AUSTRALIAN AIRPORTS ASSOCIATION

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Low Carbon Liquid Fuels Secretariat
Department of Infrastructure, Transport, Regional Development, Communication and the Arts
GPO Box 594
CANBERRA ACT 2601

Email: lclfconsultation@infrastructure.gov.au

Response to the Low Carbon Liquid Fuels Consultation Paper

The Australian Airports Association (AAA) welcomes the opportunity to provide this response to the Department's Low Carbon Liquid Fuels Consultation Paper (the Consultation Paper).

The AAA is the national voice for airports, representing the interests of more than 340 airports and aerodromes across Australia. It also represents more than 150 corporate members supplying goods and services to airports and the wider aviation industry.

This submission was developed in conjunction with the AAA's Sustainability Working Group, which consists of representatives from major airports (Adelaide, Brisbane, Canberra, Darwin, Gold Coast, Melbourne, Perth, Sydney), mid-sized airports (Alice Springs, Bankstown, Camden, Moorabbin, Newcastle, Parafield, Sunshine Coast, Townsville) and regional airports (Coffs Harbour, Longreach, Mt Isa, Tennant Creek). The contribution of the SWG covers an indicative range of Australian airports in consideration of the questions in the Consultation Paper.

There are significant opportunities and challenges in Australia becoming a producer of low carbon liquid fuels (LCLFs). While opportunities are covered throughout this submission, it is also important to understand the challenges facing Australia in shaking its path dependence on imported fuels. The AAA recognises the need for a policy framework that supports both supply-side and demand-side measures to develop a sustainable Australian LCLF sector and supports the Government's efforts to collaborate with the industry to create a robust regulatory framework that provides certainty for investment in the LCLF industry.

Australia currently produces very minimal amounts of LCLFs and will be entirely reliant on imports without significant changes to the policy and regulatory environment. To change this, government must support through policy interventions measures which build on Australia's competitive advantages to establish domestic production of LCLFs.

The low carbon liquid fuels opportunity

Australia has a major opportunity to become an LCLF producer, not the least being its existing high level of demand for jet fuel and an overwhelming reliance on imported product. With an average annual jet fuel consumption of 7,700 million litres between 2018 and 2023[1], this provides a significant base upon which to build a domestic Sustainable Aviation Fuel (SAF) industry.

[1] Deloitte for Queensland Government (2023), *Catalysing sustainable aviation fuel in Australia,* p. 2.

Australia's advantages include:

1. *Abundant renewable resources*:

    - Biomass and feedstock availability – Australia's agricultural and forestry sectors can provide ample feedstock for production of 'drop in' LCLFs, such as:
        - broadacre crops (wheat, sugar, canola), crop residues and
        - by-products from animal and forest production.

      There is also an opportunity to utilise municipal solid waste as a feedstock, providing a potential solution in addressing Australia's problems in disposal of solid waste.
    - Solar and wind energy – Australia's abundant solar and wind energy resources can provide the renewable electricity for green hydrogen production, a key component in producing SAF using Power-to-Liquid (PtL) production processes. PtL is considered the long-term scalable SAF supply solution with advantages over biofuels which can depend on biomass feedstocks, which compete with food production and land use.

2. *Technological Expertise*:

- Advanced manufacturing – Australia maintains a capability to develop and implement advanced manufacturing processes for biofuel production, including hydro processing.
- Skilled workforce - Australia also maintains a well-trained and highly skilled workforce across the range of engineering disciplines required to produce LCLFs.
- Research and Development – R&D capability in renewable energy and biofuels, which is supported by leading universities, research institutions and the Australian Government through bodies such as the Future Fuels co-operative research centre.

3. *Supportive Policy Environment*:

- The supportive domestic policy environment includes initiatives such as:
    - 'Future Made in Australia' which supports incentives to produce low carbon liquid fuels through grants, subsidies and mandates.
    - Jet Zero Council to specifically guide the aviation sector's transition to net zero emissions by 2050 through adoption of SAF and other alternative aviation fuels.
- Regulatory Frameworks - A stable and transparent regulatory environment that supports investments in sustainable fuel technologies. The recent Federal Budget announcement allocating $18.5 million to put a robust system of certification in place for LCLFs is a positive step to further improving the regulatory framework. A robust and credible accounting framework for emissions reduction from feedstock supply and domestic SAF production will be essential to ensure emissions are correctly accounted and attributed across the aviation sector.

