systems, presented in the May 2025 ALIGHT webinar, further clarify the mechanics. A single SAF transaction can, under certain conditions, generate one Scope 1 claim and up to two Scope 3 claims as which can be either scope 3.6 or scope 3.11, depending on the parties involved and the specific value chain configuration (see Figure 6). At present, only voluntary markets—not compliance schemes like the EU ETS or CORSIA—are eligible for such claims. This makes transparency in reporting essential, and electricity reporting frameworks offer useful parallels for how to manage attribute transfers while avoiding double counting.

²¹ <https://ghgprotocol.org/scope-3-calculation-guidance-2>



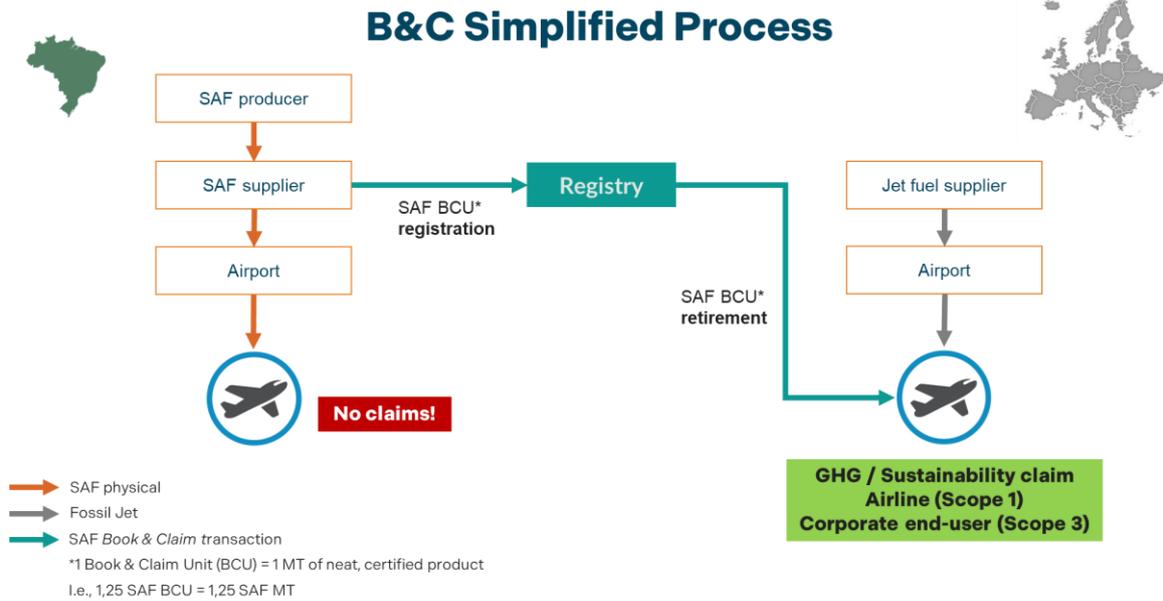


Figure 6: Simplified illustration of RSB's Book & Claim Process²²

For airports, supporting a B&C system involves more than enabling the purchase of SAF credits. It requires establishing or partnering with secure and transparent tracking platforms, ensuring that claims are backed by recognised certification (as addressed in the SAF Certification deep dive), and aligning B&C offerings with broader airport sustainability strategies. Done well, this can allow airports to:

- Help airlines and cargo operators meet emissions reduction targets in a credible, auditable way.
- Offer SAF credits as part of sustainability travel programmes.
- Enable corporate travel customers to claim verifiable Scope 3 reductions via SAF.
- Offset part of the airport's own Scope 3 emissions from aircraft movements without waiting for full physical SAF supply infrastructure.

By bridging the gap between SAF production capacity and its point of environmental claim, B&C provides a flexible, scalable tool for reducing Scope 3 emissions at airports. Yet its long-term impact will depend on clearer guidance from global and European accounting frameworks, continued stakeholder education, and investment in trusted verification systems.

²² Provided by the Roundtable on Sustainable Biomaterials (RSB) Association.





7 Policy and Regulatory Context for Airport SAF Action

The European Green Deal sets a 90% emission reduction target for the transport sector by 2050 (compared to 1990 levels). To achieve this, the European Commission has introduced a range of measures to accelerate the adoption of Sustainable Aviation Fuel (SAF). For airports, understanding these measures is essential for compliance and identifying opportunities to act as effective SAF enablers.

