IATA
GLOBAL
MEDIA DAY

Progressing Towards Net Zero Carbon Emissions by 2050

Marie Owens Thomsen
SVP, Sustainability and Chief Economist

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Key take-aways:

- Lack of supply of the two obligatory levers for decarbonizing air transport: SAF and CORSIA.
- There is not a lack of money, but a lack of expected returns regarding SAF production.
- Mandates have caused perverse pricing behavior in SAF, and this must not be repeated regarding e-SAF.
- As the world transitions to electrification and LNG for road transport, there is a growing risk of fossil jet fuel shortages and wider crack spread.
- Lifting supply of CORSIA credits is administratively challenging and often perceived to compete with countries' NDCs – collaboration is the key missing ingredient.

United Nations
Framework Convention on
Climate Change

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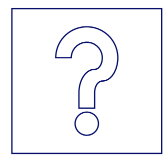
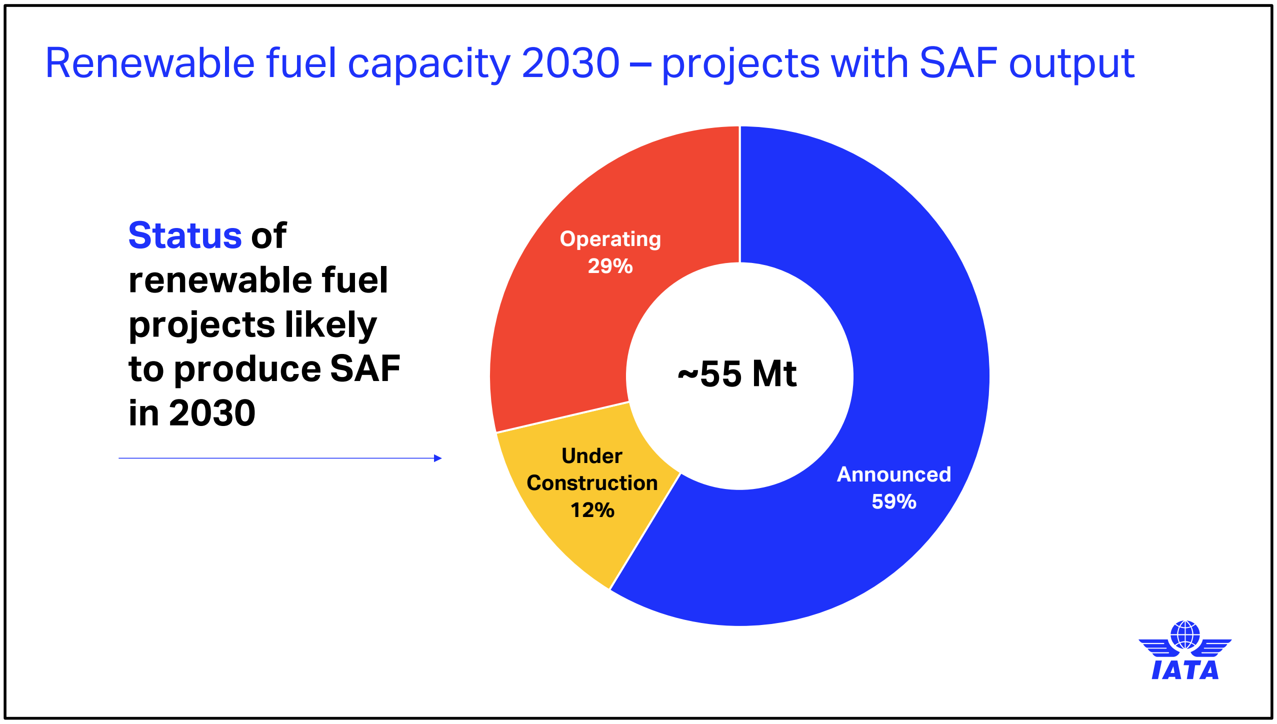
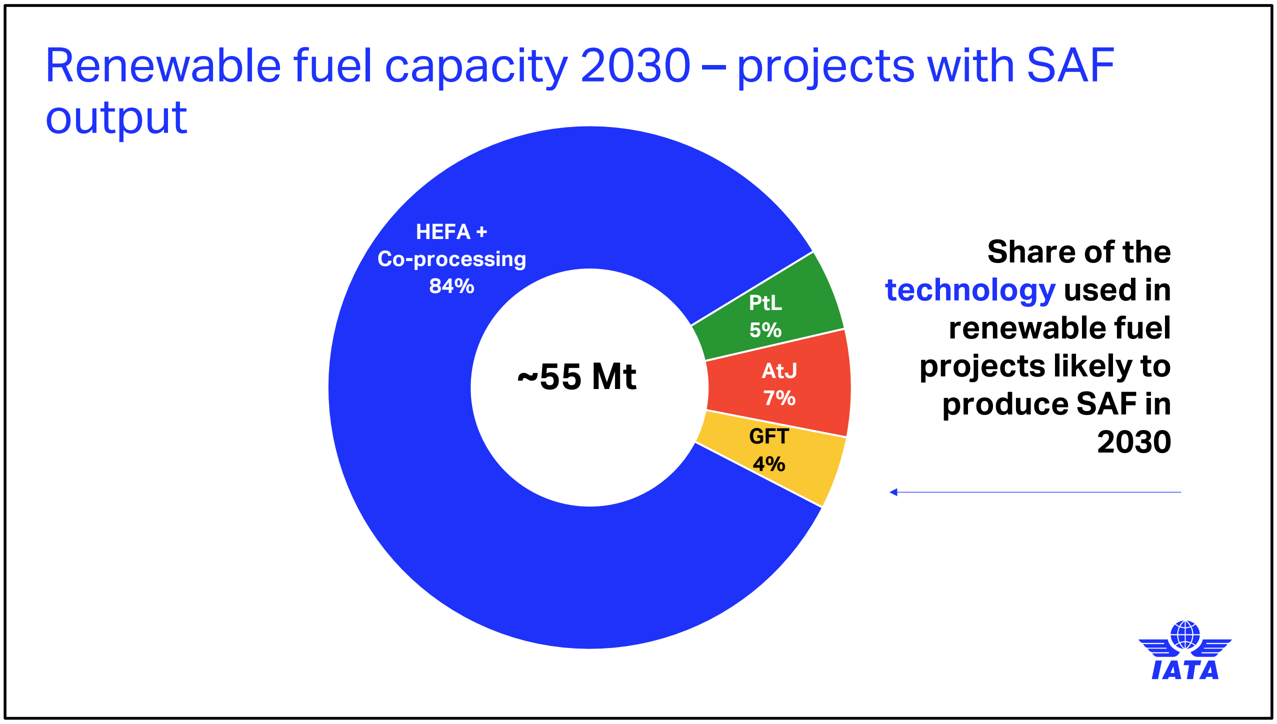