4. *Strategic Location*:

- Australia's proximity to Asia is an advantage as being closer to major aviation markets provides a strategic advantage in supplying SAF to airlines operating in the region. In addition, Australia's economic and geographic location in the South Pacific provides an opportunity to become a SAF production hub supplying New Zealand and other Pacific Island nations.

From an airport perspective, Australia is likely to face competition from countries/regions that are more advanced in LCLFs, including:

- The United States: A leader in biofuel technology and a robust infrastructure for renewable fuel production. They also have strong federal and state policies supporting renewable fuels, including the Federal Renewable Fuel Standard (RFS) and various state-level incentives.

- European Union: Has stringent regulations promoting the use of SAF, such as the Renewable Energy Directive (RED II) and the European Green Deal. There is also strong collaboration between governments, airlines, and fuel producers and a policy framework designed to scale up SAF production and ensure uptake of SAF by airlines operating in the EU.
- China: A rapidly growing domestic aviation sector presents a significant ready-made market for SAF. The Chinese government is also investing heavily in a range of renewable energy technologies and infrastructure including PV solar and batteries.
- Singapore: Strategically positioned as a major aviation hub in Asia, it has an existing advantage in oil refining and its location provides a logistical advantage for SAF distribution across the global aviation network.
- Brazil: A well-established biofuel industry, particularly in ethanol production, and is expanding its capabilities in SAF to build on its abundant agricultural resources, especially sugarcane as a feedstock for biofuel production.

More broadly four further competitive considerations for a domestic SAF industry include:

- Competition between domestic and offshore producers for the supply of Australian-made feedstocks, potentially bidding up the price of key inputs for domestic SAF production.
- Without robust and credible emissions accounting for Australian-made feedstocks, there is the potential for emissions abatement of overseas-produced SAF using local feedstocks to be fully credited to offshore producers.
- Consideration of the emissions and monetary costs of transport and distribution in the cost base for a domestic SAF industry, including the transportation of feedstock for production, but also the transport and distribution system for the refined SAF product. While making use of existing fuel delivery networks and systems is important, the location of production and distribution facilities would need to be on or near road, rail and sea transport nodes to reduce emissions.
- When the money and emissions costs of transport for imported SAF is factored in, this may give a domestic SAF industry further advantage.

<u>Options to support Australian domestic low carbon liquid fuel production</u>

The AAA supports the continued work between fuel producers and the Government in creating a stable regulatory landscape which provides industry with certainty to invest for the long term. For the Australian aviation sector, the primary goal is to secure an efficient, commercially viable and secure supply chain for SAF. Incentive systems providing stability and supporting domestic production are important to achieve this goal. The policy framework needs to be “stackable” with long-term and effective policy support that enables:

- Increase in SAF supply capacity with policy options that attract capital to expand SAF supply.
- Promote SAF price competitiveness via appropriately timed mandate policies paired with fiscal measures to help reduce the cost differential between SAF and conventional Jet Fuel.
- Increased research and development and promotion of enhanced and sustainable production pathways.
- Environmental benefit recognition via effective SAF accounting principles.

From a supply perspective, the AAA’s view is that this can be achieved by setting up a domestic low carbon liquid fuel production and distribution industry using a tax credit system. The AAA’s views on the importance of a tax credit system to spur production of SAF is based on the following reasons:

1. *Investment Attraction:*

Production Tax Incentives would stimulate capital investment by making projects more financially attractive, encouraging companies to invest in new facilities, technologies, and infrastructure.

Particularly for a 'greenfield' fuel such as SAF, the industry needs to de-risk early-stage investment in production facilities. Additionally, favourable tax policies can attract new or additional foreign direct investment into Australia, bringing capital, technology, and expertise.

2. Increased Competitiveness:

Production tax credits can reduce the effective cost of production, allowing companies to price their products more competitively in both domestic and international markets. A new onshore SAF production market in Australia would face direct competition from established industries in countries such as US and Singapore. It is therefore important for Australian-made SAF to be priced competitively as an import substitute. By making production more financially viable, tax credits can help companies achieve economies of scale, further reducing costs.

3. Economic Diversification:

Production Tax Incentives support the development and growth of emerging industries, reducing Australia's economic dependence on a narrow range of sectors and enhancing economic stability in addition to stimulating R&D and innovation, leading to the growth of complementary industries and services.

