First Name	Alexander
Last Name	Stathakis
Organisation Name	Conversio Pty Ltd
Position	Managing Director
Short Comment	
Question 1.1: Which LCLF should be eligible under the program and why?	Sustainable aviation fuel and renewable diesel should both be eligible under the program, but sustainable aviation fuel should be prioritised because the aviation sector has the fewest viable decarbonisation options. For heavy vehicles and road freight operations, multiple technological pathways already exist or are emerging. These include battery electric trucks, hydrogen fuel cell trucks, and the use of renewable diesel which can often be used with minimal or no upgrades to existing engines. The infrastructure requirements for road transport decarbonisation are incremental, and many fleet operators are already transitioning to these alternatives. This means that low carbon liquid fuel is one of several options for trucks, not the only option. Aviation is fundamentally different. There are no scalable alternatives to liquid hydrocarbon aviation fuels for medium and long-haul flights. Battery electric aircraft and hydrogen powered aircraft would require entirely new aircraft designs, entirely new propulsion systems, new aviation certification frameworks, and major changes to airport storage, handling, and refuelling infrastructure. These alternatives are technically and economically distant. As a result, sustainable aviation fuel is the only near-term, fully compatible, drop-in fuel that can be used in existing aircraft and existing airport fuel systems. Because the aviation sector has no immediate practical substitute for liquid fuel, sustainable aviation fuel provides a significantly higher decarbonisation benefit per litre than low carbon fuels used in sectors where other alternatives exist. The program should therefore allow all low carbon liquid fuels to be eligible, but it should prioritise sustainable aviation fuel, where the dependence on liquid fuel is unavoidable and where decarbonisation options are the most limited.
Question 1.2: Should certain types of LCLF be prioritised over others?	Yes. Certain types of low carbon liquid fuels should be prioritised based on the level of dependence each sector has on liquid fuels and the availability of realistic alternative decarbonisation pathways. Priority should be given to fuels that support sectors where liquid fuels are essential and where other options are technically or economically unviable.
Question 1.2a: Should LCLF suitable for particular particular sectors or uses be prioritised? For example, should sustainable aviation fuel be prioritised over renewable diesel?	Yes. Low carbon liquid fuels for the aviation sector should be prioritised because aviation has no scalable alternative to liquid hydrocarbon fuel. Sustainable aviation fuel is the only near-term option that works with existing aircraft and existing airport refuelling systems. Other sectors, such as road transport, have multiple decarbonisation pathways available, including battery electric vehicles and hydrogen powered vehicles. Aviation does not. This makes sustainable aviation fuel the highest priority low carbon liquid fuel for government support.
Question 1.2b: Should LCLF for certain sectors or uses be de-prioritised due to other viable decarbonisation pathways?	Yes. Where credible alternatives exist, such as electrification or hydrogen powered vehicles in the road transport sector, low carbon liquid fuels should be a lower priority. These sectors already have commercially available or rapidly emerging options that do not rely on liquid fuels. Support should therefore be concentrated in areas where liquid fuels remain essential and unavoidable.

Question 1.2c: What market impacts are anticipated by influencing prioritisation of particular fuel types?	Prioritising certain low carbon liquid fuels, especially sustainable aviation fuel, would create clearer market signals, reduce fragmentation, and support the development of a genuinely scalable domestic industry. Without prioritisation, funding is likely to be dispersed across multiple smaller projects that focus on technologies or sectors with other viable decarbonisation options. This can produce high levels of activity but very limited commercial output. By focusing on sustainable aviation fuel, government support will be directed toward the area of the economy that is structurally dependent on liquid fuels and where alternative pathways are not credible in the foreseeable future. Prioritisation will also reduce competition for feedstocks by directing them toward the fuel type that delivers the highest system-wide abatement value. A fuel-neutral approach risks setting different fuel uses against each other, creating uncertainty for investors and undermining long-term planning for feedstock aggregation, logistics, and regional development. A clear priority framework helps ensure that the limited supply of suitable feedstocks is used where it delivers the greatest benefit. Market clarity also improves investment confidence. A defined focus on sustainable aviation fuel will encourage financial institutions, producers, and airlines to enter long-term offtake discussions because the policy intent is unambiguous. This supports final investment decisions, stabilises pricing expectations, and reduces the likelihood that investors will hesitate due to uncertainty about future policy direction. Prioritisation is also likely to accelerate the development of shared infrastructure, including refining capacity, storage, blending, and airport-side fuel systems. Concentrating effort in one area increases the odds of achieving scale and lowering unit costs over time, rather than spreading effort thinly across multiple competing technologies that do not individually reach commercial maturity. Finally, prioritisation supports a stronger alignment with international aviation markets, where sustainable aviation fuel is emerging as the dominant pathway for compliance with international emissions goals. If Australia does not concentrate its efforts, it risks developing an industry that is too small, too fragmented, and too slow to participate meaningfully in global supply chains. Overall, prioritisation will increase efficiency, reduce market uncertainty, support scale, and ensure that public funding flows to the areas where it delivers the greatest decarbonisation benefit.