Slow progress.



Based on IATA's analysis in 2030, it is estimated that about 55 million tonnes (Mt) of renewable fuel capacity will be available. This takes into account around 170 projects that are expected to produce SAF by then. We estimate this would translate into a potential capacity of around 20 Mt of SAF by 2030, as highlighted in the IATA Global Feedstock Assessment for SAF Production. However, only 12% of projects are under construction, and 29% are operating. This leaves a gap of 59% of projects that need to progress to the Final Investment Decision (FID) and then enter the construction phase to deliver renewable diesel (RD) and Sustainable aviation fuel (SAF) by 2030.

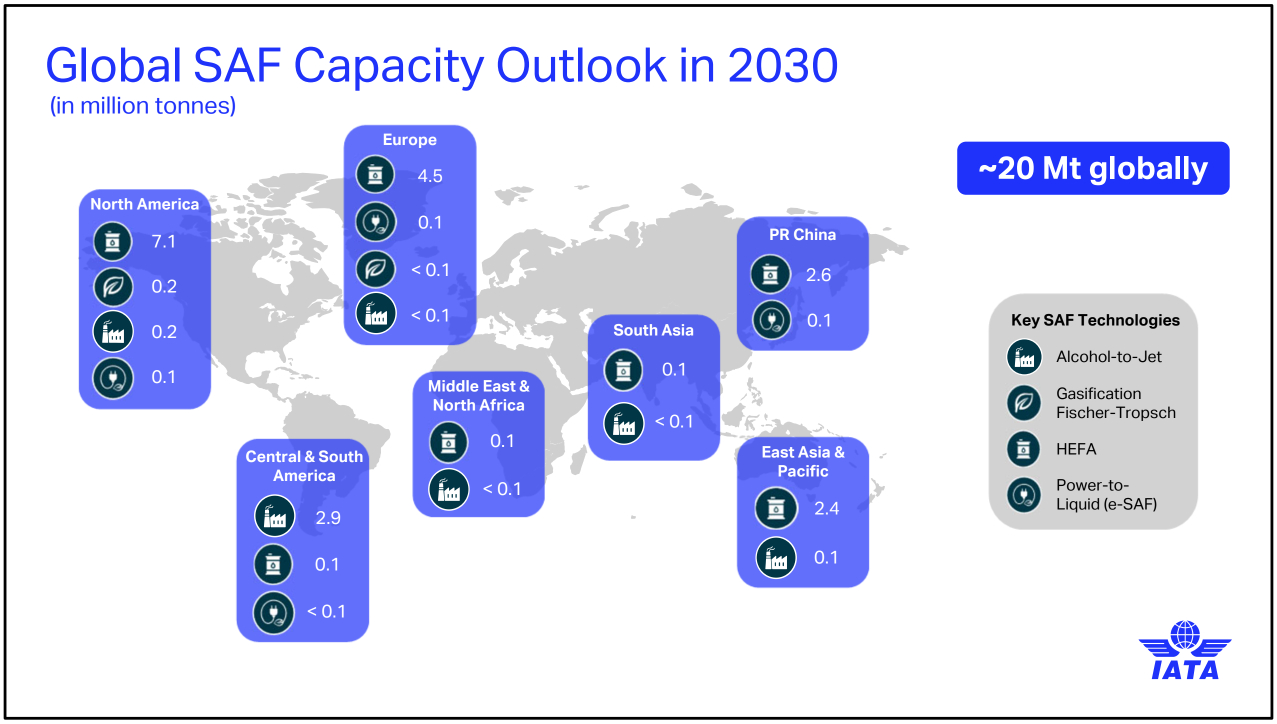


PtL = Power-to-Liquid

AtJ= Alcohol-to-Jet

GFT= Gasification Fischer-Tropsch

The majority of the renewable fuel capacity in 2030 – only considering projects with SAF output – will derive from HEFA and co-processing.



By 2030, global SAF production capacity is expected to reach around 20 Mt with the project success factor applied. The outlook, based on project data from the IATA SAF database, incorporates technology-route-specific success factors, developed with Worley Consulting, to reflect the likelihood of project success, considering factors such as technology maturity and funding.

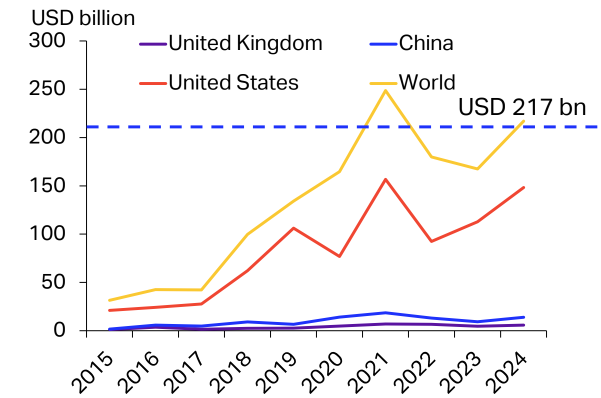
Regionally, around 36% of the global 2030 SAF capacity will be in North America, driven by targeted incentives. Europe is set to account for 23%, followed by South America at 15%, PR China at 13%, and East Asia and the Pacific at around 12%. The MENA region and South Asia are anticipated to contribute less than 1% under current policy conditions despite the potential.

