

30th August 2024

Department of Climate Change,
Energy, the Environment and Water

Via email: renewablefuelscheme@environment.nsw.gov.au

Tourism & Transport Forum Submission - Opportunities for a Renewable Fuel Industry in NSW

About Tourism & Transport Forum Australia (TTF)

The Tourism & Transport Forum (TTF) is the peak industry group for the aviation, tourism, transport, and related infrastructure sectors. TTF is a national, member-funded CEO forum, advocating for the public policy interests of our members. TTF represents a broad range of operators which include airports, airlines, tourism, attractions and travel operators, accommodation providers, major events, retail and hospitality businesses, and leading private & public transport operators with a state and national presence. TTF is the leading industry voice for our sectors and plays an important and active role in advocating for the policy interests of our members. TTF would like to take this opportunity to thank its members for their valuable contributions in shaping our response.

Introduction

TTF welcomes the opportunity to contribute to the consultation for building a thriving renewable fuel industry in NSW. The future success of Australia's tourism and transport industries relies heavily on the successful integration of sustainable practices. Australia's tourism, transport and aviation sectors are firmly committed to supporting a sustainable travel industry. As a long-haul destination, Australia's ability to attract international business and leisure travellers hinges on taking feasible and practical steps to reduce carbon emissions.

Recently, TTF made a submission to the consultation for a Low Carbon Liquid Fuel (LCLF) industry which can be found in the appendix section below. The policy recommendations alongside the applicable research used in the making of the submission are directly applicable to the NSW consultation. We strongly encourage the Department of Climate Change, Energy, the Environment and Water to consider the submission in the appendix section, taking into consideration TTF's research

which is contributing to the establishment of a domestic LCLF industry for Australia with particular reference to Sustainable Aviation Fuel (SAF) and Marine Biodiesel. The NSW Government has the opportunity to capitalise on its unique position to be Australia's leader in renewable fuel production. With an ambition to maintain Australia's competitiveness in the global tourism market, state and federal governments must provide a supportive policy environment to further advance industry efforts already underway.

NSW Sustainable Aviation Fuel Potential

NSW is strategically positioned to become a leader in SAF production, with a forecasted potential to produce 5,200 million litres annually by 2050. Sydney, home to Australia's busiest airport, which currently handles 3,600 million litres of fuel annually, is expected to see this demand double over the next 20 years. The global push towards decarbonising aviation presents NSW with a significant opportunity to lead both production and uptake of SAF. The NSW Office of Regional Economic Development projects that biogenic SAF could account for 52% of all aviation fuel in Australia by 2050, with total SAF demand in NSW estimated between 4,000 and 4,300 million litres annually by that time. This would entail a market value of A\$4.8 billion for the state and A\$11.9 billion nationally. Key strategic ports in NSW, such as those in Newcastle and Port Kembla, along with hydrogen hubs, have the potential to play critical roles in the SAF value chain and export market, feeding both domestic and international demand.

NSW's competitive advantage in SAF production is underpinned by its rich feedstock resources in regional areas such as Riverina-Murray, New England North West and Central West, with a total estimate of 21 million tonnes produced annually. Additionally, metropolitan municipal solid waste and commercial and industrial waste could be managed alongside feedstocks to service airports in Sydney and Western Sydney, as well as export markets via the ports of Newcastle and Port Kembla. The state's rail and road network facilitate the transportation of feedstock and SAF, further supported by strong infrastructure. NSW also boasts a skilled workforce, with expertise in scientific and technical services, construction, mining, gas, electricity, and waste services, competitively positioning the state for the development and expansion of Australia's SAF supply chain.

TTF appreciates this opportunity to respond to the consultation exploring opportunities for a renewable fuel industry in NSW. Please reach out to TTF's Head of Strategy and Public Affairs, Mitch Coveney on mcoveney@ttf.org.au, if you have any questions or would like any additional information.

Appendix

Tourism & Transport Forum Submission - Consultation on Future Made in Australia: Unlocking Australia's low carbon liquid fuel opportunity

About Tourism & Transport Forum Australia (TTF)

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Introduction

TTF welcomes the opportunity to contribute to the Future Made in Australia Fund, in support of the establishment of a domestic low carbon liquid fuel (LCLF) industry. TTF strongly supports the use of Low Carbon Liquid Fuel in Australia's aviation, maritime and transport industries, as an immediate lever to decarbonise these respective sectors¹. While electrification has been an effective solution to the growing demand for more sustainable transport options, aviation and marine transport require an alternative, more versatile solution. LCLFs are a 'drop-in' alternative to conventional fossil fuels but offer significantly lower life cycle emissions, by as much as 95% less with improved air quality. Beyond the environmental benefits, LCLF could also boost Australia's economy through significant job creation and create a more secure fuel supply for Australia.