Question 2.1: Should the production credit be a fixed amount per litre of production, or a variable amount that depends on the market price of LCLF?	A fixed amount per litre is the preferred option. A fixed credit provides clarity, predictability, and investment certainty. Developers, financiers, and airlines require stable long-term visibility of revenue and cost structures. A variable mechanism tied to market prices adds unnecessary complexity and volatility, particularly in a market that is still immature and where reliable international reference prices do not exist. A fixed credit is far easier to model, far easier to finance, and far more effective at accelerating final investment decisions for large-scale production facilities.
Question 2.1a: Are there any potential benefits, risks or constraints considering the two different production credit options below?	A fixed production credit provides a much clearer and more stable basis for investment because it gives producers and financiers predictable revenue for every litre of LCLF produced. This stability is essential for securing project finance for large, capital-intensive fuel facilities. Investors need to model long-term cash flows with confidence, and a fixed credit allows them to do so without the uncertainty of fluctuating price support. A Contract for Difference mechanism may appear flexible in theory, but in practice it introduces a high degree of volatility. There is currently no transparent, widely accepted international price for LCLF, which makes setting an accurate strike price extremely difficult. This risks either under-supporting projects if the strike price is set too low, or creating unnecessary administrative and financial burden if the mechanism is calibrated incorrectly. A Contract for Difference mechanism also creates the possibility that producers may need to repay support if market prices rise above the strike price, which adds contingent liabilities and undermines bankability. For a new industry that is still establishing its supply chains, production pathways, and cost structures, this uncertainty is likely to deter investment. A fixed credit is simpler, more transparent, and reduces transaction costs for both industry and government. It allows project developers to negotiate long-term offtake agreements on a known cost basis and supports a much clearer pathway to final investment decision. In contrast, a variable mechanism tied to poorly defined international pricing may shift risk back onto producers at the exact moment when policy needs to provide confidence. For these reasons, fixed production support is significantly more effective and less risky for both investors and government.

Question 2.1b: What outcomes do you think can be delivered with the available funding?	With the available funding, the most meaningful outcome is the development of a small number of large, commercially viable facilities that can produce LCLF at a scale that materially supports the aviation sector and other sectors that rely on liquid fuels. The funding envelope is not large enough to support many projects to commercial maturity, and spreading it thinly across numerous small or pilot-scale initiatives would dilute its impact. The program should therefore aim to enable at least two major sustainable aviation fuel production facilities, and potentially a single renewable diesel facility, that can each deliver significant annual volumes and operate as part of the national fuel supply system. Focused investment will support the establishment of shared infrastructure, feedstock aggregation, long-term offtake arrangements, and the development of a skilled workforce. It will also help to anchor early commercial production within Australia, rather than creating a landscape of small projects that demonstrate potential but do not result in sustained supply. With appropriately targeted support, the available funding can catalyse real industrial capability and ensure that Australia moves beyond the concept and pilot phase that has historically limited progress in new fuel technologies. If the funding is used in a concentrated and strategic way, the program can deliver not only actual litres of LCLF but also confidence for future investment, stronger regional economic development, and a foundation for long-term cost reductions through scale.
Question 2.1c: What type of mechanism provides the greatest investment certainty or level of bankability to projects?	A fixed production credit provides the greatest level of investment certainty and bankability because it creates a stable and predictable revenue stream for every litre of LCLF produced. Large production facilities require significant capital investment and long-term financing, and both equity and debt providers need a high level of confidence about future cash flows. A fixed credit allows project developers to model their financial position accurately, negotiate long-term offtake agreements on known terms, and present a consistent revenue profile to lenders. This reduces perceived risk and supports more favourable financing conditions, which are essential in establishing a new domestic industry. A variable mechanism tied to international LCLF prices does not provide the same level of certainty. International markets for LCLF are immature, pricing is inconsistent, and transparent benchmarks are not well established. Linking project revenue to a price that does not yet exist in a stable or predictable form creates unnecessary uncertainty. The risk that producers may need to repay funds to government if prices exceed a strike price further undermines confidence and adds contingent liabilities, which lenders are generally unwilling to accept in early-stage industries. This makes the mechanism far less bankable. Given the early state of the market and the need to build large-scale, commercially mature facilities, the most effective way to support investment is to provide a fixed production credit that delivers long-term clarity and reduces exposure to volatility. Stability, simplicity, and predictability are crucial for final investment decisions, and a fixed mechanism is the only option that satisfies these requirements.
