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SAF market insights and outlook

Provided by Deloitte's SAF Lighthouse

The Asia Pacific Region is poised to emerge as a hub for SAF development

An $800bn[1] per year SAF market has been identified for the Asia Pacific region.

Under expected mandates, 180 billion litres of SAF will be required annually by 2050, increasing to 250 billion litres to meet extended mandates.

Across Asia Pacific, jet fuel consumption accounts for ~2.5% of energy-related emissions[2]. With impending national decarbonisation goals and the aviation sector's 2050 net zero targets, emission reduction is critical, especially as regional air travel expands. Yet, the aviation sector faces unique decarbonisation challenges, including long distances, and heavy payloads, which limit electrification alternatives for much of the sector. **Sustainable Aviation Fuel (SAF)** emerges as the most viable solution in the near term, functioning as a 'drop-in' fuel with minimal modifications to existing aircraft or infrastructure.

Demand for SAF is increasing as mandates emerge across the region. China has proposed a 15% SAF uptake target by 2030, followed by Japan at 10%.

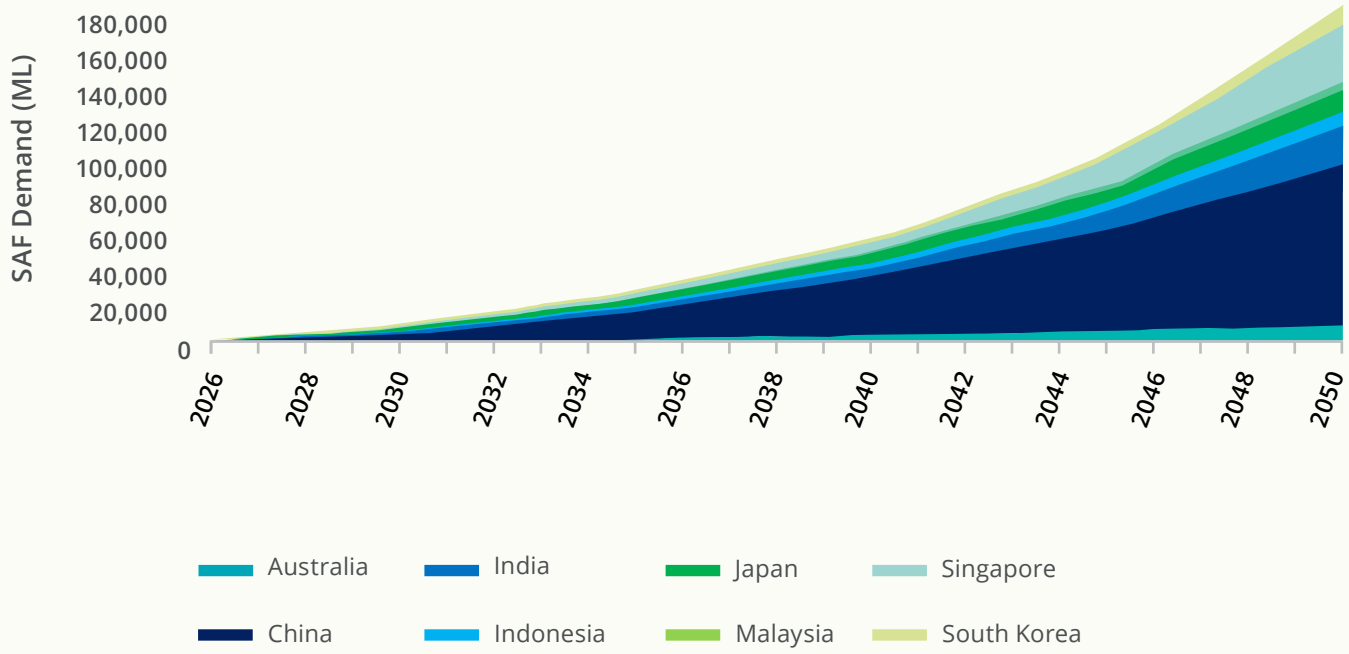
Other countries, including India, Republic of Korea, and Singapore, have set a relatively modest target at 1-5% uptake for the same timeframe. While Australia has not announced a mandate, major airlines and stakeholders are driving industry progress.

SAF demand in Asia Pacific could reach 56 billion litres by 2040 and 180 billion by 2050, with China potentially representing over 50% of that total, considering a scenario with expected mandates (Figure 1). If countries announce additional targets to meet decarbonisation objectives, SAF demand could reach 82 billion litres by 2040 and 250 billion litres by 2050 under an optimistic ReFuelEU-aligned scenario. However, uptake is unlikely to be linear, with the probability of airlines and producers delaying adoption, especially if barriers such as cost remain high.

[1] All values are in AUD unless otherwise stated
[2] IEA, 2025

Early market participants able to overcome challenges surrounding scaled SAF production will be rewarded with access to the lowest-cost feedstocks and supply into attractive mandated markets

Figure 1: Projected Asia Pacific sustainable aviation fuel demand



Prices of key feedstocks such as agricultural residues can range from $20 to $100/t across Asia Pacific, the first movers in supply will be rewarded.