The future success of Australia's tourism and transport industries relies heavily on the successful integration of sustainable practices. This growing focus on sustainability is evident in the latest consumer travel trends, which highlight the priority placed on protecting the planet for future generations. 74 per cent of travellers globally now recognise the need to make more sustainable travel choices, according to Booking.com's Sustainable Travel Report 2023². This has already impacted consumer decision-making, with 76 per cent of travellers indicating they want to travel more sustainably over the coming 12 months.

¹ [Bioenergy Australia, 'Bioenergy Australia: Transport and Infrastructure Net Zero Roadmap and Action Plan survey' \(2023\)](#)

² [Booking.com, 'Sustainable Travel Report 2023' \(2023\)](#)

Australia's tourism, transport and aviation sectors are firmly committed to supporting a sustainable travel industry. As a long-haul destination, Australia's ability to attract international business and leisure travellers hinges on taking feasible and practical steps to reduce carbon emissions. It is critical that Australia establishes a domestic LCLF industry to ensure the transport sector can successfully decarbonise and maintain Australia's competitiveness in the global tourism market. The Federal Government must provide a supportive policy environment to further advance industry efforts already underway, including Australian airlines' investing in Sustainable Aviation Fuel (SAF), and marine industries committing to LCLFs such as LNG & Biogas, Biofuel and renewable diesel³.

Low Carbon Liquid Fuels – Aviation

The single biggest lever for the Australian aviation sector to decarbonise is Sustainable Aviation Fuel (SAF). SAF is a low carbon alternative drop-in replacement to conventional liquid aviation fuel which can be produced from a range of feedstocks, such as plant and animal wastes, used cooking oil and fats, or chemical compounds such as carbon dioxide or green hydrogen⁴. SAF offers the best alternative to traditional jet fuel derived from crude oil, with the potential to contribute up to 65 per cent of aviation emissions reduction by 2050. It meets the same chemical and safety specifications as conventional aviation fuels, whilst reducing carbon emissions by up to 80 per cent compared to traditional jet fuel, over its lifecycle⁵.

Australia is lagging other developed nations in both policy development and investment to support a local SAF industry. In 2022, approximately 249k tonnes of SAF was produced from facilities in North America, Europe and Singapore⁶. As it stands, no SAF is produced commercially in Australia today, making LCLFs an expensive option for the aviation industry to rely on in meeting our sustainability targets. A lack of policy intervention further increases the risk of Australian feedstocks being contracted to long-term export agreements, ultimately giving foreign refiners control over the quantity and value of Australian produced feedstocks. This could result in Australia being a net importer of LCLFs, despite the abundance of resources available domestically for production. Currently, nearly two thirds of Australia's canola oilseed exports are destined for the European Union, used largely for biodiesel production⁷.

Australia still has the ability to capitalise on its natural competitive advantages in agricultural production and renewable generation. With SAF estimated to account for between 22 to 52 per cent of total aviation fuel demand in Australia by 2050⁸, Australia's feedstock production is capable of meeting SAF demand and other agricultural needs. Australia has a major opportunity to secure an Australian Made

³ [Department of Climate Change, Energy, the Environment and Water, 'Maritime Transport' \(2024\)](#)

⁴ [TTF, 'Submission to the Department of Infrastructure, Transport, Regional Development, Communications and the Arts: Aviation Green Paper \(November 2023\)](#)

⁵ [IATA, 'Developing Sustainable Aviation Fuel \(SAF\)' \(2024\)](#)

⁶ [TTF, 'Sustainable Aviation Fuel \(SAF\) is aviation's key lever to decarbonise by 2050' \(2023\)](#)



























⁷ [USDA, 'Biofuels Annual' \(2022\)](#)

⁸ [NSW Office of Regional Economic Development, 'Sustainable aviation fuel' \(2024\)](#)

future for an LCLF industry, if domestic production support and demand-side mechanisms are set in place. Establishing supportive policy settings, will allow for the development of an Australian industry that can actively compete with international production levels. A domestic SAF industry, with support from the Australian Government, will successfully boost employment opportunities and benefit the country’s wider economy. TTF welcomes the opportunity to help shape the necessary policy frameworks needed for a competitive SAF industry.