Question 2.1d: How can this support be structured to prevent substantial upside to producers?	Support can be structured to prevent substantial upside to producers while still providing the stability required to enable large-scale investment. The most effective approach is to place clear and transparent caps on both the total amount of support available to an individual project and the maximum credit payable per litre of LCLF. These caps ensure that even if market conditions shift or production costs fall faster than expected, producers do not receive excessive benefit beyond what is necessary to make the project commercially viable. Support should only be paid for verified litres of LCLF that meet the program's sustainability and carbon performance requirements. This ensures that payments are tied to genuine production outcomes rather than projected volumes or estimated performance. By linking support to actual delivered volumes, the program maintains fairness, avoids overcompensation, and ensures that public funds directly incentivise real fuel entering the market. Periodic program reviews can help maintain alignment between production costs, market conditions, and incentive levels, but these reviews should occur infrequently and with adequate notice. Frequent adjustment of credit values would undermine the certainty required for investment and create risk rather than mitigate it. The objective should be to ensure that producers receive no windfall gains, while still retaining a stable and predictable incentive that supports final investment decisions and long-term operations. This balance can be achieved through straightforward policy design: capped support, payment for real verified volumes, and review mechanisms that protect public value without introducing instability.

Question 2.1e: How do you consider pricing for LCLF will be set over the short-medium term and longer term? Will pricing be matched to a premium on equivalent fossil fuel or price of imported LCLF or be on a carbon abatement basis?	In the short to medium term, the price of LCLF will remain substantially higher than the price of conventional fossil fuels. This is driven by higher capital costs, the early stage of technology deployment, limited supply chains, and competition for suitable feedstocks. Because the global market for LCLF is still emerging, pricing will not be set by a single international benchmark. Instead, pricing will be influenced by the cost of domestic production in Australia, the willingness of airlines and other users to enter long-term offtake agreements, and the extent to which policy incentives close the gap between low carbon fuels and fossil fuels. Imported LCLF will not necessarily set the domestic price, because Australia is geographically distant from major production hubs and international demand pressures are increasing. Transport costs, supply constraints, and competition from markets with mandated uptake will likely make imported LCLF expensive and difficult to secure in consistent volumes. For these reasons, domestic production costs will remain the most important driver of price formation for the foreseeable future. Over the longer term, prices may gradually decline as facilities reach larger scale, technologies mature, feedstock logistics improve, and the industry becomes more efficient. However, even with these improvements, LCLF is unlikely to reach cost parity with fossil fuels without ongoing policy support. Given the structural differences between low carbon production pathways and conventional refining, the long-term price of LCLF will most likely remain a premium product, with the premium partially offset through production incentives, mandates, or other policy mechanisms. Pricing for LCLF will be determined by domestic production costs in the near term, shaped by broader international demand and policy frameworks, and supported by government mechanisms that reduce the green premium and ensure long-term affordability for users such as airlines.
Question 2.2: To deliver the policy intent of the Program while maximising the value for taxpayers, do you agree that projects with the lowest cost should be prioritised under the Program, with the cost being measured either as per unit of LCLF produced or as per unit of carbon emissions abated?	I agree that cost should be an important factor in prioritising projects, but it should not be applied in a narrow or purely mechanistic way. Cost per unit of LCLF and cost per unit of carbon emissions abated are both useful metrics, but they need to be considered alongside other critical factors such as scale, reliability of supply, sustainability performance, and the strategic importance of the sector being served. In particular, a focus on lowest cost per litre alone could favour smaller, less complex projects that do not deliver the volumes required to support sectors that are structurally dependent on liquid fuels, such as aviation. If cost is used as a key criterion, it should be framed as cost per tonne of carbon dioxide equivalent abated across the lifecycle of the fuel, with appropriate safeguards to ensure that projects are delivering meaningful volumes of LCLF into hard to abate sectors. A slightly higher cost project that delivers large scale, reliable supply into the aviation sector may offer greater overall value to taxpayers than a very low cost project that operates at a much smaller scale or in a sector with many alternative decarbonisation options. The program should therefore use cost as a central but not exclusive criterion, and should weigh it against scale, sectoral impact, and long-term strategic benefits.
Question 2.3: Should the production credit be linked to the quantum of LCLF produced, or the carbon emissions saving potential of the fuel?	The production credit should be linked to the volume, or quantum, of LCLF produced, rather than directly to the carbon emissions saving potential of each litre. Linking support to verified litres produced is simple, transparent, and administratively efficient. It reduces the risk of disputes over methodology and avoids creating a complex payment structure that depends on detailed lifecycle modelling for every project. Volume-based support is easier for investors to understand and for government to administer, particularly in the early stages of industry development. Carbon performance should still matter, but it should be addressed through clear eligibility thresholds and sustainability criteria rather than by varying the value of the credit on a per litre basis. For example, only fuels that meet a defined minimum percentage reduction in lifecycle emissions relative to a fossil fuel baseline should qualify for support. This ensures that public funds are directed to genuinely low carbon fuels, while keeping the incentive mechanism itself straightforward and predictable. Using carbon intensity for eligibility and volume for payment strikes the right balance between environmental integrity and practical implementation.

