Combining and sequencing public-private levers can increase the likelihood of SAF project financing

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Introduction

Scaling sustainable aviation fuel (SAF) production requires significant investment, which can only materialise through strong collaboration across industries and governments. As part of its flagship "Airports of Tomorrow" initiative, the World Economic Forum's latest white paper on SAF financing, "Case Studies and Implications for Investment[1]," developed in partnership with Kearney, outlines how multiple levers can come together to accelerate SAF deployment.

This article highlights insights from the report, building on the latest regional developments and early industry success stories, and explores their implications for SAF financing and international cooperation.

En route to 2030

Keeping in mind ICAO's vision for a 5% reduction in international aviation emissions by 2030 through the use of SAF, Lower Carbon Aviation Fuels (LCAF) and other aviation cleaner energies (compared to zero cleaner energy use), as well as individual government targets and regulations aimed at boosting SAF use by then, the Kearney analysis underpinning the report identifies over 5 Mt of SAF production gaps to 2030. Yet production is rapidly scaling, SAF market prices are reducing, and confidence in producers' ability to supply the SAF volumes needed to get to 2030 is increasing, especially in Europe.

Most of this production continues to come from used cooking oil, with technology and financial hurdles – over $20billion by 2030, according to the report - that need to be overcome to scale alternative pathways. New production clusters, in particular in Asia and South America, have started to emerge, affecting feedstock trades to Europe and the United States, where project developers had predominantly concentrated to date, and creating pressure to scale SAF locally to improve domestic energy security even where regions may not possess competitive advantages.

Multiple levers to scale SAF

This is where the levers identified by the report can play a role in helping countries scale domestic production. Ten levers were identified to attract capital for SAF commercialisation, with developers, governments, airlines and OEMs, airports, private investors, and multilateral development banks (MDBs) all playing critical roles.

Government-led levers and other sources of public funding

Governments are essential in providing a clear and futureproof direction to industry in the forms of mandates

1 https://www.weforum.org/publications/financing-sustainable-aviation-fuels-case-studies-and-implications-for-investment/

and targets, avoiding U-turns and backtracking when market circumstances change, and creating a level playing field for domestic and international players to facilitate SAF offtakes.

To spur production, a number of incentives can be introduced to support SAF market stability. Grants and direct subsidies can lower production costs and encourage technological innovation. The UK Government, for example, has allocated £165 million for SAF projects through its Advanced Fuels Fund, with companies like Alfanar benefitting from the grant as part of their early plant development.

Yet grants only cover part of the CAPEX needed to scale a facility, which can exceed $1bn, and as plant development progress, capital is needed to achieve financial investment decision, and even afterwards when the plant is completed some technology challenges might arise, impacting fuel volumes and quality. These have an impact on the OPEX that affects the price of the fuel produced, and thus the revenue of the future SAF facility. This is why loan guarantees to manage technology risks, as well as revenue certainty mechanisms, also explored in the UK to complement mandates and grants – can support SAF producers, help mitigate financial risks and lower the cost of capital.

Governments are not the only source of cheaper capital. Multilateral development banks can also play a key role in kick-starting feasibility studies and early-stage plant development. This is particularly vital in countries which have a less substantial regulatory frameworks in place, to support a more global pipeline of projects across regions so that more countries and regions can leverage the industrial opportunities of SAF plants and value chains, in line with the objectives of ICAO's ACT-SAF Programme with which the World Economic Forum has been collaborating.

New business models and market-driven mechanisms

Beyond government, corporate buyers can also play a major role in scaling SAF. It is becoming more frequent to see corporations voluntarily looking to reduce their travel emissions (Scope 3) through the SAF certificates. Book-and-claim mechanisms that allow to separate the environmental attributes from the actual volumes of SAF are advantageous for airlines, as customers with higher willingness to pay may be able to take over some of the price premium of greener molecules, and lower the cost of capital for developers. This is because Scope 3 offtakes increase the number of counterparties involved with the transaction, reducing buyers' credit risks as a result of the higher creditworthiness than corporates typically have compared to airlines.