Given the biogenic feedstock supply limits faced by the lowest-cost production pathways, producers able to mobilise quickly could unlock the greatest profit margins upon the formation of market pricing.

Production currently taking place in countries such as Singapore will yield first mover advantages. However Indonesia, India and China may be quick to capture early market share through inherent competitive advantages in capital, labour and green hydrogen costs.

Establishment and control of supply chains will be critical to success, and proponents must work quickly to secure feedstock supply.

Australia's involvement will hinge on the availability of endowments and the development of domestic demand

Access to low-cost feedstock and ample renewable energy resources positions Australia as an attractive SAF investment destination and trading partner.

Australia is already a key global feedstock supplier to international SAF producers, with Australian canola representing one of the lowest cost suppliers globally.

Australia is uniquely positioned to lead both the initial development of the SAF market and the eFuels scale up through endowments of low-cost biogenic feedstocks, and potential for low-cost renewable electricity and hydrogen.

This is evident in the current exports of Australian tallow and canola, with the majority of the $6.8 billion export market directed to Low Carbon Liquid Fuels (LCLF) production in the EU, Singapore and the US, where production is incentivised through supportive policy mechanisms. For a competitive Australian market to form, a portion of these feedstocks will need to be redirected towards domestic SAF production.

Current Australian SAF demand is voluntary and limited in nature.

Currently driven by voluntary demand from aviation sector players, 4.4 billion litres of SAF demand could emerge in Australia by 2040 with policy support.

Whilst a number of production projects have been announced, investments in Australian projects have lacked certainty, causing several projects to not proceed to a positive investment decision. Many proponents cite lack of demand certainty as a key barrier to project bankability and success.

Whilst some voluntary target setting has seen Australian airline operators partner with players across the SAF value chain, the volumes remain small, and existing initiatives have not reached commercial scale. Hence, for a SAF market to take off in Australia despite existing fuel premiums, demand must be spurred by policy, as has been seen in other jurisdictions.

Australia must build on its reputation as a cornerstone $6bn/year feedstock supplier[3]

Exports and attraction of international investment will shape the industry, facilitating domestic production of up to 4 billion litres by 2050.

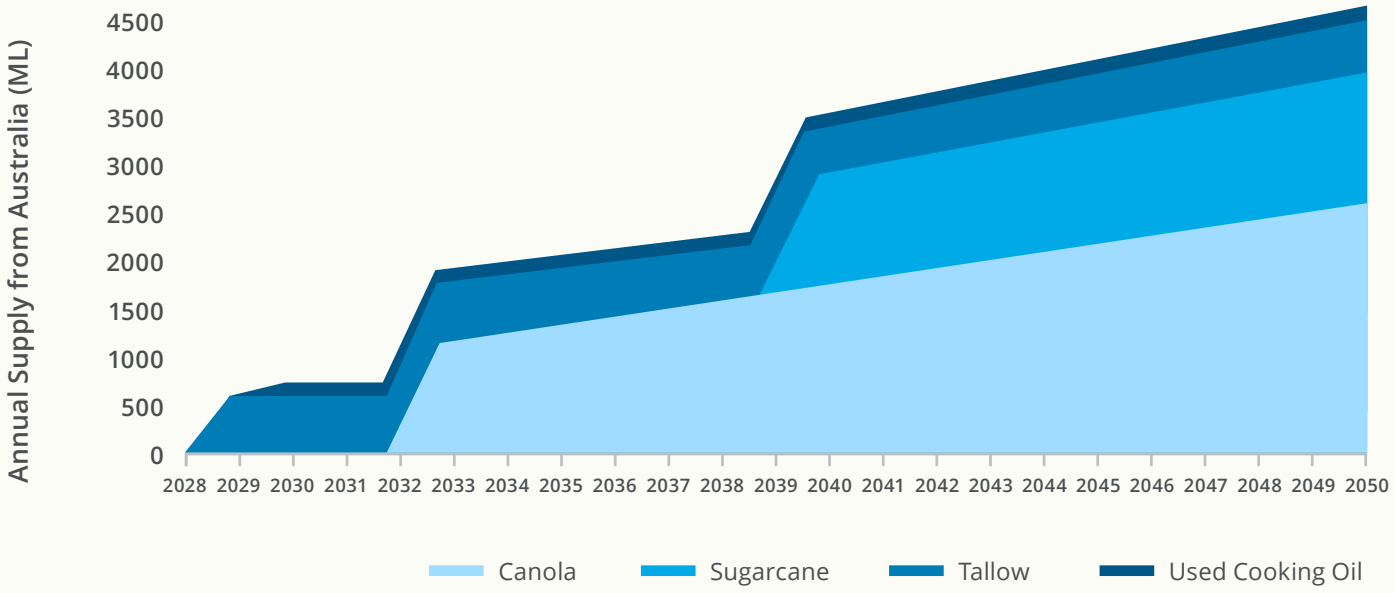
The abatement potential of SAF, will be crucial as it begins to trade on a global market. Australia must lean into this by ensuring its competitive feedstock carbon intensity values are accurately represented.