Question 2.4: What are your views on the cost to deploy LCLF domestically compared to internationally? Is there a local premium for domestic production?	The cost of deploying LCLF domestically is likely to be higher in the early years due to construction costs, labour costs, feedstock logistics, and the need to establish new supply chains. This is common for any emerging industry. However, this should not automatically translate into a permanent or unjustified "Australian premium". A local premium may be unavoidable at the beginning, but it should not become an accepted or permanent feature of the market, nor should it be seen as something that producers are inherently entitled to. The program asks how to avoid substantial upside for producers, yet at the same time raises the prospect of a built-in premium for domestic production. These two positions cannot sit comfortably together. If policy design is intended to prevent windfall gains, then support should focus on closing genuine cost gaps and enabling large-scale commercialisation, not on endorsing price uplift simply because production occurs in Australia. Domestic LCLF does not have greater value because it is produced locally; it has greater strategic importance because it supports fuel security, industry capability, and emissions reduction in sectors that cannot decarbonise through other means. A more balanced framing is that domestic production may require additional support in the early stages, but this support should be linked to verifiable cost structures and long-term competitiveness rather than a loosely defined premium. Over time, costs should fall as plants scale and supply chains mature. The objective should be to make Australian LCLF cost-competitive and reliable, not to establish a permanent price uplift that consumers, airlines, or freight operators are expected to absorb indefinitely.
Question 2.5: Should the total value of production credits be capped for each project? If yes, what should the capped amount be and why?	Yes, the total value of production credits should be capped for each project, primarily to protect public finances and to ensure that support is distributed in a way that maximises overall program impact. A cap also provides clarity to both government and project proponents about the upper bound of public exposure to any single facility. However, the cap should be set at a level that is high enough to make at least a small number of large, commercially meaningful projects viable. If caps are set too low, they will not provide sufficient comfort to investors and will fail to shift final investment decisions. A practical approach would be to define the cap as a proportion of the total program budget, rather than an arbitrary dollar figure. For example, individual projects might be limited to a defined percentage of the overall funding envelope, allowing two or three major projects to proceed while still preserving some funding for diversity and innovation. The exact percentage should be determined through financial modelling of likely project sizes, costs of production, and the level of support required to close the economic gap. The key point is that caps should prevent windfall gains but still enable a small number of large projects to progress to construction and operation.

Question 2.6: Should production be focused on domestic supply only or should export also be permitted? What impact could restriction have for projects or the market?	Production should be focused primarily on domestic supply, because the strategic purpose of supporting low carbon liquid fuels is to decarbonise sectors that must continue to use liquid fuels within Australia. Export should not be prohibited, as some projects may require a combination of domestic and international offtake to reach financial viability. However, export should not become the primary pathway for Australian-produced fuel, particularly in the early stages of industry development. Export also raises a significant issue that should be considered explicitly: the emissions associated with transporting low carbon liquid fuels to international markets. Moving these fuels using fossil-fuelled marine shipping, especially vessels powered by heavy marine diesel or heavy fuel oil, adds lifecycle emissions that can partially offset the intended climate benefits. In very large, well-optimised volumes the relative impact may be manageable, but for moderate volumes or fragmented export flows, the proportion of logistics emissions may be substantial. This matters even more for Australia, given its distance from major global markets. There is also a policy inconsistency that should be acknowledged. If Australia exports the physical fuel and domestic users are simply encouraged to purchase a Guarantee of Origin certificate to claim the environmental benefit, then the program does not meaningfully support domestic decarbonisation. This approach effectively shifts Australia into a certificate-trading model rather than a fuel-production model. It assumes that domestic users can satisfy their decarbonisation objectives through the purchase of certificates while the actual fuel is shipped offshore. If that is considered an acceptable outcome, then it becomes difficult to justify the significant public investment required to build an Australian production industry in the first place. In that scenario, imported certificates would achieve the same accounting outcome at lower cost, while providing no domestic fuel security, no industry development, and no regional economic benefit. If the intention is to build a real domestic industry that supplies real fuel to Australian sectors that cannot easily decarbonise, then the physical fuel must be available domestically. A balanced and practical approach would be to allow export, but require that a defined proportion of production be made available to Australian users before export occurs. This would ensure that export does not undermine domestic supply, that logistic emissions do not erode climate integrity, and that public funding supports genuine national outcomes rather than primarily serving overseas markets or certificate-based systems.