ReFuelEU Aviation Regulation

The central EU policy driver for SAF, ReFuelEU requires aviation fuel suppliers to increase the share of SAF progressively blended into jet fuel at EU airports—starting at 2% in 2025 and reaching 70% by 2050.

What this means for airports: Airports must ensure that fuel infrastructure, storage, and quality control systems can accommodate increasing SAF volumes. Coordination with fuel suppliers will be essential, and reporting systems must be capable of capturing and communicating SAF use in line with regulatory requirements. This directly supports the “Make SAF physically possible” and “Make SAF visible” pillars.

Renewable Energy Directive (RED III)

RED III sets sustainability criteria for SAF and mandates the use of a mass balance chain-of-custody (CoC) system to track renewable fuels through the supply chain. Only SAF that meets these criteria can count toward renewable energy targets.

What this means for airports: Airports need to understand the RED III requirements to ensure that SAF delivered on-site, or acquired through Book & Claim, is recognised as compliant. This strengthens the “Make SAF credible” pillar and links directly to the SAF certification deep dive developed in the ALIGHT project.

EU Emissions Trading System (EU ETS) & CORSIA

The EU ETS allows SAF users to claim emissions reductions, provided the SAF is certified and documented following the system’s rules. CORSIA, operated by ICAO, is the global scheme for offsetting and reducing aviation emissions, with recognised sustainability and life cycle criteria for SAF.

What this means for airports: By facilitating the supply of certified SAF or enabling Book & Claim transactions, airports can help airlines, cargo operators, and even themselves claim Scope 3 emissions reductions. This directly supports the “Make SAF credible” and “Make SAF economically attractive” pillars.

Union Database (UDB)

The UDB is a central EU system designed to track renewable fuel transactions and prevent double counting. It will be integrated with ReFuelEU Aviation and ETS compliance systems, creating a harmonised data environment for SAF tracking.

What this means for airports: Airports will need to engage with UDB processes directly or through partners to ensure SAF transactions are recorded and claims are verifiable. This underpins data transparency and the “Make SAF credible” pillar and is also critical for credible Book and claim operations.



8 Barriers and Challenges of SAF Adoption at Airports

While the preceding chapters have outlined the role of airports as SAF enablers and the actions they can take, scaling SAF to the level required for aviation's net-zero transition is constrained by persistent barriers. These challenges cut across the four enabling pillars and illustrate where progress will require coordinated effort between airports, industry partners, and policymakers.

Under **Make SAF physically possible**, infrastructure gaps remain significant. Many airports lack dedicated facilities for storing, blending, and delivering SAF, and global production is still dominated by a single mature pathway—HEFA—reliant on limited feedstocks. Alternative pathways, while approved, have yet to reach commercial scale.

Under **Make SAF economically attractive**, the cost of SAF—currently two to five times higher than conventional jet fuel—limits voluntary uptake, particularly at smaller or cost-sensitive airports where margins and traffic volumes make early adoption difficult.

Under **Make SAF credible**, policy uncertainty and uneven regulatory alignment complicate certification, crediting, and trade. Without robust and trusted tracking systems, including those needed for Book & Claim, market confidence in SAF claims is undermined.

Finally, under **Make SAF visible**, awareness and understanding of SAF's role, benefits, and operational requirements remain uneven across the airport ecosystem. This slows decision-making and weakens momentum for collaborative action.

Overcoming these barriers will depend on aligning infrastructure investment, market incentives, policy frameworks, and stakeholder engagement—reinforcing the enabling actions identified in Chapter 3 and the two priority focus areas explored in the deep dives on SAF certification and Book & Claim.



9 Strategic Priorities and Outlook

9.1 Strategic Priorities

This roadmap translates the enabling pillars introduced in Chapter 3 into three Strategic Priority Areas, aligned with the EU policy context set out in Chapter 4 and underpinned by the two priority deep dives on SAF certification (Chapter 5) and Book & Claim (Chapter 6). As it can be seen these areas overlap in practice, as some actions will start earlier than others, but many will develop in parallel.