Slow progress in technology diversification: HEFA (hydrotreated esters and fatty acids) refineries (both standalone and co-processing) are likely to still dominate the market, accounting for about 95% of total volume. Of the remaining non-HEFA market, Alcohol-to-Jet is estimated to contribute approximately 2%, followed by Power-to-Liquid/e-SAF at 2% and Gasification Fischer-Tropsch at just 1%. This limited diversification is problematic, as HEFA is feedstock-constrained and scaling SAF will require other pathways to commercialize at much higher levels.

How capital is allocated.

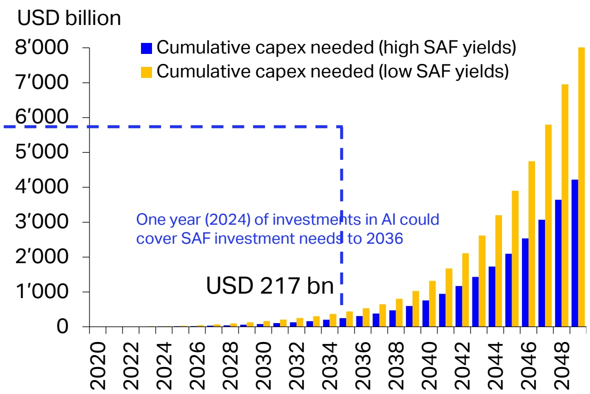
Investments in perspective

Annual private AI investments, USD billion



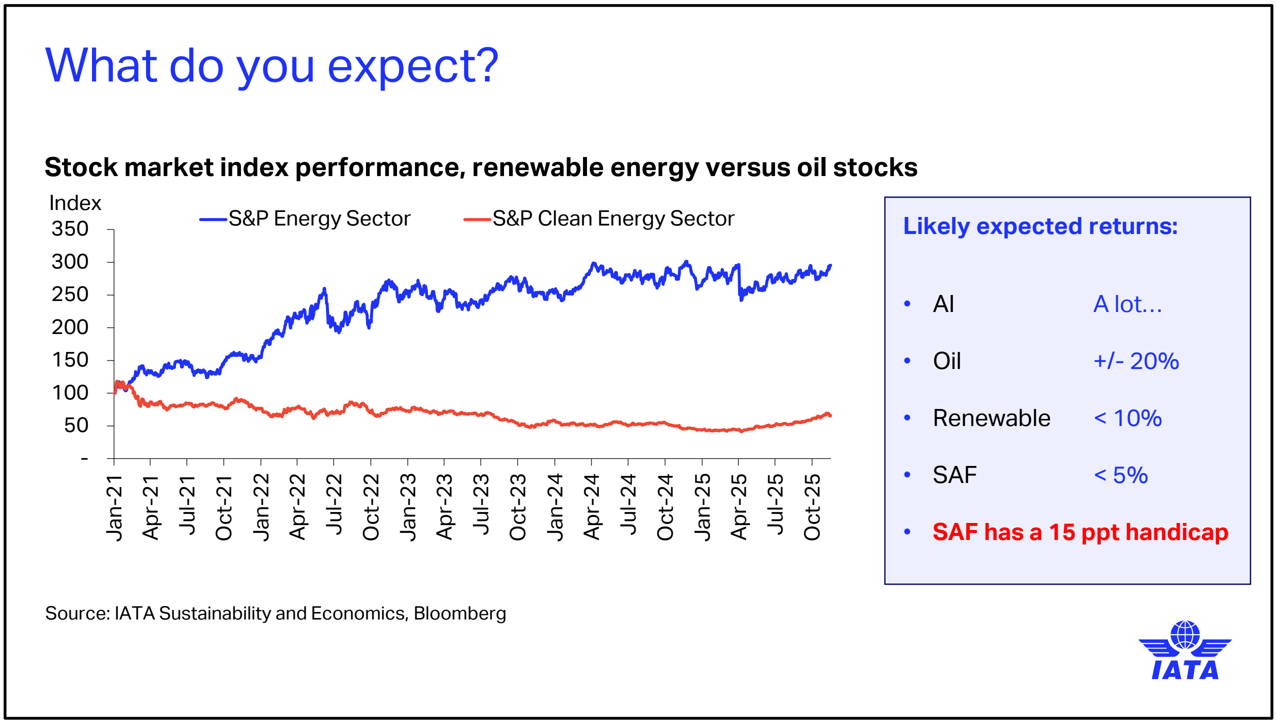
Source: IATA Sustainability and Economics, Our World in Data

Cumulative investment needs for SAF production, USD billion



Source: IATA Finance Roadmap, 2024

In 2024, private AI investments reached USD 217 billion—enough to cover all SAF production investment needs until 2036. However, the long-term challenge is immense: cumulative SAF investments could range from about USD 3 trillion under low-yield assumptions to nearly USD 7 trillion under high-yield assumptions by 2050. This comparison underscores the scale of financing required and the urgency for policy support and innovative funding mechanisms to accelerate SAF deployment.