Sustainable Aviation Fuel – Global Outlook

Australia is falling behind other developed countries, whose policy interventions and direct investments are supporting the growth of global SAF industries⁹. In the past year, other developed nations have accelerated SAF development by introducing policy frameworks, such as SAF blending mandates in the European Union, financial subsidies for SAF producers in the United States, and a potential hybrid of the two, coupled with grant funding in the United Kingdom.¹⁰ Australia risks lagging if the right policies to encourage SAF production domestically are not prioritised. The infographic below represents TTF’s collaborative work with LEK Consulting in 2023, comparing SAF policy environments across key developed nations. The infographic identifies the extent to which Australia is failing to keep up with other countries, despite the nation’s competitive feedstock availability

Summary of SAF policy environment in Australia, US, UK, Singapore, and Canada					
	 Australia	 United States	 United Kingdom	 Singapore	 Canada
Mandates*			Airlines required to use 10% SAF by 2030		
Incentives		Tax credits for airlines and domestic producers California Low Carbon Fuel Standard and US Renewable Fuel Standard	Revenue certainty mechanism for SAF producers		Nascent voluntary credit market under the Clean Fuels Regulation
Direct govt. investment	 c.\$30m in funding from ARENA (c.\$4m per MT of jet fuel used p.a.)	 c.\$7bn as part of the Inflation Reduction Act (c.\$87m per MT of jet fuel used p.a.)	 c.\$320m from the Advanced Fuels Fund (c.\$26m per MT of jet fuel used p.a.)	 c.\$60m fund to support sustainable air transport (c.\$10m per MT of jet fuel used p.a.)	 c.\$550m towards a national sustainable aviation network (c.\$65m per MT of jet fuel used p.a.)
Current SAF production capacity MT** p.a.	 0	 1-2	 0	 1	 0.1
Feedstock availability MT p.a. of SAF produced from available feedstock 2030 (% of total jet fuel demand)	 5 (60%)	 170 (>100%)	 1.2 (10%)	 0 (0%)	 8.2 (95%)
Notes: * Japan is expected to begin mandates in 2030; ** MT denotes mega-tonnes (1 million tonnes) Source: Government websites; L.E.K. research and analysis					

⁹ Ibid, “Sustainable Aviation Fuel (SAF) is aviation's key lever to decarbonise by 2050”, p3.

¹⁰ [QANTAS, 'QANTAS Sustainability report 2023' \(2023\)](#)

Examples of how other countries have enabled the establishment of a domestic SAF industry

- **United Kingdom's Sustainable Aviation Fuel Mandate:** The UK Government, as of April 2024, released new targets to ensure 10% of all jet fuels are needed in flight operations departing the UK only come from sustainable sources by 2030. This includes a 2% SAF Mandate for 2025 and a progressive trajectory of related caps and obligations¹¹.
- **Singapore's Sustainable Air Hub Blueprint:** In February this year, the Civil Aviation Authority of Singapore (CAAS) released this blueprint as a part of its journey towards decarbonising Singapore's aviation sector, whilst focusing on continuing sustainable growth. The blueprint aims to reduce domestic aviation emissions from airport operations by 20% by 2030 and achieve net zero domestic and international aviation emissions by 2050¹². CAAS will also further introduce a SAF levy on users for the purchase of SAF.
- **California's Low Carbon Fuel Standard (LCFS):** The Low Carbon Fuel Standard is designed to decrease the intensity of California's transportation fuel pool and create a varying range of low-carbon and renewable alternatives that reduce dependence on petroleum and improve air quality levels¹³.

International markets are recognising the value and potential for LCLF production, with the growth of their economies in mind. It is only a matter of time before developed countries rely on LCLFs to meet their sustainability targets.

Sustainable Aviation Fuel – The opportunity for Australia

Australia has a genuine comparative advantage over other jurisdictions to be a leading LCLF producer. Australia is a competitive producer of feedstock, a global leader in agricultural sustainability principles and has a unique, strategic geographical location. Developing this industry will not only help meet sustainability targets within Australia, but also generate regional employment, attract investment and drive decarbonisation efforts across multiple Australian sectors. Furthermore, an Australian LCLF industry has the potential to enhance fuel security, particularly in the Pacific region, opening opportunities for exports to high-value markets.