Question 2.7: Is there a role for combined production support with capital grants for first-of-a-kind facilities?	Yes, there is a role for combined production support and capital grants, but the term “first of a kind” needs to be used carefully. For low carbon liquid fuels such as sustainable aviation fuel and renewable diesel, the objective should not be to prioritise small, unique, highly experimental technologies that are technically “first of a kind.” That approach risks repeating a pattern where Australia funds interesting but small-scale facilities that never progress to commercial maturity. For sustainable aviation fuel in particular, most of the relevant production pathways are already proven internationally. What Australia needs is not novelty, but scale. The real “first of a kind” challenge for Australia is the construction of the country’s first large, commercially viable facilities capable of producing meaningful volumes of LCLF for domestic use. These are first of a kind only in the sense that they are the first large plants to be built in Australia, not because the technology itself is emerging or untested. Combined capital support and production incentives should therefore be directed toward projects that use proven, financeable pathways and that can deliver significant annual volumes, rather than toward niche technologies that deliver only small batches of fuel. Capital grants should help close the gap for major projects that can anchor domestic supply chains, establish long-term feedstock logistics, and integrate into existing transport fuel systems. Supporting a few large, replicable facilities will achieve far greater decarbonisation and economic benefit than funding a scattered collection of small experimental projects. The program should therefore define “first of a kind” in practical commercial terms, and ensure that capital support is targeted at facilities capable of achieving meaningful scale and becoming the foundation of a real domestic industry.

Question 2.8: What other types of funding or concessional finance could support LCLF projects (e.g. funding from CEFC and NRF)?	A wide range of concessional finance mechanisms will be needed to support LCLF projects, including direct involvement from the Clean Energy Finance Corporation, the National Reconstruction Fund, and potentially state-based financing bodies. Concessional debt, loan guarantees, subordinated debt facilities, and equity co-investment can all reduce the cost of capital and help large projects reach financial close. These mechanisms are already commonly used for renewable electricity generation and hydrogen, and they are equally relevant to low carbon liquid fuels because the scale and capital intensity of projects are comparable. Additional support could come from government-backed offtake agreements or price-stabilisation facilities, which would provide further certainty to investors and help producers secure long-term supply contracts. The key requirement is that concessional finance is available at sufficient scale to materially de-risk major projects.
Question 2.9: Is any other support required across the supply chain to enable domestic production of LCLF?	Additional support will be required across the supply chain to enable domestic production of LCLF, because production cannot be scaled without addressing critical upstream and downstream dependencies. Feedstock availability is a central challenge, and support may be needed for feedstock aggregation, logistics, and long-term contracting to ensure reliable supply. Infrastructure for storage, blending, and fuel distribution will also need investment, particularly at airports and major transport hubs, to ensure that the fuel can actually be used where it is needed. Support may also be required for certification, verification, and compliance activities, especially in the early years when producers, airlines, and regulators are still building capability. Skills development, training, and workforce planning will be important, given that the industry requires specialised engineering and operational expertise. Without targeted support across the supply chain, production incentives alone will not be sufficient to create a functioning domestic market. The goal should be an integrated system that ensures reliable production, efficient distribution, and practical uptake at the point of use.

Question 2.10: What lessons can Australia learn from other jurisdictions that have already implemented LCLF production support measures?	One of the most important lessons Australia can draw from other jurisdictions is the decisive role that clear, mandatory demand signals play in enabling investment. Singapore is the strongest example of this. Rather than building a complex system of certificates, fluctuating price signals, or layers of administrative instruments, Singapore introduced a straightforward minimum uplift requirement for sustainable aviation fuel, with a clear ramp-up pathway. This gave airlines certainty, created an immediate domestic market, and provided project developers with confidence that future demand would be stable and predictable. The simplicity of the measure is what makes it effective. It avoids financialisation, removes unnecessary volatility, and directly links policy design to real, physical fuel use. Singapore's approach demonstrates that industry does not need complicated market mechanisms to scale production. It needs certainty. A clear obligation, set at an achievable starting point and increased gradually over time, does more to unlock investment than any certificate trading system. It also ensures that domestic users actually access the physical fuel, rather than relying on abstract paper instruments to claim environmental benefits while real production is diverted offshore. Another lesson is that jurisdictions that have relied too heavily on certificate markets, variable support schemes, or overly complex regulatory frameworks have struggled to generate meaningful volumes of low carbon liquid fuels. Where support mechanisms introduce volatility or speculative pricing, investment slows because the revenue environment becomes unpredictable. This has been observed in several regions where certificate prices have fluctuated or where carbon intensity methodologies have become contentious. Investors respond to stable, long-term policy signals, not rapidly shifting price instruments. In contrast, the United States provides a lesson in the value of long-term, simple, production-based incentives. The production tax credits in the Inflation Reduction Act are straightforward, predictable, and easily understood by financiers. This has resulted in a large pipeline of commercial projects, backed by private capital. The combination of demand signals, stable incentives, and concessional finance has been far more effective than relying on market-based certificate systems alone. The third major lesson is that countries that have successfully moved from pilot-scale to commercial-scale production did so by pairing strong policy signals with blended financial support, including capital grants and concessional debt. Early plants require support across both capital expenditure and operating expenditure; this is not unique to Australia. Jurisdictions that fail to provide blended support typically remain stuck in the demonstration phase, with many announcements but few operating facilities. Overall, the international experience shows that Australia should focus on clear obligations, simple and stable incentives, and practical measures that drive real production and real fuel use. Singapore demonstrates the value of clarity and simplicity. The United States demonstrates the value of long-term incentives. Both models show that complexity slows investment, while stable policy accelerates it. Australia should take these lessons seriously to avoid repeating past patterns where promising technologies never reach commercial scale.