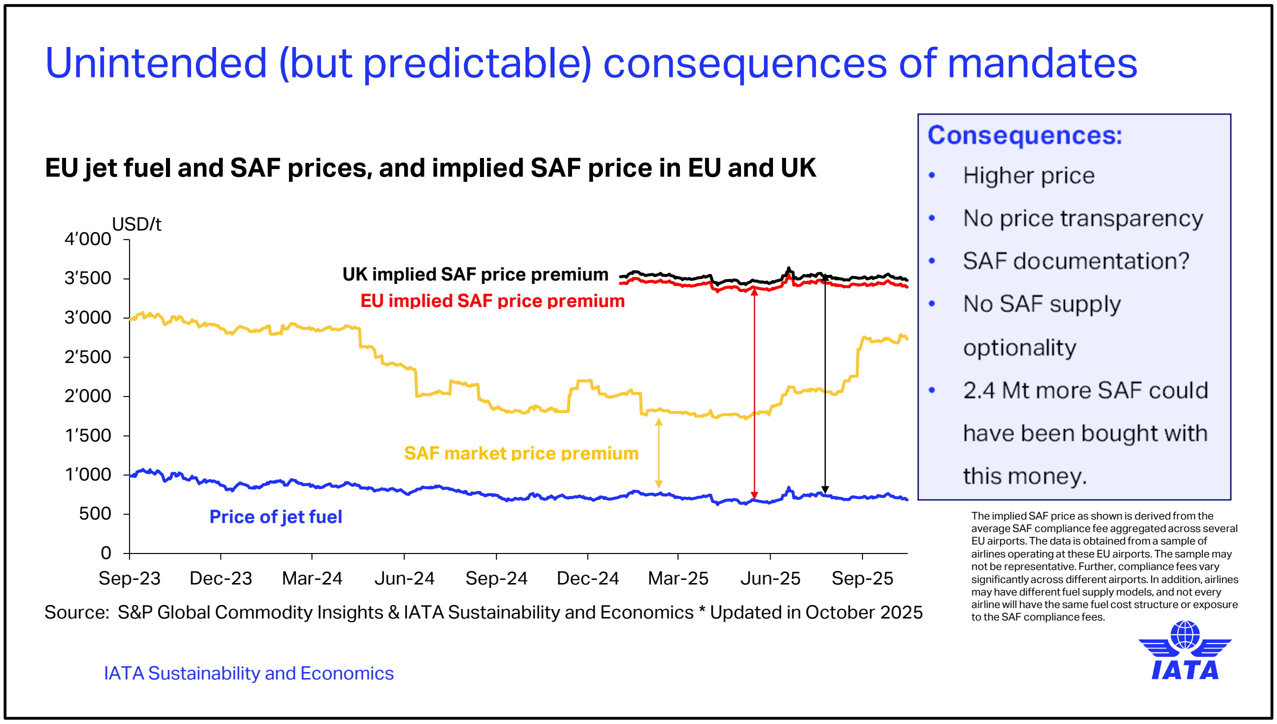
Oil stocks have significantly outperformed clean energy since 2021, reflecting strong investor confidence in traditional energy.

While renewables show modest growth potential with returns under 10%, SAF faces a major challenge with expected returns below 5% and a 15-percentage point handicap compared to oil.

This gap underscores the need for policy support and cost reductions to make SAF competitive in the energy market.

More energy transition,
less industrial policy.

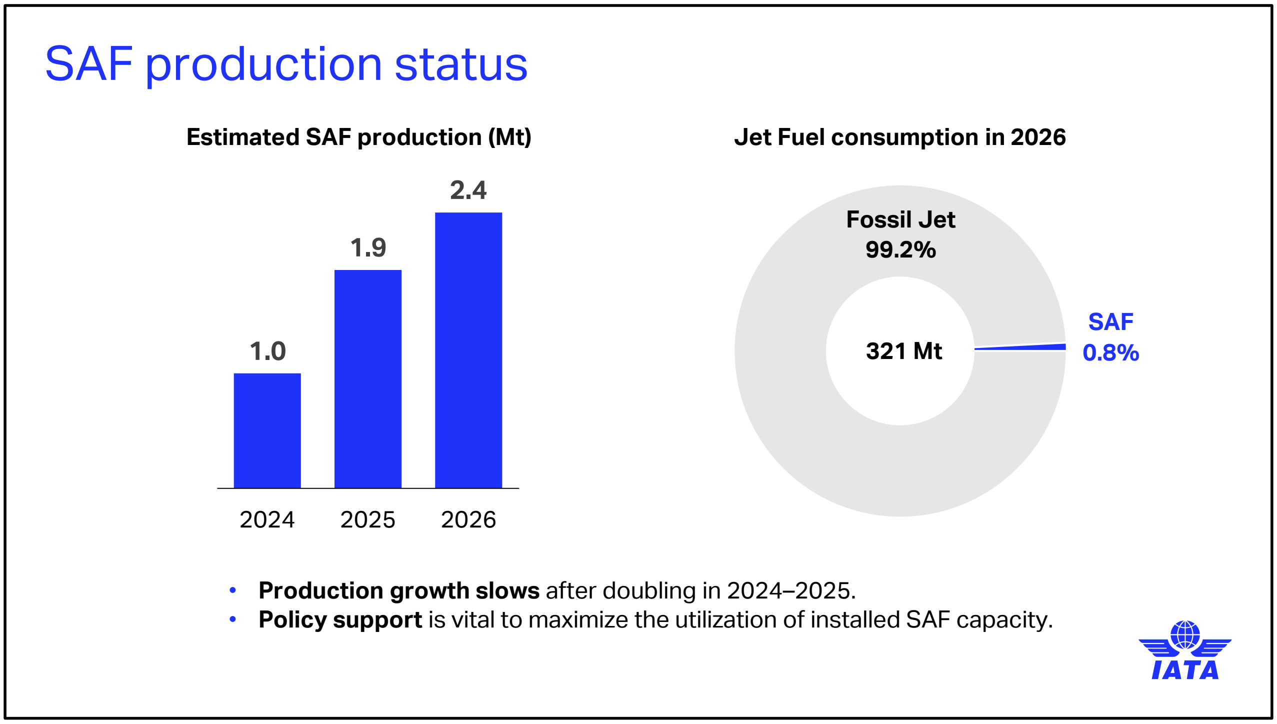
More course-correction.



