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By email: lclfconsultation@infrastructure.gov.au

Submission: Future Made in Australia Low Carbon Liquid Fuels Consultation

The Australian Sugar Milling Council (ASMC) welcomes the opportunity to provide a submission to the Future Made in Australia Low Carbon Liquid Fuels Consultation (LCFC). The sugar manufacturing sector can be a critical link in the LCFC supply chain, providing a cost-effective domestic biofuels capability that will also contribute to Australia's energy security and the economic wellbeing of regional communities. To ensure this capability is established, more government and market resources and focus needs to be directed towards ensuring the availability of LCLF feedstocks, and leveraging existing biofuels pathways, such as ethanol, particularly in forming nascent LCLF markets.

About the Australian Sugar Milling Council

The ASMC is the peak industry body for the Australian sugar manufacturing sector – with the sugar industry contributing $4.4 billion p.a. to the Australian economy and supporting more than 20,000 jobs. The ASMC works with members, industry stakeholders and government to develop and promote policies that enhance the sustainability, viability and economic contribution of the sugar industry in Australia.

Summary of recommendations

To capture the opportunities in LCLF, the ASMC makes the following recommendations:

- **Production incentives:** The ASMC favours production incentives that provide greater production and price certainty for LCLFs. In addition, the ASMC seeks the expansion of grant funding to go beyond investments in novel technologies and innovation, and provide grants for feasibility and prefeasibility of solutions that promote the large-scale utilisation of existing technological pathways and to overcome supply chain challenges relating to the sourcing, storage and transport of feedstock.
- **Demand-side incentives**: Any demand side incentives must spur the establishment of long-term offtake agreements that would enable the largescale investments required in this supply chain. With respect to mandates, any mandate must have explicit local content provisions to spur domestic production and capabilities.
- **A national feedstock strategy**: The ASMC recommends the establishment of an industry-government working group to develop a national feedstock strategy that will ensure the availability of feedstock for the highest value economic activity, favourable land-use planning provisions, investment in required transport and logistics infrastructure, and a more granular mapping of what the biofuel supply chain would look like.

The low carbon liquid fuels opportunity

Until the commercial viability of synthetic biofuels at scale becomes a reality, the medium-term opportunity for low carbon liquid fuels are limited by the availability feedstock in Australia. According to the Government's Transport and Infrastructure Net Zero Roadmap consultations estimates, there is enough feedstock in Australia to produce up to 60% of Australia's current jet fuel demand, worth about $10 billion p.a.

Sugar can be part of this solution. The immediate opportunity is for pathways, such as alcohol to jet fuel, that can use molasses or cane juice for the creation of ethanol, and the conversion of ethanol into biofuels such as SAF. Leveraging existing production and technologies will allow the markets to form for LCLFs at the same time as reducing the risk for those investing in this supply chain.

According to BP, biofuels derived from sugar are one of the most efficient methods to produce biofuels[i]. Unlike other methods and feedstocks, our sector already produces biofuels and the technologies and processes underpinning them have been proven. The challenge here is not necessarily a technological one, it is the challenge of producing LCLFs viably at a scale that is commensurate to the forecast demand.

The alcohol to jet fuel pathway is encumbered by the cost differential between it and traditional fossil fuels, and without some sort of government incentive or mandate, we cannot see long-term offtake agreements being entered into that would enable large-scale investment in LCLF supply chains.

Medium-term opportunities can utilise sugar by-products, such as bagasse, and convert these into biofuels. Analysis undertaken by the ASMC, suggests the sugar manufacturing sector can produce up to 8% of domestic SAF needs through the use of byproducts from the production of sugar, including bagasse. Again, the clear challenge is spurring the investments in these supply chains, particularly noting that the cost differential between biomass derived LCLFs and fossil fuels is greater than that of alcohol to jet fuel pathways.

The economic and jobs benefits from LCLF produced within the sugar supply chain will be felt in regional communities across the entire Queensland coast, and in the same regional communities that will be negatively impacted by the decline of the resources sector as a result of the net-zero transition.

A LCLF within the sugar supply chain would be a boon for the Australian economy and would provide significant diversification opportunities for sugar manufacturing and provide a hedge against volatile global sugar markets.

Similarly, integrating the production of LCLF into the sugar supply chain will reduce the overall cost of production, noting that the sugar milling process is essential to the production of biofuels from cane, saving billions of dollars in supply chain and processing infrastructure.

However, noting the low value by volume of biofuels feedstocks, such as bagasse, much of this available feedstock will not be available or viable for the use in biofuels, particularly those feedstocks that are physically distant from biofuels production processes. As such, the risk of feedstock being exported for the production of biofuels overseas may be exaggerated outside of opportunities in things like oilseeds.

Conversely, governments and markets have not placed enough value on feedstock, sometimes incorrectly suggesting that they are ‘agricultural waste’. This conception is likely to create policy and market missteps, where feedstock earmarked for biofuels will be locked into more commercially viable production processes. As an example, sugar byproducts can be used for a myriad of alternative activities including the production of renewable electricity, fertilisers, molasses for supplemental feeding of livestock, and of course refined sugar. The LCLF supply chain must provide an investment opportunity, risk profile and returns that would put providers of feedstock in a comparable or superior position to alternative supply chains.

