



**Australasian
Railway
Association**

SUBMISSION

LOW CARBON LIQUID FUELS CONSULTATION PAPER

Australasian Railway Association

ABN: 64 217 489

www.ara.net.au

ABOUT THE ARA

The ARA is the peak body for the rail sector in Australia and New Zealand, and advocates for more than 230 member organisations across the industry.

Our membership covers every aspect of the rail industry, including the:

- passenger and freight operators that keep essential rail services moving;
- track owners, managers, and contractors that deliver a safe and efficient rail infrastructure network; and
- suppliers, manufacturers, and consultants that drive innovation, productivity, and efficiency in the rail industry.

Our members are driven to support vibrant, sustainable and connected communities through greater use of rail across Australia and New Zealand. We bring together industry and government to help achieve this ambition.

Our advocacy is informed by an extensive research program to ensure we offer solutions that are grounded in evidence and focused on delivering tangible value in our daily lives.

We believe the rail industry has a crucial role to play in Australia's journey towards net zero, and we know that the industry offers meaningful and rewarding careers for thousands of people in both cities and regional areas.

Our significant program of work is focused on supporting a strong advocacy agenda, and creating opportunities for the rail industry to network, collaborate and share information, and maximise the benefits we have to offer the wider community.

OVERVIEW

The ARA welcomes the Government's recognition of the need for effective policy to support the development of the low carbon liquid fuel (LCLF) industry.

The rail industry will be a crucial part of our decarbonised future. Rail freight generates 16 times less carbon pollution than road freight, while passenger rail generates 30 per cent less carbon pollution than road travel. It will be essential that rail plays a growing role in meeting economic and community needs as we move towards a net zero future.

Traction power makes up about 90 per cent of rail's operational emissions (scope 1 and 2). While metropolitan passenger rail services are generally powered by electricity, regional passenger, freight and heavy haul services have traditionally been powered by diesel. There are a range of trials underway to transition from diesel to alternative technologies, with a focus on LCLFs (including renewable diesel and HVO), battery electric and hydrogen solutions. Additional interim solutions such as bi-mode technologies are being explored. With these technologies still emerging, it is clear that a phased transition to new solutions will be required for the industry, and LCLFs will be an essential part of that mix.

The ARA developed a *Rollingstock Decarbonisation Critical Path* to confirm the pathways to net zero for rail operations in 2024. The report found that about half of Australia's existing rollingstock are expected to be replaced in the next eight to 13 years, based on an average lifecycle of 25-30 years. This represents a key procurement window to adopt new technologies such as hydrogen or battery electric. However, more work is required to confirm the availability and best use of different low and zero emissions technologies within the Australian context before the industry reaches this period.

It is anticipated that LCLFs will be a crucial part of fuelling the rail industry. It is expected LCLFs will be particularly important in the short to medium term as alternative technologies are further developed and existing rollingstock remain in operations. Given the lifecycle of rollingstock and the current maturity of alternative technologies, it is expected that some diesel-powered rollingstock will remain in operation beyond 2050. LCLFs will therefore be an essential part of the rail industry's decarbonisation over several decades.

THE LCLF OPPORTUNITY

The ARA notes the significant opportunity that exists for Australia to be a major producer of LCLFs. However, the domestic biofuels market has significantly serviced industries from which fuels are produced (ie biofuels made using sugar cane are used by the sugar cane industry) and renewable diesel production is still limited. Policy support will be required to build scale and reduce the country's current reliance on imported LCLFs.

When developing its strategies for the LCLF industry in Australia, the Government should work in collaboration with sectors including transport to further forecast future demand. The ARA notes the Government has identified the need to achieve efficient scales of production for LCLFs to ensure fuel security and reliability. This was reinforced in the *Journey to Net Zero – Inspiring Action in the Transport Sector*, which identified the need for early research and development and infrastructure investment to ensure the adoption of new technologies including LCLFs as part of the sector's transition to net zero. LCLFs have the advantage of being a 'drop in' solution, meaning existing infrastructure can be used as industries transition away from diesel. This makes LCLF a particularly powerful option in the short to medium term as other technologies are still evolving.