Mandates in the EU and UK have failed to accelerate SAF production and adoption:

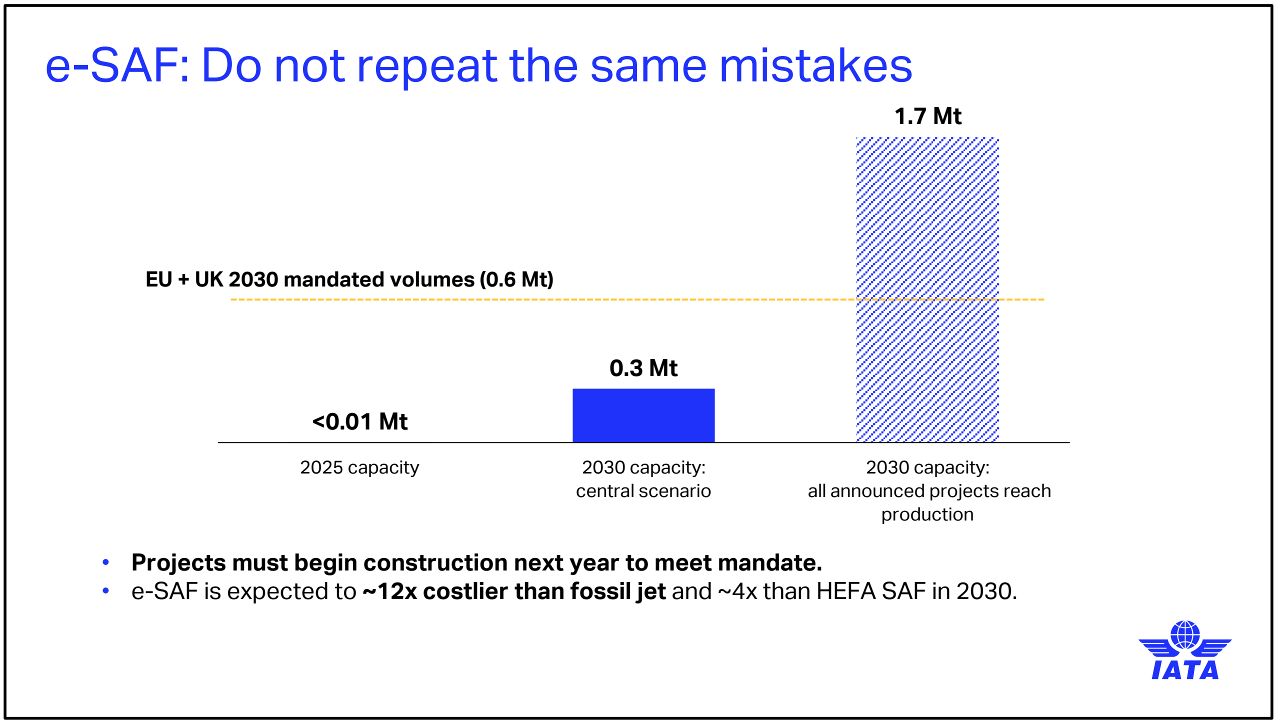
- In Europe, ReFuelEU Aviation has sharply increased costs amid limited SAF capacity and oligopolistic supply chains. Fuel suppliers are passing compliance costs to airlines through surcharges—doubling SAF premiums and making SAF up to five times more expensive than conventional jet fuel. All this comes without guaranteeing supply or consistent documentation.
- The UK's SAF mandate and revenue support schemes have triggered price spikes, leaving airlines to absorb the burden.

The cumulative impact of poorly designed policy frameworks is that airlines operating to, from, and within Europe and the UK paid a premium of USD 2.9 billion for the limited 1.9 Mt of SAF available in 2025. Of this, USD 1.4 billion reflects the standard SAF price premium over conventional fuel. The remaining USD 1.5 billion was incurred as "compliance fees" which are nothing more than costs passed on to airlines to shield fuel suppliers from their penalties for not meeting mandated SAF production targets.



In 2025, SAF output is expected to reach 1.9 million tonnes (1.5 billion liters), double the 1 Mt produced in 2024. However, in 2026, SAF production growth is projected to slow down and reach 2.4 Mt. SAF production in 2025 represents only 0.6% of total jet fuel consumption, increasing to 0.8% the following year.

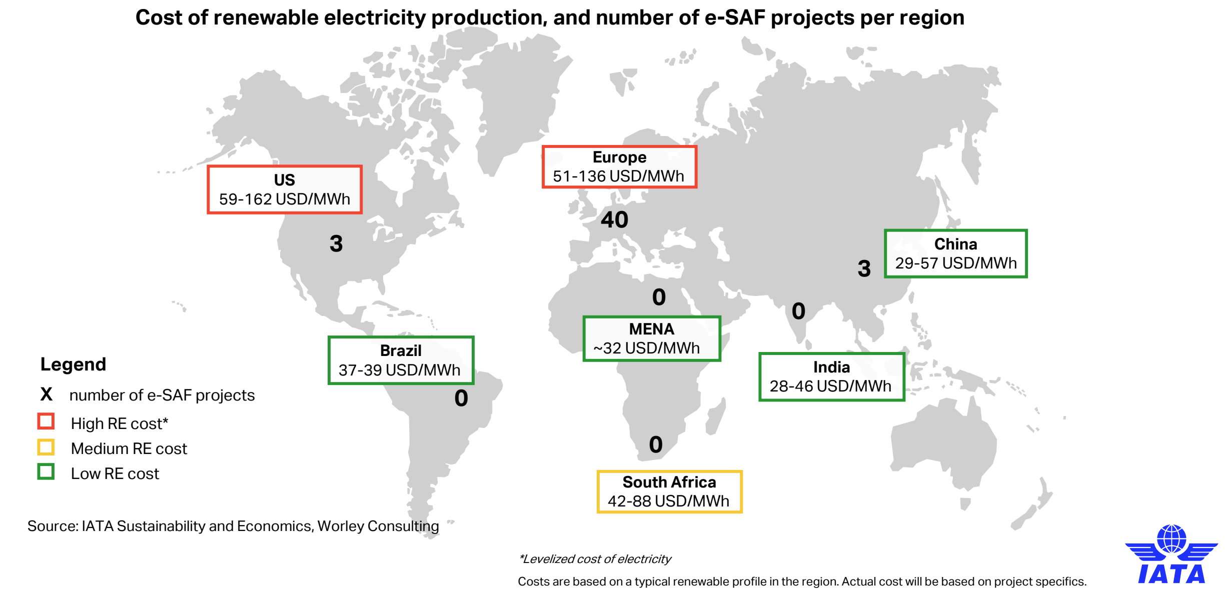
The estimated SAF output for 2025 of 1.9 Mt is a downward revision from IATA's earlier forecasts due to the lack of policy support to take full advantage of the installed SAF capacities. This clearly shows that current policies especailly mandates are not sufficient in ramping up SAF production as expected.