Strategic Priority Area 1 – Secure SAF Physical Readiness

The first priority is to make SAF physically possible—the first pillar in Chapter 3. Most airports are technically compatible with blended SAF, yet deployment is often slowed by logistical bottlenecks, uneven operating procedures, and coordination gaps with suppliers (see Chapter 8 on infrastructure barriers). Here, airports focus on actions firmly within their remit: mapping fuelling and storage capabilities, removing procedural frictions so SAF can move through existing systems, and aligning operations with supplier requirements. Policy signals from ReFuelEU (Chapter 7) provide the demand trajectory that justifies these readiness measures.

Strategic Priority Area 2 – Embed Certification and Compliance

Airports do not set certification rules, but they can strongly influence whether credible, recognised SAF flows through their systems—this is the third pillar in Chapter 3 and the subject of the certification deep dive in Chapter 5. Airports can build certification literacy into operations, ensure procurement favours SAF that meets RED III and CORSIA criteria (Chapter 7), and put in place documentation and digital tracking so sustainability attributes are captured accurately. While harmonising standards sits with regulators and certification schemes, airports can strengthen consistency by aligning their own practices and advocating through airport networks—addressing the data-integrity and awareness gaps discussed in Chapter 8.

Strategic Priority Area 3 – Expand Market Access and Flexibility

To make SAF economically attractive at scale—pillar two in Chapter 3—airports can go beyond physical supply and enable access through market mechanisms such as the flexibility provisions in ReFuelEU and Book & Claim pathways (Chapter 6). For airports with limited local supply, these tools allow credible participation in SAF markets and support Scope 3 reductions even before full on-site delivery is viable. Airports position themselves as trusted facilitators—ensuring traceability, preventing double counting, and collaborating in regional clusters—thereby addressing the cost and policy-alignment barriers discussed in Chapter 8 while preparing for future on-airport volumes.

Across all three priority areas, progress depends on cross-cutting enablers described throughout this report: sustained stakeholder engagement and capacity building (Chapters 3, 5 and 6), targeted access to funding and incentives (linked to the policy instruments in Chapter 7), and transparent communications that make SAF visible—the fourth pillar in Chapter 3.



Together, these threads connect operational readiness with market confidence and policy recognition, ensuring the roadmap is both actionable now and resilient as the regulatory landscape evolves.

The figure below (Figure 7) illustrates this integrated roadmap, placing airports at the centre of a system that combines physical readiness, trusted certification, and flexible market access.