4. Tax Revenue:

Although Production Tax Incentives reduce tax revenue per unit of production, overall economic growth and job creation can lead to an expanded tax base through increased corporate, income, and sales tax revenues. The initial reduction in tax revenue can be offset by the long-term economic benefits of a more robust and diversified economy. Use of the taxation system to increase excise on high-carbon liquid fuels (conventional Jet Fuel, AvGas, diesel) and lower excise on LCLFs could also be an important way to support domestic production.

There are -additional mechanisms Australian governments (Federal, State and Territory) could consider in providing support for a domestic SAF industry, including:

- Low interest loans
- Loan guarantees
- Green bonds (targeted at sourcing capital for green industries)
- Project facilitation (partnering with producers to navigate and streamline regulatory approvals and compliance)
- Changed accounting standards or taxation rules (e.g. fast-tracking depreciation schedules for equipment)

<u>Production incentives to appropriately incentivise the production of SAF and renewable diesel and different pathways to produce LCLF:</u>

A key issue for Australian airports is securing supply chains of SAF and other LCLFs such as renewable diesel as it is an intermediary user of these products. Airports are looking for a viable domestic market to diversify the aviation sector's fuel sources and reduce airport Scope 3 emissions from the use of aviation fuels by airlines and diesel fuel in ground support equipment.

Airports and the fuel industry have a set of complex interactions that allow for airports to receive, store and distribute the aviation fuel on site for refuelling. In producing LCLFs airports are most interested in ensuring appropriate access to infrastructure that may be required to store and distribute SAF.

Consideration will need to be given to any additional infrastructure that may be required to supplement existing Joint User Hydrant Installation (JUHI) systems at major airports it would need to be built into any tax credit system that is employed to incentivise production. Investors in airport infrastructure such as superannuation funds will need to understand the spillover costs for LCLFs.

More broadly, allocation of incentives between SAF and renewable diesel would need to be considered. It is critical for SAF to be 'quarantined' as part of any support program to ensure consistent and scalable supply. While certain sectors of the heavy road vehicle fleet will transition to electric power, a sizable proportion of road and rail freight movements will still require internal combustion power for the foreseeable future. There will be adverse effects where aviation competes with road and rail transport for production volumes of LCLFs at domestic refineries.

Production of SAF should also be prioritised over low-emissions diesel given aviation is a harder to abate sector compared to land transport which has easier and faster access to electrification options for their operations. The AAA recommends the Australian Government deeply examines how the production of LCLFs fits within its parallel transport and infrastructure decarbonisation road map[2] to work out a realistic allocation of domestic refinery resources.

It is difficult to remain technology agnostic given the differing cost structures of various technologies. The AAA suggests modelling a range of support mechanisms against cost and revenue models provided from industry whilst also taking into consideration long term demand implications. These cost models could include different technology pathways, including emerging LCLF production pathways beyond Bio SAF production such as synthetic fuels (PtL SAF) which are required to achieve the scale of SAF required to achieve Net Zero targets. These emerging technologies may well affect the costs of production in the medium term. Given this, government should take this into consideration and provide incentives accordingly. This would also help de-risk SAF production and relieve pressures of bio feedstock availability over the medium-to-long term.

The AAA supports the establishment of an Australian book and claim system to support the development of a domestic SAF industry and to enable the availability of domestically-produced SAF at Australian airports. Any domestic system would need to recognise and be able to be integrated with international systems (ICAO, RSB) in the future.

Design of demand-side mechanisms:

The introduction of SAF target before a SAF mandate will help the sector transition smoothly and will also provide a clear signal of demand to the market. SAF mandates (e.g., 10% SAF blending standard by 2030) are "internationally recognised as critical to SAF deployment and scaling" and should be a component of Australia's efforts in this area. That said, any SAF mandate must be calibrated towards building up domestic supply. If not, this will mean importation of SAF produced offshore to meet domestic mandates.

The World Economic Forum notes that SAF mandates "should be set at such a level each year that it supports the development of SAF production capacity in line with a net-zero trajectory… but the blending level should not expose the sector to excessive technological and financial risk nor create any risk of insufficient supply in the face of growing demand that would drive prices up".[3]

The second component of the demand side measures is the establishment of an emissions intensity scheme for liquid fuels. These schemes are designed to reduce emissions intensity of fuels relative to a specified benchmark over time. Emissions intensity schemes are a market-based metric which allows the market to determine the most cost-effective way to reduce emissions.