e-SAF is positioned as important pillar for SAF production, where we see total projects account for around 20% share in the global SAF project portfolio (by number of projects, 4% by volume). Among PtL (Power-to-liquid) projects expected online by 2030, approximately 68% (90% by volume) are still at the announcement stage. No commercial-scale project has reached the final investment decision in Europe. The only commercial-scale project currently under construction is located in the US, where incentives are available, with a capacity of approximately 20 kt.

Policy support to prioritize project financing and secure access to renewable power is critical to accelerating e-SAF deployment. Without additional support, mandated volumes are unlikely to be met. We estimates that to supply 0.6 Mt of e-SAF by 2030, the industry would need around 30 projects of similar capacity to the one under construction. Under our central scenario, only half of that is expected to reach production within the next four years.

Global e-SAF projects and renewable electricity costs

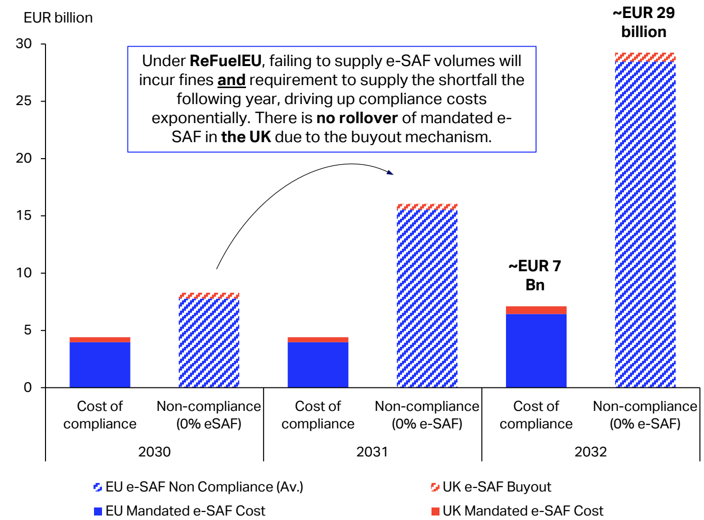


Looking at SAF mandates in Europe, the UK requires e-SAF from 2028 and the EU from 2030, and most (~90%) announced e-SAF projects are located in Europe. However, renewable electricity is a major cost driver for e-SAF, and the estimated levelized cost of electricity is relatively high in Europe compared with many other regions.

We recognize that supportive policy and international collaboration especially around technology and financing will be essential to unlock the full potential of e-SAF scale-up at competitive costs.

Demonstration, and pilot facilities, as well as projects under preliminary discussion are not included in the map.

Cost of e-SAF mandates: Compliance vs non-compliance



- Under ReFuelEU, the longer it takes to establish a sufficient e-SAF supply, **the greater the impact** on the cost of non-compliance.
- In the **absence of e-SAF** supply, the potential cost of non-compliance could go from **EUR 7 bn** in 2030 **up to EUR 29 bn** in **2032**.
- In 2030, the increase in fuel costs (4-9%) is disproportionate to the resulting emission savings (0.4-0.8%).

EU: Cost of compliance is based on the published EASA average eSAF cost of production (7,695 EUR/t). This is applied to the mandated levels of SAF to give the estimated total cost of compliance. The cost of non-compliance has been calculated as the cost of eSAF minus the cost of supplying CAF, multiplied by 2 (which aligns with the methodology set out in ReFuelEU). In terms of non-compliance, any mandated eSAF that is not supplied is then rolled over into the next year. If there continues to be no supply in the following years, then the fines increase exponentially.

N.B. A reduction in the price of eSAF or a significant increase in the price of CAF would result in these figures decreasing. CAF prices are based on Platts forecasts.

UK: the cost of non-compliance differs in the UK due to its buyout mechanism, which is set in legislation at 7,375 EUR/t. If UK suppliers are unable to supply eSAF at a reasonable price, then they can pay the buyout figure for every tonne of eSAF not supplied. There is no rollover of mandated SAF in the UK.

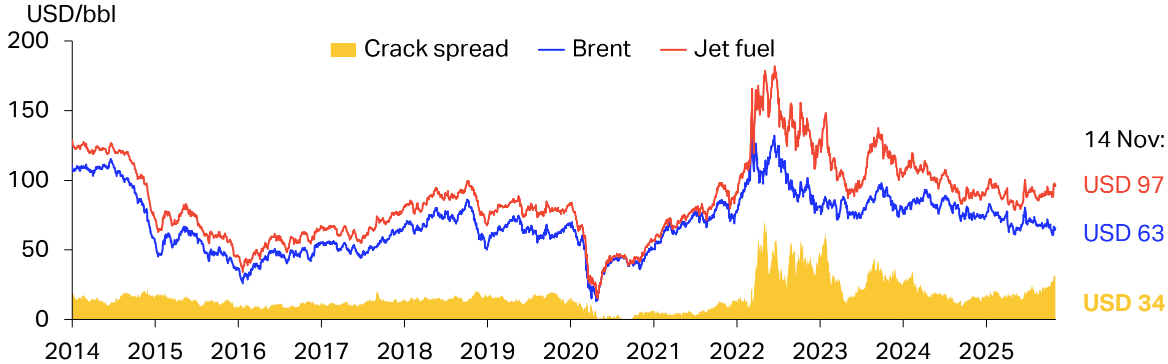
All this is assuming that there is no revision to ReFuelEU or the UK SAF mandate in 2027, under a status quo scenario.