➤ Feedstock

¹¹ [GOV.UK, 'Aviation fuel plan supports growth of British aviation sector' \(2024\)](#)

¹² [CAAS, 'Singapore Sustainable Air Hub Blueprint' \(2024\)](#)

¹³ [California Air Resources Board, 'Low Carbon Fuel Standard' \(2024\)](#).

Australia holds a substantial advantage with feedstock, considering it is a producer of an extended array of LCLF sources for production. These sources include oilseeds, used cooking oil, tallow and rendered animal fats. In addition, Australia is a producer of lignocellulosic materials which are found in a range of plant molecules and biomass containing cellulose, including wood from forestry, cotton residue, sugarcane and algae from urban waste streams¹⁴. This extended array of LCLF sources meets Australia's need to attend to the increasing demand for LCLF production, without taking away from other agricultural services in need of the feedstocks. Australia is also a major exporter of feedstock and LCLF sources to international producers of domestic LCLFs. In 2022, 3.4MT of canola seed and 400,000 tonnes of tallow were exported to the European Union, solely for biodiesel production in Europe¹⁵.

As referenced in the 2023 CSIRO SAF roadmap, projections suggest that by 2025, Australia will have sufficient feedstocks to produce 60 per cent of its local jet fuel demand using biogenic sources, increasing to 90 percent by 2050.¹⁶ Today's estimates suggest there is sufficient feedstock to produce approximately five billion litres of SAF. Whilst other LCLF potential includes:

- Over 1BL of potential LCLF production capacity from sugar cane in Queensland.
- Further potential of novel crops that have the capacity to add to carbon abatement and improve farming processes such as pongamia and carinata.
- Over 400ML of existing ethanol production, produced from byproducts of flour and sugar production which is another substantial opportunity for alcohol to jet prospects¹⁷.

However, the current lack of policy support means Australia's feedstock remains at risk of being committed to long-term offtake agreements which could see feedstock sold to foreign refiners. This risks Australia becoming a major importer of renewable fuels, made from our own feedstocks.

➤ **Australia's Tourism & Business Event Industry**

TTF members acknowledge the future success of Australia's tourism industry rests heavily on the successful integration of sustainable practices, particularly within the aviation industry. To reap the benefits of changing attitudes and to remain competitive, Australia must continue to position itself as a leading, environmentally conscious tourism destination, in which sustainable aviation fuel will be crucial.

¹⁴ [ETIP Bioenergy, 'Lignocellulosic crops for production of advanced biofuels' \(2024\)](#)

¹⁵ [Grain Central, 'Crushing investments point to confidence in canola' \(2024\)](#).

¹⁶ [CSIRO, 'Sustainable Aviation Fuel Roadmap' \(2023\)](#)

¹⁷ [LanzaJet, 'LanzaJet Celebrates Grand Opening of Freedom Pines Fuels Plant, the World's First Ethanol to Sustainable Aviation Fuel Production Facility' \(2024\)](#)

Reducing emissions from air travel to, from and within Australia will help increase Australia's desirability amongst international tourists, as well as facilitate business travel, which is also being impacted by the growing focus on environmental sustainability. Australia's location grants it valuable access to export markets in Asia and the Pacific. Given Australia's feedstock availability, leading agricultural sector and potential for refining, we have the potential to be a leader in LCLF supply across the region. This opportunity is further boosted by the diversity of stakeholders ready to act across the value chain. However, Australia is also a long-haul destination, whose international and major business events generate \$17.2 billion (FY19) for the economy and directly employ 229,000 people¹⁸. Without action to reduce aviation emissions, Australia's ability to host and bid for these events could be impacted, as companies and associations overseas preference closer destinations.

➤ Community Benefits

LCLF production in Australia offers a range of community benefits, including job creation and economic growth. As LCLF production relies on agricultural feedstocks, farmers will benefit from this new reliable long term revenue stream, further supporting regional communities. An LCLF industry will also support transitions for work operations relying on traditional energy sources in adapting to cleaner energy sources. With the right policy settings, a domestic SAF industry could provide a range of benefits, including:

- Creating more than 7,400 jobs by 2030 and up to 15,600 jobs across the country by 2050, mostly in regional areas¹⁹.
- SAF contains lesser aromatic components, enabling cleaner fuel burn for aircraft engines²⁰.
- Contributing an additional \$2.8 billion in GDP per year by 2030, and up to \$7.6 billion per year in 2050²¹

Sustainable Aviation Fuel - Supporting Domestic Production

With the right policies in place, Australia can initiate a readily competitive LCLF industry, built upon Australian feedstocks. For this new industry to be established, domestic production support is required. TTF strongly believes that policies to incentivise domestic production must align with the sectors' broader endeavours to enhance domestic fuel security, diversify fuel production methods and meet sustainability criteria. There are already international examples of sustainability and emissions calculations in place. These include the International Sustainability and

¹⁸ [EY, 'Value of Business Events to Australia' \(2019\)](#)

¹⁹ [Ibid, 'Bioenergy Australia: Transport and Infrastructure Net Zero Roadmap and Action Plan survey'](#).