Question 3.1: Considering the objective below, what production pathways should be focused on or prioritised?	The program should focus on production pathways that are already mature, technically proven, and capable of delivering large, reliable volumes of low carbon liquid fuels in the near term. The objective is not to showcase a diverse range of technologies or explore interesting laboratory concepts. The objective is to decarbonise hard-to-electrify sectors through real physical fuel. This requires prioritising pathways that have already reached commercial operation internationally and that have demonstrated the ability to scale to meaningful volumes. Established pathways are better positioned to attract private capital, reach final investment decision, and integrate into the existing fuel supply chain. Supporting mature pathways first does not preclude future development of emerging technologies, but it ensures that Australia builds a credible domestic industry rather than remaining stuck in prolonged experimentation.
Question 3.1a: Should priority be given to projects that use more-established production pathways (e.g. HEFA and HVO) than nascent production pathways that may present a higher level of technology risk?	Yes. Priority should be given to projects that use mature, established production pathways because these technologies carry significantly less technical risk and are far more likely to reach commercial operation within the timeframe of the program. Established pathways have already demonstrated their capacity to operate at scale, meet sustainability requirements, and deliver consistent output. Nascent pathways may have long-term potential, but they are not yet reliable enough to anchor an industry. If public funding is intended to support meaningful volumes of LCLF and accelerate real decarbonisation, then the program must favour pathways with proven technology readiness and demonstrated success internationally.

Question 3.1b: How can nascent production pathways compete with more-established production pathways (e.g. HEFA and HVO)?	Nascent production pathways should not be expected to compete directly with mature commercial technologies within this program, because doing so would create an uneven and unrealistic contest. Emerging technologies have different risks, longer development horizons, and higher capital uncertainty. Their role should be supported through separate innovation, demonstration, or research funding mechanisms that are designed to nurture early-stage concepts without placing them in competition with commercial-ready projects. If nascent pathways are forced to compete against established technologies for production-focused funding, the result will be twofold: early-stage concepts will struggle to secure support, and the overall program will fail to deliver real volumes of LCLF. For these reasons, the production program should remain focused on mature pathways, while early-stage pathways receive support through dedicated innovation programs better suited to their needs.
Question 3.1c: What minimum stage of project development (and evidence) should be expected by projects under the program?	Projects supported under this program must be able to demonstrate genuine maturity and credibility. It is entirely reasonable for government to require clear evidence that a project is real, feasible, and capable of delivering commercial volumes within a defined timeframe. At a minimum, proponents should be required to show that they have completed detailed engineering and design work, secured or optioned a project site, developed a robust and realistic feedstock strategy, and engaged in substantive discussions with potential offtakers. Financial modelling must be sufficiently advanced to confirm that the project is viable if program support is received, and proponents should provide evidence of progress toward commercial agreements with investors or lenders. These minimum expectations are not excessive; they are essential safeguards to ensure that public funding is not directed toward projects that remain speculative, conceptual, or overly optimistic. Without clear development milestones, there is a risk that support will flow to proposals that look promising on paper but do not proceed to final investment decision. The program is intended to support facilities that can deliver meaningful volumes of low carbon liquid fuel, and therefore it is reasonable for government to expect detailed, concrete evidence that a project is real, advanced, and capable of reaching construction and operation. This level of scrutiny protects public value and ensures that the program delivers genuine outcomes rather than aspirational claims.