More and more organisations are developing their own platforms that customers can use independently to purchase credits or deliver SAF via book-and-claim mechanisms, such as World Energy, American Express Global Business Travel and Shell, DHL, SkyNRG, and World Kinect. Others are partnering directly across the value chain, such as HSBC which signed a partnership with Cathay Pacific and Ecoceres in 2024, and Microsoft and OMV.

Book-and-claim partnerships are a way for developers to increase the chances of project financing, but it is often through direct equity investments from strategic parties that the likelihood of progressing to construction and commercialisation can be boosted further. Equity holders can consider taking higher level of risk when this can bring strategic returns, other than financial returns – for instance the ability of an airline to get priority access to the fuel produced or the reputation of investing in sustainable products to keep a licence to operate. Examples of these include the investments from MUFG and All Nippon Airways in LanzaJet, the capital raised by Ineratech to expand its operations, and the strategic agreement between Infinium, International Airlines Group and Brookfield Asset Management that could unlock up to $1.1 billion of funding. Both Ineratech and Infinium were selected among the winners of the World Economic Forum's 2024 UpLink Sustainable Aviation Challenge[2] aimed at identifying highly-scalable start-ups in the sustainable aviation space.

The private sector can therefore play a key role in supporting the nascent SAF market, while benefitting from the carbon emissions reductions that can be claimed by using SAF or SAF certificates and supporting plant development. Yet greater understanding is needed for businesses to

2 https://uplink.weforum.org/uplink/s/uplink-issue/a002o0000174PRGAA2/sustainable-aviation-challenge

become more familiar with the reporting, accounting, sustainability and procurement options and implications of such mechanisms, requiring greater capability building especially in emerging aviation hubs, such as Asia Pacific. To this end, in May 2025 the World Economic Forum, in partnership with GenZero, launched Green Fuel Forward – a new campaign aimed at boosting demand for SAF in Asia Pacific, complementing the work of Airports of Tomorrow and the First Movers Coalition.

Which lever and when?

Quite often, the key to scaling SAF is applying a combination of all of these levers, each of which is discussed in detail in the report. Many of these do not work in isolation, or are actually relevant to a particular technology pathway or risk. For instance, production pathways looking to convert used cooking oil into SAF may use technology already commercial and could rely less on government grants to scale compared to power-to-liquid fuels, although plants could still face some technical challenges or may be exposed to volatility resulting from international trade policy, requiring some degree of government guarantees or Scope 3 partnerships. The less developed the production pathway, the higher the number of levers that could be beneficial.

The timing and sequencing of these levers also matter. Among the factors banks look at when deciding whether and how to invest in a SAF project there are: presence of equity investments from third parties, feedstock assurance (availability/sustainability), safety/technology certification of the SAF production pathway, number and bankability of offtake agreements and counterparties, and price. It is thus important for the whole industry to collaborate to ensure that all these financing requirements can be met by working across the value chain to create the conditions for a SAF facility to be financed. Government support and clear policy often catalyse commitments from the private sector, including from airlines and businesses, and thus could be introduced first – as seen in an increasing number of regions.

As government policies develop, international collaboration is essential to create a level playing field across markets and ensure new SAF production facilities, especially those deploying more advanced feedstock conversion technologies, can scale globally. This international action and coordination is essential to meet ICAO's vision for 2030 and keep the sector on the right path to net-zero carbon emissions by 2050.

Conclusion

Scaling sustainable aviation fuels requires a combination of financing mechanisms, international cooperation, and cross-value chain partnerships. Government, airlines, fuel producers, Scope 3 buyers, and strategic investors have all a key role to play. Early success stories and case studies where these players are working together are a promising sign of the potential that cross-industry and cross-country collaboration can bring in scaling SAF further. This is essential to boost demand, production and use of SAF, enable technology development and cost reductions, and ultimately enable faster progress toward ICAO's vision and aviation decarbonization.

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