²⁰ [Energy.Gov, 'Sustainable Aviation Fuels' \(2023\)](#)

²¹ [Cleaner Fuels Alliance, 'Budget 2024: Unlocking Australia's Low Carbon Fuels' Future' \(2024\)](#)

Carbon Certification and the Carbon Offsetting and Reduction Scheme for International Aviation. These examples can be referred to as initial frameworks that can then incorporate Australian specific factors accounting for regional disparities.

➤ **Production Tax Incentives (PTI)**

A PTI would operate as a direct incentive to produce LCLFs, by providing tax credits to producers. These credits would be determined by producers meeting specific sustainability standards and certification requirements, further encouraging sustainable practices. A financial incentive would lower the production costs for

Recommendation: Implement production tax incentives to incentivise production of a domestic SAF industry to create confidence in the market.

producers, making LCLFs competitive with conventional fuels, further encouraging investment in the sector.

➤ **Contract for Difference (CfD)**

A CfD would operate as a financial tool that covers the cost difference between producing a LCLF ('strike price') and the price of the fuel's comparator at a certain time. Under this scheme, the government sets a 'strike price', which acts as a guaranteed price per unit of LCLF that producers would receive. If the market price falls below this strike price, the government would compensate the producers for the price difference, ensuring they cover production costs, and the producer still attains a reasonable profit. By creating a predictable revenue stream, CfDs could stimulate the growth of the LCLF industry, reducing Australia's dependence on imported fuels and promote sustainability.

Recommendation: Impose a contract for difference scheme that can effectively incentivise the production of LCLFs in Australia by providing financial stability and reducing market risks for producers.

➤ **Demand-side Mechanisms**

A demand-side mechanism in the form of a mandate or Low Carbon Fuel Standard would give confidence and certainty for a domestic LCLF production industry. By making it a legal requirement for a specific percentage of fuel to be sustainability sourced from low carbon producers, the Australian Government could ensure a guaranteed market for LCLF products. There would be a reduction in market risks and uncertainty for producers, encouraging further investment in the sector. TTF supports the implementation of a mandate that can be adhered to over time, alongside a low carbon fuel standard with a supportive trading scheme to ensure a confident and competitive LCLF industry in Australia.

Recommendation: Implement a five per cent SAF mandate for 2030, rising to at least 20 per cent in 2040, to keep Australia in line with existing international

➤ Book and Claim SAF Accounting

As a short-term mechanism benefiting SAF production, the Federal Government can prioritise initiatives such as SAF accounting (book and claim), allowing airlines and consumers to obtain SAF, regardless of any geographical constraints. A 'book and claim' initiative would bridge the supply gap in the interim, while domestic SAF

Recommendation: Introduce a book and claim initiative to support SAF procurement, irrespective of geographical constraints.

industries upsize. Further, any sustainability attributes from SAF can be obtained through book and claim methods and then applied to relevant policy mechanisms.

Low Carbon Liquid Fuels – Maritime

Australia's maritime and marine transport industries play a substantial role in contributing to Australia's connectivity, tourism sector and overall economy. In 2020-21 alone, Australia's maritime industry contributed an astounding \$105.3 billion to the economy and 462,000 full time equivalent jobs were supported²². Australia is uniquely home to some of the richest and most diverse marine ecosystems in the world. The domestic marine industry is one of fastest growing sectors in Australia, with marine tourism being the largest growth sub-sector²³. Australia's domestic marine tourism sector is thriving with a \$19.9 billion tourism and recreation output in 2020-21. On top of this figure, water-based transport services contributed \$9.8 billion in 2020-21²⁴. These valuable sectors to the local economy are working hard to decarbonise through a number of dynamic measures, but the industry's efforts need to be supported in a sustainable economic policy environment with a clear roadmap and plan.