Question 3.2: Should there be a minimum facility size to be eligible?	Yes, there should be a minimum facility size to ensure that public funding supports projects capable of delivering meaningful system-level impact. Very small facilities, pilot plants, or demonstration-scale operations do not materially shift supply, do not support domestic aviation decarbonisation, and do not build the industrial capability that Australia requires. If the program aims to lower the emissions profile of hard-to-electrify sectors, then only facilities capable of operating at commercial scale are appropriate for support. A minimum size requirement also prevents funding from being diluted across numerous small projects that may be interesting technologically but make no measurable difference to national emissions or fuel security. The program should support the development of large, scalable industrial assets that can form the backbone of a domestic low carbon liquid fuel industry.

Question 3.3: Should LCLF be required to meet a carbon intensity threshold (% carbon intensity reduction compared to fossil equivalent) to be eligible for the program? If yes, what would be a reasonable threshold, and how should that threshold be calculated and verified? If not, why not?	Yes. LCLF should be required to meet a minimum carbon intensity reduction threshold compared to the fossil fuel equivalent. Without a threshold, there is a risk that public funding could support fuels that deliver only marginal climate benefits. A reasonable range for this threshold would be 30 to 60 percent lifecycle emissions reduction. Anything below approximately 30 percent is unlikely to provide meaningful abatement and is difficult to justify within a publicly funded program. At the same time, setting the threshold too high in the early years may unintentionally exclude the most mature and scalable production pathways. A threshold within this range balances environmental integrity with the practical need to establish a functioning domestic industry. It is important to be clear about what type of emissions this threshold relates to. The threshold should apply to full lifecycle emissions, including feedstock production, conversion processes, transport, and end use. Lifecycle analysis is the correct tool for determining whether the fuel itself is genuinely low carbon and therefore eligible for support. However, lifecycle emissions are not the same as the emissions that can be allocated to an end user under a book-and-claim system. If a book-and-claim mechanism is introduced in Australia, only fuel burn emissions can be credibly allocated to an airline or fuel user. Upstream emissions, land use changes, and process emissions cannot be transferred through certificates. These factors are essential for eligibility, but they do not form part of the emissions reduction claim made by the user of the fuel. If some production pathways achieve lower lifecycle emissions because they use cleaner inputs—such as renewable electricity for manufacturing, low-emission hydrogen, or verified low-carbon utilities—then it is reasonable for the program to recognise this. Preference should not be based on novelty or vague commitments but on demonstrated readiness to operate using cleaner energy inputs and the ability to verify those inputs over time. This approach rewards genuine environmental performance rather than promises, and it ensures that support is targeted toward projects that lower emissions across the entire production process, not only at the point of combustion. A lifecycle threshold with clear rules, combined with correct treatment of fuel burn emissions for book-and-claim purposes, will ensure that the program maintains environmental integrity while remaining practical, transparent, and aligned with international practice.
Question 3.3a: If the production incentive is based on carbon emissions reduced, rather than volume of LCLF produced (see Question 2.3), is a minimum carbon intensity threshold still needed as part of the eligibility criteria?	Yes. A minimum carbon intensity threshold is still required even if the production incentive were to be based on carbon emissions reduced rather than on the volume of LCLF produced. A per-tonne payment mechanism does not, on its own, guarantee that the underlying fuel meets a basic standard of environmental integrity. Without a threshold, the program could end up supporting fuels that deliver only marginal reductions in lifecycle emissions, despite being eligible for emissions-based payments. This would dilute the climate impact of the program and undermine public confidence in its outcomes. The threshold serves a different purpose from the payment mechanism. The payment mechanism determines how support is calculated, whereas the threshold determines which fuels are eligible in the first place. A lifecycle threshold ensures that only fuels that meet a minimum standard of sustainability can enter the program. It prevents poor-performing pathways from receiving support merely because they produce some level of emissions reduction relative to a fossil baseline. It is also important that the type of emissions used for eligibility is clearly distinguished from the emissions that can be allocated to a fuel user through a book-and-claim system. Eligibility must be based on lifecycle emissions, including feedstock production, processing, and transport. In contrast, any future book-and-claim mechanism can only credibly allocate fuel burn emissions to the end user. A lifecycle threshold therefore remains necessary regardless of how the production incentive is structured, because it defines which fuels qualify as genuinely low carbon before any allocation or crediting occurs. For these reasons, a minimum lifecycle carbon intensity threshold should remain a firm requirement even under a per-tonne incentive model. It ensures environmental credibility, prevents support for marginal fuels, and maintains a clear separation between lifecycle integrity and the emissions that can be claimed by an end user.