Think about:

- Refining capacity
- Access to airport fuel infrastructure
- How SAF can help address jet shortages

Lower oil prices but higher crack spread

Jet fuel price, crude oil price, and the spread between the two (crack spread), USD per barrel



Source: IATA Sustainability and Economics using data from Platts – S&P Global Commodity Insights

Despite lower crude oil prices, jet fuel remains significantly more expensive, with a crack spread of USD 34 per barrel as of mid-November. Brent crude is at USD 63, while jet fuel stands at USD 97, reflecting persistent refining margins and strong demand for aviation fuel. This widening spread adds cost pressure for airlines even when oil prices are relatively subdued.

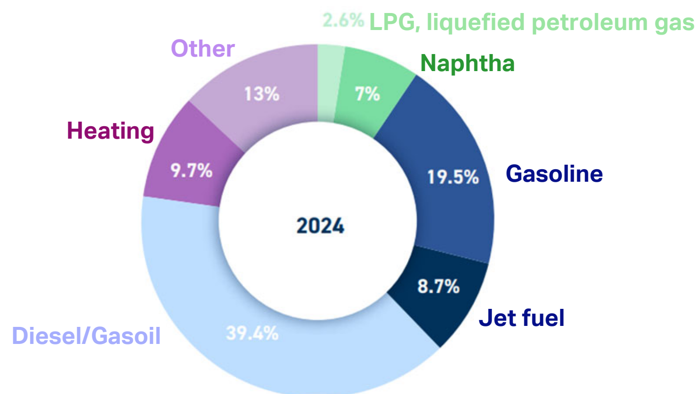
Not big enough to have price-negotiating power

Average refinery output by product type in OECD Europe in 2024

Power struggle:

Diesel + Gasoline + Heating = 68.6%

Jet Fuel = 8.7%

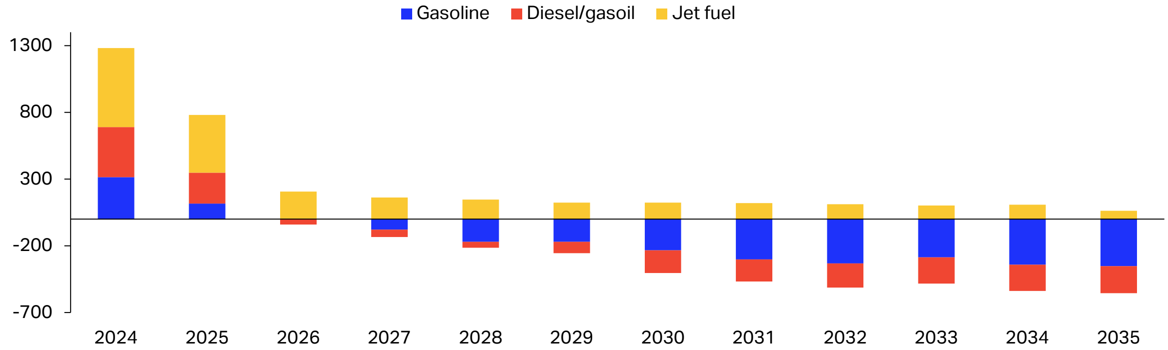


Source: IATA Sustainability and Economics, FuelsEurope, "Statistical Report 2025".

Jet fuel accounts for only 8.7% of average refinery output in OECD Europe, compared to nearly 69% for diesel, gasoline, and heating oil combined. This small share limits aviation's ability to influence refinery economics or negotiate prices, leaving airlines exposed to market dynamics driven by larger fuel segments.

Refinery optimization threatens jet fuel availability

Global transport fuel demand growth forecast, YoY, thousand barrels per day



Source: IATA Sustainability and Economics using data from Platts – S&P Global Commodity Insights

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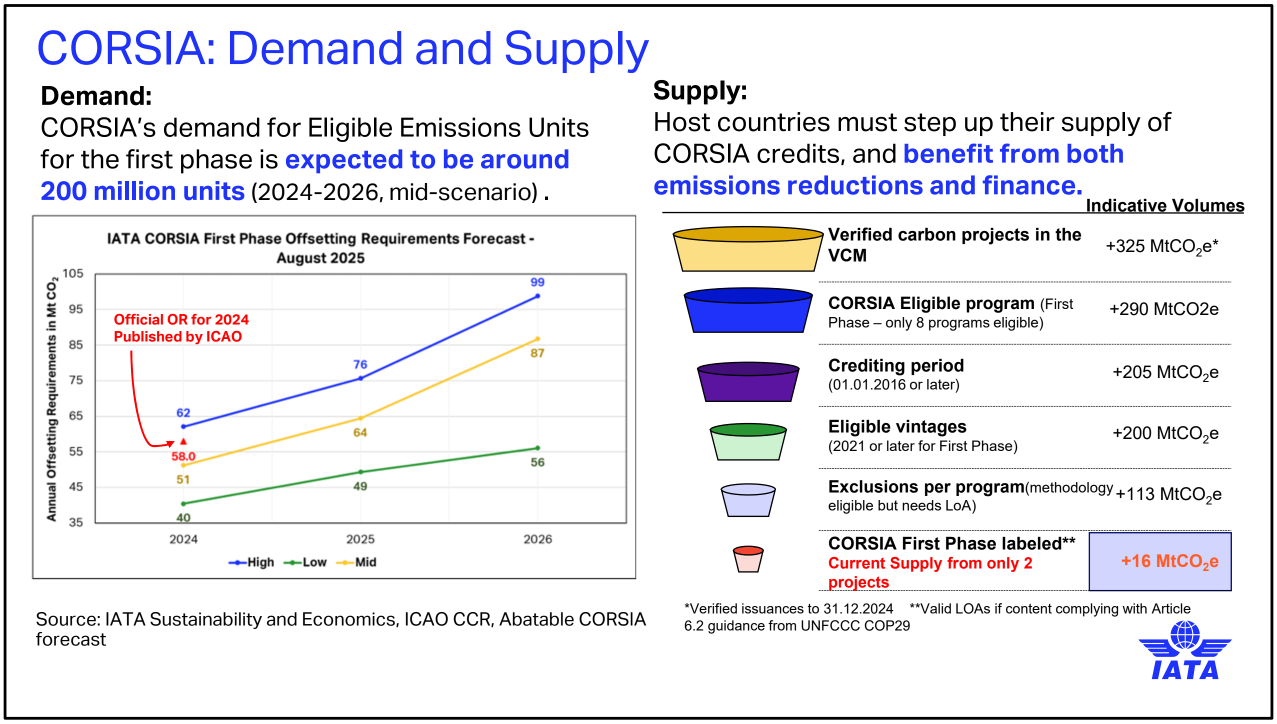
Jet fuel demand growth stays positive through the forecast horizon, even as gasoline and diesel decline after 2026. However, overall transport fuel demand falls, and refiners will likely optimize for higher-volume products, limiting incentives to produce jet fuel. This creates a risk of tighter supply and price volatility for airlines.