As marine transport sectors globally decarbonise, Australia risks falling behind in our energy transition journey unless the correct policy settings are implemented. TTF acknowledges the work that the Federal Government is doing to provide a plan for marine decarbonisation. However, unlike international trading vessels, there are currently no fixed requirements for Australian domestic commercial vessels to reduce carbon emissions from operations. Operators are looking to harness a range of measures including hydrogen, electric and LCLFs. Whilst many operators are ready and able to transition to LCLFs, there remains challenges to do so and a lack of long-term viability from a complex web of regulatory factors at both state and federal levels of government.

²² [Australian Institute of Marine Science, 'The Aims Index of Marine Industry 2023' \(2023\)](#)

²³ [Industry Skills Australia, 'Maritime' \(2024\)](#)

²⁴ *Ibid*, 'The Aims Index of Marine Industry' 2023.

The electrification of marine transport modes such as commercial ferries has been increasing globally and is certainly one viable option to decarbonise. However, other organisations and jurisdictions have faced insurmountable challenges and cost blowouts associated with the electrification of fleets. This is associated with the infrastructure needed for charging vessels, the shrinking land availability around port infrastructure as well as the energy required from the grid. For example, New Zealand has seen mass costs of over one billion dollars related to inter-island ferry fleets with dual diesel and electric engines, which only reduced emissions of the fleet by up to 40%²⁵. With this context, LCLFs become an important measure to make the energy transition, but challenges exist in the current policy environment.

TTF welcomes the opportunity to contribute to this submission to support industry calls for a clear, unified and economically viable roadmap to decarbonise the marine sector through LCLFs. Commercial marine operators support the use of biofuels in the decarbonisation process and see this as a key intermediary lever to reach emission targets. Although TTF welcomes the development of a LCLF industry in Australia, it is important to understand the current context of challenges that the industry faces. For the purpose of this submission, the primary focus will be on small – scale commercial fleets (excludes freight and cruise).

Challenges in the current policy settings

➤ Commercial viability of low carbon liquid fuels

Maritime LCLFs are an instant lever to decarbonise the sector, however costs are simply too high, and supply too small and unstable to make the transition economically viable with the current policy settings. Whilst industry is willing and able to make the full transition, in some cases it is commercially unviable to utilise LCLF at maximum capacity within their operations in the current economic environment, especially for small fleet operators. Acknowledging that the government is working towards improving supply, currently there simply isn't enough accessible supply of LCLFs in the marine sector leading to costs being up to six times higher than conventional fuels.

➤ Regulatory Alignment

Different regulatory arrangements between state and federal governments provide additional challenges for operators to efficiently decarbonise. Whilst industry would like to decarbonise, the different regulatory frameworks between jurisdictions create additional barriers and complexities. The Federal Government is largely responsible

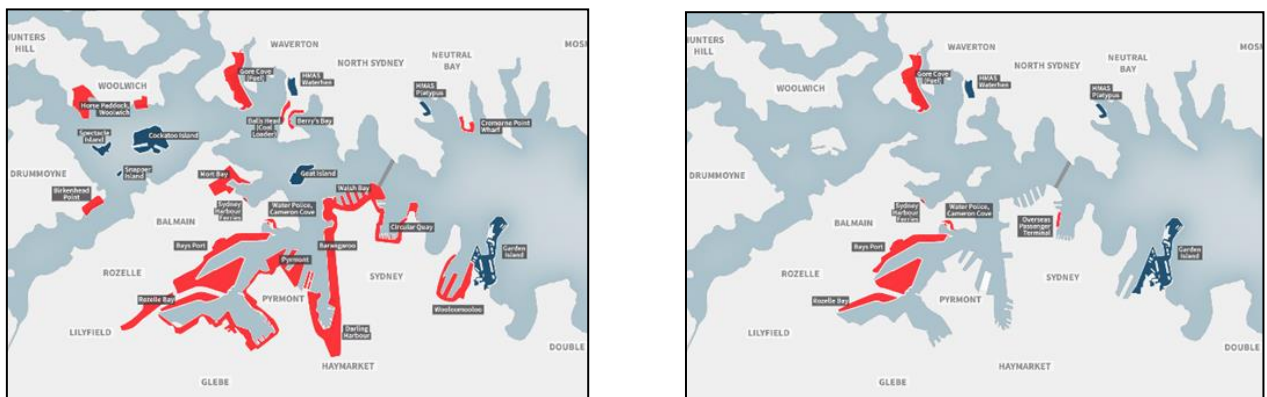
²⁵ <https://www.1news.co.nz/2023/12/13/govt-declines-more-funding-for-interislander-project-amid-cost-blowout/>

for the overarching frameworks with states and territories trying to align. However, the frameworks are nuanced and varied between state and territories, creating additional challenges for operators. For example, currently there are no regulations on fuel standards for ferries and no specific federal policy targeting the decarbonisation of the ferry sector²⁶.