Considerations regarding emissions and sustainability criteria:

Setting an ideal threshold for eligibility criteria for low carbon liquid fuels (LCLF) involves balancing environmental effectiveness, economic feasibility, and technological practicality.

There are four key facts to be considered when creating a policy framework for emissions criteria:

[2] Department of Infrastructure, Transport, Regional Development (2024), Communications and the Arts, *Transport and Infrastructure Net Zero Consultation Roadmap*.

[3] World Economic Forum*, Guidelines for Sustainable Aviation Fuel Blending Mandate in Europe*, 2021.

1. *Economic Viability* - In terms of cost competitiveness LCLFs should be economically competitive with traditional fuels, considering current and projected market conditions.
2. *Technological Feasibility* – For production scalability the technology for producing LCLFs should be scalable to meet significant portions of the market demand.
3. *Alignment with broader climate goals* - Criteria should align with national and international climate targets and commitments. Additionally, adherence to recognised certifications and standards for sustainability and emissions reductions should also be made.
4. *Sustainable feedstock* - LCLFs should be derived from renewable and sustainable feedstocks such as green hydrogen for production of synthetic fuels, agricultural or animal by-products, waste materials or dedicated energy crops. At the same time, it should not affect food security and land use.

Policymakers can ensure that LCLFs can contribute effectively to reducing greenhouse gas emissions while being economically and technically viable. Key benefits include:

1. *Environmental improvement* – Lowers carbon emissions benefitting local ecosystems and improved public health.
2. *Economic Benefits*:
    - *Job Creation*: Developing and maintaining low carbon fuel production facilities can create jobs in engineering, manufacturing, and other sectors.
    - *Local Investment*: Investments in local infrastructure for producing low carbon fuels can stimulate the economy.
    - *Energy Independence*: Reducing dependence on imported fuels enhances national fuel security and stabilises energy prices, benefiting consumers and businesses.
3. *Community Resilience*: Domestically produced energy can make communities more resilient to global fuel supply disruptions. Transitioning to LCLFs can be structured to ensure fair distribution of access and benefits across all segments of the aviation sector, including regional and remote areas.

The community benefits of producing LCLFs domestically span environmental, economic, public health, social, and technological domains, contributing to a more sustainable and equitable future.

The AAA supports an emissions reduction threshold being part of the eligibility criteria in a production incentive program. This would ensure LCLF suppliers work towards a production pathway that keeps them accountable for decarbonisation. An indicative threshold could begin at a 25 per cent emissions intensity reduction relative to conventional fuels and move over time. Production Tax Incentives could be used as an incentive for LCLF producers to exceed the threshold.

<u>Other comments</u>

There also needs to be consideration over the allocation of feedstocks used for LCLF production over time and their use for producing diesel and SAF. In the short term, renewable diesel is important as a 'bridging' fuel for decarbonisation efforts at regional airports, particularly in relation to ground support equipment such as starter carts, baggage tugs and ground power equipment. However, SAF will provide the greatest share of emissions reduction potential, and is therefore considered a priority for all airports. Over time, transition of feedstocks from renewable diesel to SAF is likely to be required. Government in conjunction with industry will need to establish a roadmap for this transition.

The need to keep costs for SAF comparable to conventional fuels is a key demand driver. As noted in the discussion paper, there is a strong potential for the higher initial costs of SAF production is a premium of between 2-5 times the price of aviation fuel. While the price of SAF is likely to fall over time, there will be a need for government intervention through regulation (fuel standards, mandates) or taxation (increasing excise on conventional aviation fuels) to narrow price gaps in the short term.

Containing the cost of domestic SAF is also a retail issue for the travelling public, with AAA research on consumer intentions over the past two years shows flyers polled unwilling to pay any additional costs to fly on a flight fuelled by SAF steadily increasing from 30% in December 2021 to 40% in June 2024. The percentages of flyers willing to pay more for a SAF fuelled flight is more price sensitive and has consistently decreased over time, with only 32% prepared to pay between $1-$20 in June 2024, down from 50% in December 2021.[4]

The AAA appreciates the opportunity to provide a submission to the Consultation Paper. [redacted]

Yours sincerely

Natalie Heazlewood

Head of Policy and Advocacy

[4] Zing! Research for the AAA, *Passenger Intentions Survey*. Waves 4-11, December 2021 – June 2023.