

IChemE Response to Consultation: Securing Australia's Cleaner Fuels Industry

The Institution of Chemical Engineers (IChemE) appreciates the opportunity to respond to the consultation from the Australian Department of Climate Change Energy, the Environment and Water on Securing Australia's Cleaner Fuels Industry.

IChemE are a qualifying body and learned society for chemical, biochemical, and process engineers in the United Kingdom (UK) and worldwide, with over 30,000 members. Our mission is to champion the vital role that chemical engineering plays in engineering a sustainable world.

Operating since 1962, IChemE's Australian branch represents chemical, process, and bioprocess engineering professionals residing in Australia. The branch is supported by an Australian Board comprising elected members representing the various states and industry sectors in which our members work and support, including conventional refining, low-carbon and alternative fuels, and the petrochemical industries.

Response to consultation questions:

1.	What is your view on "Section 1 - Why action is needed"
	<p>We support Securing Australia's Cleaner Fuels Industry and policy actions to establish and provide long term support for a cleaner fuels industry in Australia alongside conventional liquid fuels industries. Australia will remain dependent on traditional hydrocarbon based liquid fuels for some time and a balance of these fuel types is necessary to ensure Australia is resilient to disruptions to either fuel type.</p> <p>A long-term vision to achieve transport energy independence should be developed and actioned for Australia. Supporting low-carbon liquid fuel (LCLF) production at scale and demand at scale will drive down the cost of LCLF for the end user.</p> <p>We foresee a couple of ways in which Australia could build its liquid fuel production capacity.</p> <ul style="list-style-type: none"> ▪ Sequestering materials from landfill. Landfills are a slow, insidious form of environmental pollution, with emissions and leachate continuing for six generations or more after a material is landfilled. The priority should be reuse and recycling to reduce materials sent to landfill. Where reuse and recycling is not possible, the remaining residues used to produce liquid fuels (e.g. gasification to syngas to fuel). Co-ordinated efforts by councils (routinely have operational control of most waste tonnages), state (impost of state level levies) and federal government (core capital support) could facilitate this to work at scale.

	<ul style="list-style-type: none"> ▪ Cooperation at industrial clusters. Precincts where industries can work together on traditional crude refining, innovative waste to liquids and common infrastructure (water, supply chains, power (e.g. a central waste to power plant), H2, etc).
2.	What is your view on Section 2 “What we heard and learned”
	<p>We support a long-term policy approach for clean fuel technology that provides market stability and direction for the LCLF industry, allowing for operational flexibility, innovation and evolution as the markets develop.</p> <p>We also advocate for policy approaches that are cost-effective, add value to feedstocks before export, minimise compliance costs, and maintain safe and environmentally sound operations.</p> <p>However, we note the cost-benefit analysis that underpins this work assumes imported LCLF supply is effectively unlimited and this assumption understates fuel-security risk. Imported cleaner fuels are subject to the same global market as fossil fuels, and international demand for LCLF is rising. Feedstock availability, conversion efficiency, and supply-chain readiness are treated as secondary. In practice these determine achievable production and should be modelled as primary constraints.</p>
3.	What is your view on Section 3 “Conceptual framework for consultation”
	<p>[Impacts on key sectors and communities (page 41)] We support a Conceptual Framework that enables Australian LCLF industry development, delivers improved fuel security while complementing the existing liquid fuel markets, provides economic opportunity locally, and improves emission reductions.</p> <p>[Targeted feedback and evidence (page 43)] We support phased LCLF policies that help establish new markets, adapt as they mature, and provide long-term certainty for at least 30 years.</p> <p>Specific comments are below:</p> <ul style="list-style-type: none"> ▪ Targets: Long-term offtake certainty through a secured minimum offtake for defined fuels is preferred. ▪ Technology neutrality: The framework should assess fuels on verified lifecycle performance and supply-resilience, not pathway. Eligible pathways should expressly include waste-to-syngas-to-liquids, advanced biofuels, alcohol-to-jet, Fischer-Tropsch, refinery co-processing and power-to-liquids ▪ Domestic production: The framework, as drafted, creates demand but not domestic capability. It should be paired with feedstock contracting, larger scale industrial precincts and shared infrastructure so that demand translates into onshore production rather than increased imports. <p>[Future fuel coverage (page 44)] We support an LCLF policy that reflects the distinct market requirements and production constraints of each fuel type, including aviation fuel.</p>

	<p>[Support for local production (page 57)] IChemE supports policies that promote a domestic market for locally produced LCLFs rather than relying on imports. Locally controlled production assets reduce supply risk, strengthen national fuel resilience, and create incentives to process feedstocks in Australia. In this context, “local” means national.</p> <p>[Complementary policy measures (page 57)] IChemE supports policies that promote a domestic market for locally produced LCLFs to enable secondary or downstream benefits for community, markets and the workforce from such facilities being local (national). See broader benefits in Section 4. below.</p>
4.	What is your view on Section 4 “Implementation and evaluation”
	<p>We support holistic, whole-of-market policy frameworks and guiding principles that are balanced and equitable for all stakeholders. Implementation should address the entire production system, not only the final fuel obligation, and should include the following elements:</p> <ul style="list-style-type: none"> ▪ Enabling infrastructure: Cleaner-fuel production requires feedstock aggregation and pretreatment, hydrogen, low-emissions power, CO₂, water, storage and logistics. We support industrial precincts that share these services, reducing unit costs and project risks while helping to build, catalysing the ecosystem needed to produce LCLFs more efficiently. ▪ Approvals and land: Environmental and development approvals are known barriers to LCLF projects. Coordinated approval pathways, combined with a long-term industrial precinct strategy, can greatly improve a project’s likelihood of success. ▪ Monitoring and evaluation: We support a robust monitoring and evaluation regime to enable government policy to adapt to changing market conditions. In particular we would recommend the incorporation of review triggers such as under-delivery of domestic production, feedstock or technology concentration (and/or dependency risk), persistence reliance on imported feedstock. ▪ Minimum offtake: More important than a mandate is a secured minimum offtake for specific fuels from specific plants. There are a range of mechanisms to support long term offtakes. ▪ Broader impacts. Policy evaluation should recognise broader benefits beyond emissions reduction, low-carbon fuel uptake and compliance. These include reduced landfill and leachate, productive use of arid land, stronger regional markets and employment, and safer, better-managed facilities.
5.	What is your view on Appendix B “Stakeholder consultation and feedback”
	<p>We have noted that engagement has been weighted toward fuel suppliers, end-users and financiers. We advocate utilising Australia’s process and production engineering expertise (which determines what is technically and safely achievable at scale) should be represented in ongoing technical working groups.</p> <p>IChemE is available to contribute and provide such representation.</p>

6.	What is your view on Appendix C “Cost benefit analysis model and key assumptions”
	No comment.
7.	What is your view on Appendix D “Extended discussion on targets”
	No comment.