Given that Australian feedstocks offer competitive carbon intensity and are already established on the global stage, they represent the ideal runway for development of further domestic participation in the SAF value chain.

By developing scale and regional relevance in feedstock supply, Australia will be increasingly viable as an up and downstream player in SAF production, attracting further investment from partners in Asia Pacific. However, based on current market dynamics, feedstocks such as canola risk being constrained to exports for processing globally (such as in the EU).

Australian production is modelled to develop from feedstocks such as tallow and used cooking oil, to crop feedstocks such as sugarcane and canola, totalling over 4 billion litres in Asia Pacific by 2050 (Figure 2).

Figure 2: Australian Sustainable Aviation Fuel supply to Asia Pacific by feedstock—optimistic case



[3] Argus, 2025

Deloitte's SAF Lighthouse tool helps navigate uncertainty in rapidly evolving markets

As SAF supply chains continue to emerge and change, market visibility is more important than ever.

Amidst expected intense competition for feedstock, producers must understand where to invest, how much to pay, and how much will be available.

Deloitte's SAF Lighthouse tool provides an outlook for industry to rapidly understand market roles, locations and timing, presenting a quantitative demand outlook by country and airline.

The tool also displays forward-looking theoretical supply cost curves, showing cost of emissions abatement benchmarked against current carbon prices. Users will gain an understanding of project geographies, with overlays of potential demand and supply, illustrating where surpluses and deficits are likely to form.

Not every market is created equally - producers, offtakers and policymakers must be well informed

Country-specific factors including carbon prices, mandated and voluntary demand and feedstock availability will all have an impact on decision making.

Deloitte's SAF Lighthouse tool models country-specific factors, enabling users to make informed cross-country comparisons of feedstock and fuel supply, demand and the key drivers influencing each. Planned supply and airport-level demand are mapped, illustrating opportunities for emergence of new supply to meet demand.

Deloitte's SAF Lighthouse tool will provide users with further market insights than tools currently available in the market.

Summary of client needs

The tool will address critical needs for clients in each segment of the SAF value chain:

- Identify where **SAF demand** is located
- Identify **SAF supply** volume and **pipeline development**
- Explore **price dynamics**
- Match players across the value chain, from **feedstock suppliers & aggregators, LCLF plants, fuel suppliers & refiners, airlines, airports & corporate buyers** to **policymakers.**

Deloitte's added value

The SAF tool offers a forward-looking perspective on SAF demand and supply and price dynamics. Key features include:

- ✓ Encapsulation of an **all of market perspective** for feedstock and associated SAF production
- ✓ Visualising **quantitative demand projections** by country, and optionally by airline
- ✓ Forward-looking theoretical **supply cost curve**, displaying cost of emissions abatement
- ✓ Projection of **SAF surpluses, deficits and relative competitiveness** between countries.

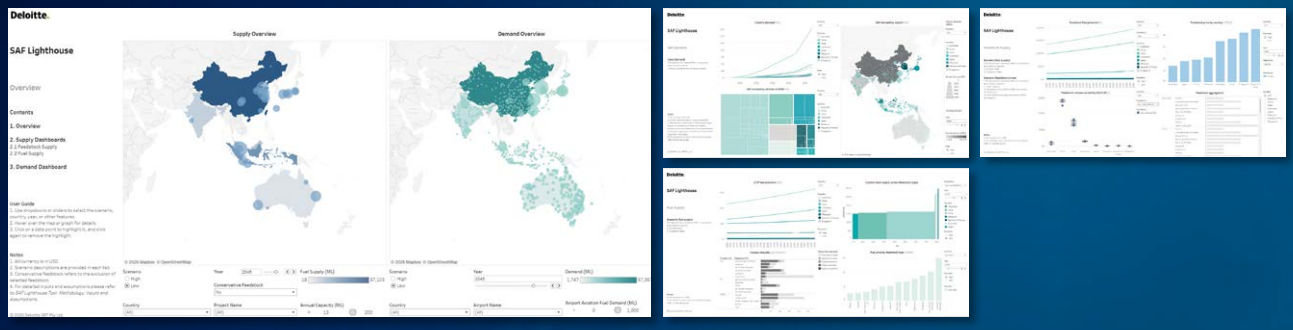
SAF Lighthouse tool overview

4 Dashboards
Demand, feedstock supply, SAF supply and summary

4 production pathways
HEFA, FT, ATJ and PtL

8 countries
across Asia Pacific

14 feedstocks
including oilseeds, wastes and residues, biomass, imported ethanol, and PtL



Contact us

Matt Walden
Partner, Strategy Risk & Transactions
Deloitte Australia
mawalden@deloitte.com.au

Will Symons
Asia Pacific Sustainability Leader
wsymons@deloitte.com.au

Nicola Weir
Internal Sustainability & Climate Leader, Asia Pacific
nweir@deloitte.com

Prashanth Nutula
Partner, Strategy, Risk & Transactions
Deloitte South Asia
pnutula@deloitte.com

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