Production incentives

The consultation paper seeks to understand what the best options will be for production incentives including tax incentives, contract for difference or grant based funding. The ASMC suggests a one-size-fits-all approach will not optimise the cost-effective establishment of a LCLF market in Australia, and bespoke approaches are required within each LCLF supply chain and within each process

within supply chains. The ASMC's focus is on the supply of LCLF feedstocks that can be derived from sugar production.

Any production incentives need to change the calculations of the viability of investing in LCLF as compared to alternate production processes that use the same feedstock – for our sector this includes using sugarcane for the production of raw sugar and the cogeneration of renewable electricity. Sugar manufacturers have significant experience with cogeneration technologies and considerable nous in harnessing cogeneration to capture electricity market opportunities. By contrast, markets for LCLF have yet to be established, and the technologies and supply chains for some LCLFs have not been proven at scale. Any production incentive needs to address the comparative risk-reward proposition of LCLFs as compared to alternative production processes.

To this end, we strongly believe that more consideration and support should be given to the role of existing supply chains, such as the production of ethanol and its conversion to other LCLFs, reducing the technological risks facing investors.

The major challenge for the market is establishing long-term offtake agreements for biofuels when there is a large cost differential between biofuels and fossil fuels. The ASMC supports various incentive schemes put forward in the consultation paper, including contract for difference, and the use of tax incentives and the Guarantee of Origin scheme. Any incentive that provides revenue certainty would be preferable, noting the large capital investments required to establish LCLF production processes, derisking those investments.

While the consultation paper seeks to understand how long LCLFs will require production incentives, more consideration should be given for the small window where production incentives will be effective. Feedstock providers are likely to make significant capital investments in long-lived assets that will determine how their feedstocks are used (for example electricity cogeneration), locking out other uses and supply chains. This suggests that the window for the establishment of a viable domestic biofuels industry closes with each of these investments, making this opportunity very much time bound.

Supporting a range of fuels in the Australian market

The Government's best chance to secure a domestic capability for a range of LCLFs is to secure the underpinning feedstocks that will go into the production of these fuels. Until synthetic biofuels become viable, the opportunities and limitations of LCLF will be dictated by the availability of feedstock.

The feedstock challenge cannot be underestimated. The physical location of the LCLF supply chain will determine the cost of production and the emissions reduction potential of such fuels. Most identified biofuels feedstocks are low value by weight and low weight by volume. As such, the transportation of these feedstocks will not only disproportionately add to the cost of the final product but increase the emissions profile of the LCLF.

Australia needs a national feedstock strategy to ensure that feedstock is used for its highest economic value, that food security and fuel security are co-optimised, that land-use planning provisions maximise the availability of feedstock, that enabling freight and logistics infrastructure is available to support LCLF production, and that the physical location of the LCLF maximises returns for those involved in the production of LCLFs, including feedstock providers. As a first step, an industry-government working group must be established to scope the LCLF feedstock challenge and progress the strategy.

Any feedstock strategy must be underpinned by greater funding for feasibility and prefeasibility work on supply chain solutions for the delivery of cost-effective feedstock, including the transport and storage of feedstock, the role of existing biofuels processes (such as ethanol) and the location of

various production processes for biofuels. The LCLF agenda has been dominated by promoting technology solutions to establish production, including ARENA funding for novel technologies and innovations. While this type of funding will make a valuable contribution to the establishment of LCLF production, it shouldn't be to the exclusion of government investment in solving LCLF supply chain issues or to the detriment of investments in market forming initiatives.

We commend the Queensland Government's $4m Bioenergy Fund that provides grant funding for prefeasibility and feasibility studies for any activity up and down the bioenergy supply chain, providing some limited funding to progress issues relating to feedstocks. Significantly more funding is required noting the size of the challenge, with Federal Government having a role to play in providing resources beyond those that promote exploration of new technologies and innovation

Demand-side incentives

Demand-side incentives should be targeted in generating demand that will underpin the establishment of long-term offtake agreements. This will ensure that demand will spur investments in supply, creating a viable long-term market.

Incentives, including LCLF mandates, must have local content provisions to spur domestic production and capability. Without local content provisions there is a risk that considerable government investment will be made to subsidise the development of a LCLF import supply chain, essentially leveraging taxpayer funding to subsidise importers.

This would be a perverse outcome for an initiative that purports to create domestic economic capabilities and jobs and build on Australia's comparative advantage.

A Renewable Energy Target for biofuels with targets backed by tradeable certificates is another viable option.

The contact for this matter is Ash Salardini, CEO of the Australian Sugar Milling Council, email: ash.salardini@asmc.com.au or phone: 0490785390.

Yours sincerely

Ash Salardini
CEO
Australian Sugar Milling Council

[i] https://www.bp.com/en/global/corporate/news-and-insights/reimagining-energy/in-photos-bp-biofuels-day-in-the-life-brazil.html