➤ **Land preservation and dedication**

For the industry to effectively decarbonise, a long-term strategy needs to be developed around preserving the land necessary for critical infrastructure and ensuring distribution networks are maintained to sustain the energy transition. With the transition to decarbonisation, new technologies and infrastructure will be needed including fuel distribution networks at ports, blending facilities and storage facilities. Without a holistic strategic plan, Australia risks not having the appropriate levels of infrastructure in place. An example is the transformation of Sydney Harbour over the last 200 years. Sydney Harbour serves as a major gateway for Australia and the Pacific with a mixed-use entry port including freight, commercial shipping, maritime services and tourism/recreation. Over time, commercial shipping has been significantly reduced, leading to long term implications for Sydney to serve as a working harbour.

Continuation of working harbour uses are under further threat at Glebe Island and Rozelle Bay due to increased housing pressure. these vital uses would be extremely difficult to relocate within Sydney Harbour, due to overall loss of suitable land-water interface availability.



Sydney's working harbour mid-20th Century compared to today²⁷.

The preservation and implementation of appropriate planning controls for the remaining waterfront industrial lands for current and ongoing working harbour uses,

²⁶ [TTF, 'The Road to Net Zero' \(2023\)](#)

²⁷ [Port Authority of New South Wales, 'History' \(2024\)](#)

is critical to the successful decarbonisation of the maritime sector, including the provision of Maritime LCLFs.

➤ **Manufacturing & Compatibility**

One of the biggest challenges for small-scale vessel fleet operators in Australia is compatibility with conventional combustible engines. Whilst most engines in these small fleets are ready to transition because of their 'drop-in ability', low carbon liquid fuels can impact warranty conditions, leaving operators unable to use them. The responsibility of energy transition should not exclusively be the responsibility of the operator, but rather holistic approaches need to be considered which also include manufacturers. This holistic support will facilitate the transition and increase the supply confidence and commercial viability for operators to fully utilise low carbon liquid fuels. Policy strategies focused on manufacturers should consider alternatives to facilitate the adoption of LCLF in both existing and new engines. In addition, policies should aim to increase the adoption of hybrid engines that can operate flexibly with LCLFs and/or electricity, according to operational needs.

Recommendation: Ensure policies are looked at holistically to include manufacturers so low carbon liquid fuels are commercially viable for operators.

Next steps: The low carbon liquid fuel opportunity (Marine)

With biofuel identified as a key lever to decarbonising the marine transport sector, actually achieving the transition requires realistic and achievable solutions. There is no 'silver bullet' to decarbonising the sector, but rather a suite of policy initiatives and settings needs to be adopted, complemented by a clear plan and pathway forward. Industry is ready and actively working on aligning with government pathways to decarbonise. However, without the right policy settings in place and a clear path forward, government risks losing industry confidence and investment. Industry desires government intervention to create a level playing field for domestic commercial marine fleet operators. Government can implement policies that stimulate supply and demand levers to support a domestic low carbon fuel industry.

➤ **Coordinated Future Roadmap**

Currently the Federal Government has an emissions reduction target of 43% by 2030 supported by state government goals of reaching net zero by 2050,²⁸ though states

²⁸ Ibid, 'The Road to Net Zero'.

and territories have different plans for reaching net zero respectively. Currently, the levels of investment and policy settings vary among different jurisdictions within Australia, creating additional challenges. Industry strongly supports a clear, cohesive and collaborative roadmap to give confidence for future investment. Industry is eager to decarbonise through low carbon liquid fuels, but without a clearly defined and staged roadmap, it is currently not feasible to confidently do so. In its current form, policies are too focused on the end goal but lack the necessary nuanced and staged approach to create confidence and clarity for industry.

Recommendation: The Commonwealth Government should establish a clear, staged approach to a Future Roadmap with state and territory alignment to give industry the confidence it needs to invest in the use of LCLFs.