CORSIA

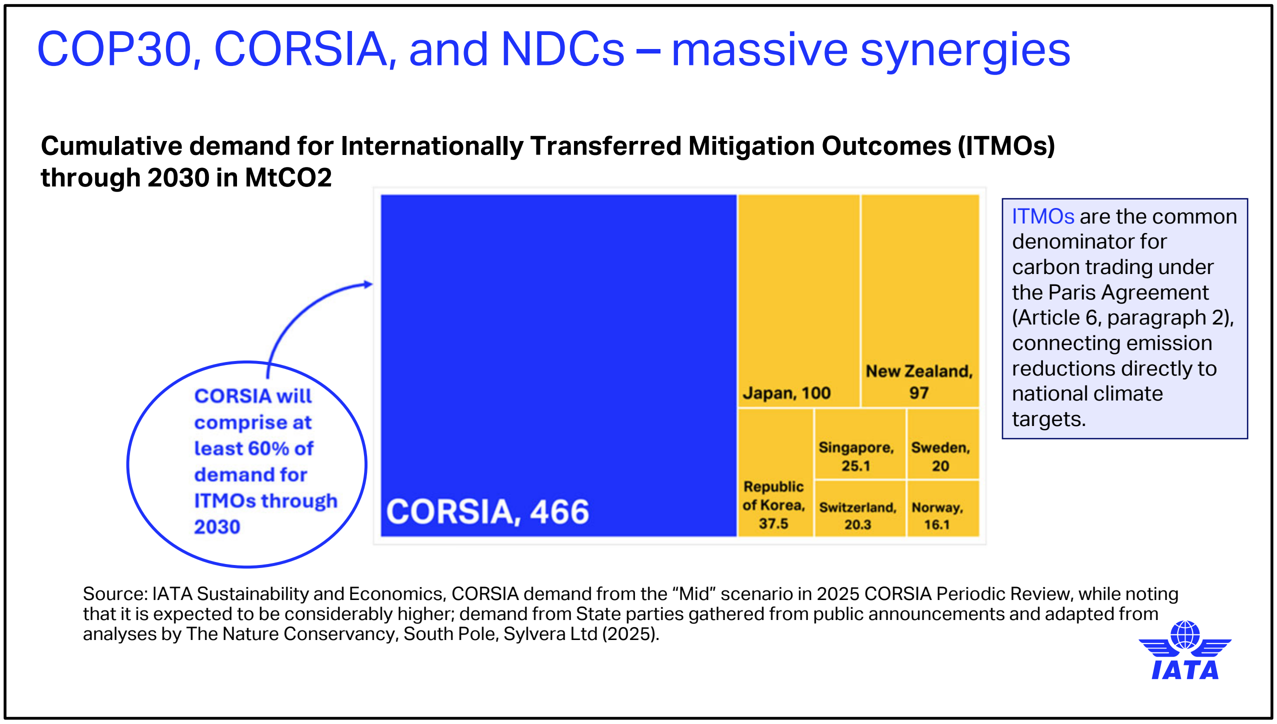


OR= Offsetting Requirements

VCM = Voluntary carbon market

LoA= Letter of Authorization

In CORSIA First Phase (2024-26), airlines are expected to purchase upwards of 200 million credits for cancellation and compliance by late 2027, costing USD 4–5 billion and increasing to nearly 2 billion credits through 2035. Demand from CORSIA is very clear at around 58Mt as per ICAO (31 October) . CORSIA is very determinable for EEUs but the supply of EEUs is scarce only 2 countries for a total of 16Mt CO2 therefore there's a massive opportunity for host countries to benefit from CORSIA by issuing LOAs and benefit from climate finance



CORSIA EEUs are essentially Internationally Transferred Mitigation Outcomes (ITMOs) and therefore must satisfy the accounting provisions of Article 6 of the Paris Agreement.

Benefit-sharing mechanisms can align host countries' climate goals (NDCs) with CORSIA by allowing them to authorize only a portion of their emissions reductions for international use, while retaining the rest for domestic targets. Drawing on lessons from other sectors, such as agriculture, these strategies help ensure that international market participation supports national priorities and attracts investment that might not otherwise occur. Practical approaches include allocating a set percentage of credits to CORSIA, prioritizing conservative crediting methodologies, using short authorization periods to allow for adjustments, and focusing on future mitigation activities. These mechanisms can help host countries both meet and enhance their NDCs, and IATA encourages countries to explore and implement such benefit-sharing strategies to maximize the advantages of participating in CORSIA and Article 6 carbon markets.

Thank you.