Strategic Priority Areas for Airports to Enable SAF Adoption

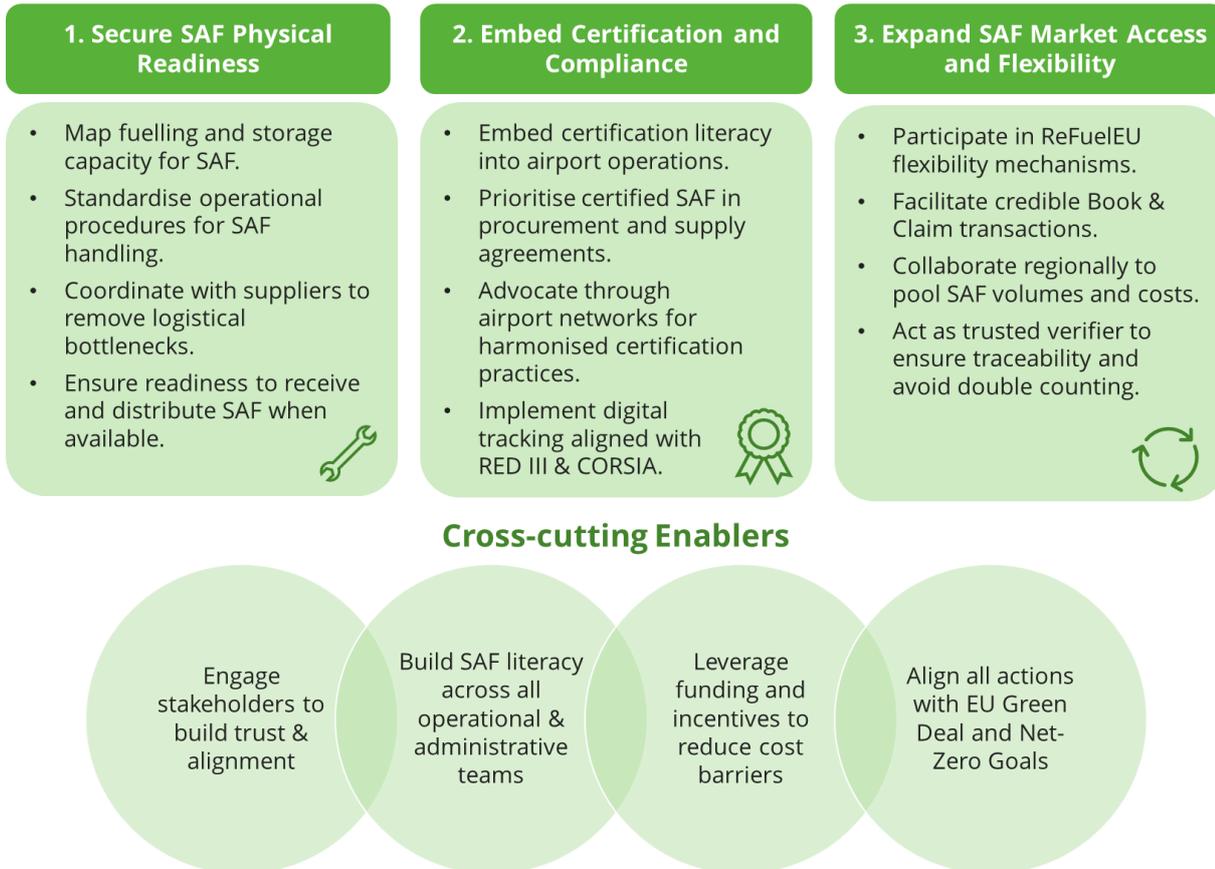


Figure 7: Strategic Priority Areas for Airports to Enable SAF Adoption (developed for this deliverable).



9.2 Conclusions and Future Outlook

Sustainable Aviation Fuel (SAF) is a critical lever for reducing aviation’s carbon footprint, and airports occupy a complex yet pivotal role in advancing its adoption. Unlike airlines, airports neither purchase SAF nor decide which carriers use it, which limits their direct influence. However, they serve as key enablers by linking infrastructure, market demand, and regulatory frameworks. In this integrator role, airports help align operational readiness, commercial incentives, and policy recognition. The four enabling pillars outlined in Chapter 3—ensuring SAF is physically possible, economically viable, credible, and visible—provide a practical framework for understanding and strengthening this contribution.

Within the ALIGHT project, two of these pillars received particular attention. Chapter 4 addressed the need to build capacity on SAF certification, which is essential for ensuring claims are trusted and compatible with schemes like RED III and CORSIA. Chapter 5 examined the opportunity to reduce Scope 3 emissions via Book & Claim systems, which extend SAF’s reach beyond physical supply constraints. Together, these deep dives show that airports have both immediate levers and longer-term opportunities to shape markets and policies.

The policy context outlined in Chapter 7—notably ReFuelEU Aviation, RED III, EU ETS, and CORSIA—provides both momentum and complexity. While airports cannot set these frameworks, aligning with them strengthens compliance readiness, funding opportunities, and credibility. The barriers discussed in Chapter 8—infrastructure gaps, cost premiums, certification complexity, and policy fragmentation—are addressed in the strategic roadmap of Chapter 9, which sets out phased actions: securing infrastructure readiness in the short term, embedding certification processes in the medium term, and expanding market access through flexibility mechanisms and Book & Claim in the long term.

Looking ahead, the outlook for airports is defined by urgency and opportunity. Urgency, because meeting EU 2050 climate targets requires SAF to grow from less than 1% of supply today to a dominant share within three decades. Opportunity, because airports—especially acting collectively—can accelerate this trajectory. By investing in digital SAF tracking, prioritising certified supply, enabling regional pooling, and communicating SAF’s value to passengers and corporate clients, airports can cement their role as catalysts for change.

The path forward will not be linear, and many drivers—especially policy harmonisation and market economics—lie outside airports’ direct control. Yet by making SAF physically possible, credible, and visible now, and expanding market access over time, airports can bridge today’s fragmented deployment into a future where SAF is a standard part of aviation’s fuel mix. The ALIGHT project shows that with the right partnerships, knowledge, and tools, this vision can become operational reality—delivering regulatory compliance and advancing a climate-resilient aviation sector.