Establishing a strong domestic industry as a priority will support the acceleration of research and development by industry to adopt LCLFs in hard to abate sectors. It will be essential that LCLF supply chains are robust and can support the efficient operation of key transport networks over time. Rail operators have identified current, limited supply chains as a barrier to the adoption of LCLFs, impacting the cost and certainty of supply for the industry. A focus on measures that scales up production, and ensures supply for essential services such as transport, is therefore a priority.

Consolidated and detailed data on current fuel use, and the expected uptake of LCLFs compared to other low and zero emissions technologies, is not yet available for the rail industry. There are currently about 2600 diesel-powered rollingstock in operation in Australia, with an average age of 14 years. However, more detailed data on their use and replacement plans as new technologies evolve is needed to better forecast demand for LCLFs to support the industry's emissions reduction.

The ARA recommends that further modelling on current rollingstock operations, and future demand for alternative fuels and technologies, be developed as part of the transport and infrastructure net zero roadmap and action plan to provide a more detailed understanding of industry's future requirements and provide greater certainty for those investing in LCLF production. In the meantime, consideration when developing the LCLF market should be given to ensuring appropriate allocation for the transport sector, including rail, as an essential service supporting efficient national supply chains.

GOVERNMENT ACTIONS

The ARA recognises the value of adopting both supply and demand side policy settings to support the development of the LCLF industry.

Renewable fuel standards that require a proportion of fuel to be produced from renewable sources would support greater demand for LCLFs. This, coupled with production incentives would support the development of the domestic LCLF industry.

Safeguard Mechanism reforms provide an opportunity to offset the increased costs of LCLFs. Currently, rail operators that move to LCLFs will need to incur the additional costs associated with the transition away from diesel, while also being required to purchase ACCUs to meet their obligations under the Safeguard Mechanism. This effectively results in a 'double cost' to their operations, constraining the extent to which they can invest in LCLFs and other low and zero emissions technologies to reduce emissions. It is expected this double cost would slow the adoption of alternative fuels and new technologies to support emissions reductions, in contrast to the Government's focus on maximising emissions reductions as part of the development of its sector plans.

It is recommended that Safeguard Mechanism reforms allow operators to forgo the purchase of ACCUs if they can demonstrate commensurate costs are being invested in LCLFs or other emissions reduction strategies. This would allow operators to focus their investment on tangible measures to reduce emissions and fast track the adoption of LCLFs and other technologies.

The ARA also notes the potential to address the cost gap between diesel and LCLFs through contract for difference schemes and public finance incentives. These measures should be considered in conjunction with Safeguard Mechanism reforms.

Recommendation: Complete a rollingstock inventory to provide better visibility on diesel-powered rollingstock in use in Australia, as well as modelling for potential future demand for alternative energy sources and LCLFs, to set a baseline for the rail industry to measure progress against

Recommendation: Safeguard Mechanism reforms allow rail organisations to offset their obligations to purchase ACCUs by demonstrating the adoption of low carbon liquid fuels to support their operations

Fuel prioritisation

The prioritisation of fuel for individual sectors should consider a range of factors, including available alternatives and the potential emissions reductions that can be supported by LCLFs.

While alternative low and zero emissions technologies are expected to be available to the rail industry in the long term, these technologies are not yet proven or commercially available in Australia. Given the long lifecycle of rollingstock, the transition to new technologies when they do become available is expected to be a decades-long transition. Prioritisation of LCLFs for the rail industry, as a key part of the transport sector, is therefore essential to maximise emissions reductions, both in the lead up to and beyond 2050.

Greater mode shift to rail also presents significant opportunities for emissions reductions across multiple modes of transport. This, coupled with the adoption of LCLFs and other technologies, will help maximise emissions reductions for the transport sector as a whole. This wider benefit of LCLF adoption by the rail industry should be considered in the context of fuel prioritisation strategies.

Recommendation: That the development of low carbon liquid fuels supply in Australia include an allocation for transport, including rail, that gives consideration to available alternative

technologies, replacement timeframes for existing technologies, and emissions reduction benefits that can be derived from LCLF adoption in conjunction with mode shift

ELIGIBILITY

The ARA supports transparency in the adoption of LCLFs to track industry progress and inform future planning. Improved data on existing operations and modelling on future demand will assist government and industry efforts to track progress over time. The ARA also supports the adoption of a Guarantee of Origin scheme to support this transparency and greater visibility of the LCLF supply chain over time.