➤ Mandates

Mandates have been used in international jurisdictions to stimulate strong demand for the use of biofuels. However, the maritime industry has not been the major focus compared to other modes of transport, like aviation and motor vehicles. In 2018 the International Maritime Organization established an emission reduction goal of at least 50% (compared to 2008 levels) by 2050²⁹. Whilst the implementation of a mandate in Australia would increase demand, caution needs to be considered given the complexities of existing international maritime arrangements, which are a key consideration for small scale operators. Looking at automobiles at a domestic level, a Queensland University of Technology (QUT) report found that a 10% blended biofuel mandate for the automobile industry would reduce conventional gasoline imports by 18%.³⁰ A mandate would have to be carefully managed to ensure that the timing is suitable. If a mandate was implemented too early for the maritime industry, it could lead to operators simply being priced out of the market and unable to trade viably. Mandates focused on increasing the supply of LCFLs should also be studied, similar to what is happening in the EU where there is a mandate to ensure a share of renewable energy in the final consumption of transport energy (14% by 2030, including a minimum share of 3.5% advanced fuels).

Recommendation: A maritime low carbon liquid fuel mandate could be introduced, however would need to be reassessed later once a domestic industry is well established and costs come down to ensure that a mandate continues to be commercially viable for

➤ Tax Incentives

²⁹ [cefc, 'Biofuels and Transport: An Australia opportunity' \(2017\)](#)

³⁰ [Bioenergy Australia, 'Bioenergy Australia Submission' \(2021\)](#)

Tax credits are another way to promote the use of low carbon liquid fuels and provide strong market demand signals. Currently the biggest barrier to entry is the cost to

Recommendation: Implement tax incentives for operators to utilise low carbon liquid fuels, to send demand signals to the market and assist in creating economies of scale to drive prices down.

utilise low carbon liquid fuels, particularly for the maritime industry and for small scale commercial marine operators. Tax credits and rebates are a mechanism to incentivise operators to utilise low carbon liquid fuels. This could also contribute to increased economies of scale, which would also drive prices down in the long term and close the gap between low carbon and conventional liquid fuels. By breaking down these cost barriers, operators could more easily transition to low carbon liquid fuels across all operations where possible.

➤ **Competitive grant incentives & subsidies**

Australia is at a competitive disadvantage compared to other international jurisdictions that already have subsidies and grants for investment in and manufacturing of low carbon liquid fuels. Production incentive grants and mechanisms like contracts for difference (CFD) grants are effective methods to drive supply and potentially lower costs. These measures will be key to getting the industry up and running, and without these levers Australia risks falling behind other jurisdictions.

Recommendation: Introduce short-term and medium-term government subsidies to help create demand for the establishment of a low carbon fuel industry.

➤ **Fuel Security**

Australia currently relies heavily on overseas markets for fuel, with domestic refineries slowly being phased out. Australia currently only has enough petrol for 18 days of supply, 22 days for diesel and 23 days for traditional jet fuel, well below the 90 days of net oil imports we should hold under International Energy Agency rules. This leaves supply chains particularly vulnerable to risk factors, such as global health crises, geopolitical tensions and economic pressures. Australia should harness the opportunity that a domestic biofuel industry would offer, not only for emissions reduction but to enhance fuel security and sovereignty³¹. Greater fuel security would also deliver economic benefits for Australians, through more affordable fuel prices and the creation of local jobs. Any policies introduced to support low carbon liquid fuels should align with a broader strategic approach to increase domestic fuel security and promote diversified domestic fuel production.

³¹ [Bioenergy Australia, 'Bioenergy Australia Submission - Electricity and Energy Sector Plan' \(2024\)](#)

Recommendation:

Ensure reforms to increase domestic supply and diversify fuel production in Australia prioritise enhanced fuel security, reducing Australia's exposure to external disruptions

Conclusion

TTF appreciates this opportunity to respond to the consultation exploring opportunities for a renewable fuel industry in NSW. As our research shows, TTF are eager to support all industry efforts to bolster the production and uptake of Sustainable Aviation Fuel and Marine Biofuels. TTF further looks forward to continuing to work with the NSW Government as policies are further developed. Please reach out to TTF's Head of Strategy and Public Affairs, Mitch Coveney on mcoveney@ttf.org.au, if you have any questions or would like any additional information.

Yours sincerely,

A handwritten signature in blue ink, appearing to read 'M Osmond', enclosed in a thin blue rectangular border.

Margy Osmond
Chief Executive
Tourism & Transport Forum