Question 3.3b: Should Indirect Land Use Change be included in the method for determining carbon intensity, for the purpose of the Program?	Indirect land use change should be included in the carbon intensity calculation only where the methodology is robust, transparent, and aligned with international practice. However, it is important that the program does not unintentionally create overlapping or duplicate credit streams. The way the question is framed suggests that producers might be able to benefit from both production incentives and separate emissions crediting mechanisms, such as Australian Carbon Credit Units. This would create significant risks of double-counting and distort the market by allowing producers to earn revenue multiple times from the same tonne of emissions reduction. The purpose of including indirect land use change is to ensure that lifecycle emissions are assessed accurately and that fuels are genuinely low carbon. It should not become a mechanism for generating additional income streams beyond the program itself. If producers were able to access a production incentive, claim lifecycle emissions reductions, and generate tradable credits under a separate scheme, this would undermine the integrity of both systems and would not represent value for money for taxpayers. Indirect land use change should therefore be incorporated only as part of the lifecycle assessment used to determine eligibility and carbon intensity—not as a separate pathway for additional crediting. If the program later enables book-and-claim, it must be clear that indirect land use change affects eligibility but cannot be claimed by a fuel user, because only fuel burn emissions can be credibly allocated in a certificate system. Including indirect land use change in lifecycle analysis is sensible from an environmental integrity perspective, but it must be implemented carefully to avoid unnecessary complexity and to ensure that the program does not open the door to double-counting or multiple overlapping sources of financial benefit for producers.
Question 3.3c: Should any feedstocks be prioritised or otherwise considered out of scope?	Yes. Certain feedstocks should be prioritised and some should be considered out of scope. Public funding should support feedstocks that provide genuine lifecycle emissions reductions without creating new social or environmental risks. Waste and residue feedstocks, non-food energy crops grown on marginal land, and materials that do not compete with food production or contribute to deforestation risk should be preferred. These feedstocks offer the highest environmental value and reduce the likelihood of indirect impacts that have challenged the sustainability of some biofuel systems internationally. Feedstocks that carry a high risk of deforestation, displacement of food production, or significant indirect land use change should be excluded or tightly controlled. The program should not support any feedstock that increases pressure on agricultural land, contributes to habitat loss, or competes directly with food markets. These risks are well understood and cannot be mitigated through certification alone. Clear and predictable rules are required so that producers cannot treat land conversion impacts as acceptable simply because the end fuel offers lower emissions at the point of combustion. If some production pathways achieve lower lifecycle emissions because they use cleaner process inputs such as renewable electricity, low emission hydrogen, or verifiable low carbon utilities, then it is reasonable for the program to recognise this. Any preference should be based on demonstrated and verifiable performance. It should not be based on commitments or assumptions or on an expectation that projects are entitled to a premium simply because they are located in Australia. The program should reward real environmental outcomes rather than promises of future improvements. Prioritising feedstocks in this way ensures that public funding supports fuels that are genuinely low carbon across their full lifecycle and avoids the unintended consequences that have occurred in other jurisdictions.

Question 3.4: Other than carbon intensity, should any other sustainability criteria be included?	Other sustainability criteria should be included, but these should operate as baseline expectations rather than as the central purpose of the program. The objective of this program is to support the production of low carbon liquid fuels that deliver real emissions reductions for hard to electrify sectors. At the same time, it is entirely reasonable to expect that any project receiving public funding meets fundamental standards of environmental and social responsibility. These baseline expectations include responsible land and water management, avoidance of harm to biodiversity, genuine engagement with local communities, and respect for the rights and cultural heritage of First Nations peoples. They also include basic principles of ethical business conduct, such as compliance with labour standards, fair treatment of workers, and processes that ensure that the project does not create adverse social or environmental outcomes in its supply chain. These criteria should be framed as minimum requirements that every project must meet. They are not the elements that should differentiate one project from another. They represent the standard of behaviour that can reasonably be expected from any organisation receiving public support. In other words, in addition to producing LCLF, projects are expected to operate responsibly, transparently, and in a way that avoids harm to people and the environment. This ensures that the program aligns with broader national expectations without detracting from its primary purpose, which is the delivery of real, measurable emissions reductions through the production of low carbon liquid fuels.
Question 3.5: Which international and domestic sustainability schemes should be allowed to verify sustainability claims?	Several international sustainability schemes exist for Sustainable Aviation Fuel, including those recognised under the ICAO CORSIA framework. These schemes provide established methods for lifecycle emissions calculation and sustainability safeguards and they are commonly used for SAF certification in international markets. However, these schemes should not be treated as mandatory or sufficient on their own. The central requirement for this program is a strong and transparent measurement, reporting, and verification framework that applies consistently across all projects. MRV quality, verifier competence, and methodological integrity are far more important than the specific label or scheme used. SAF already has a comprehensive fuel specification under ASTM D7566, but this is a technical standard and not a sustainability assurance scheme. Sustainability certification bodies recognised under ICAO CORSIA, such as the International Sustainability and Carbon Certification scheme and the Roundtable on Sustainable Biomaterials, can provide value where they align with program objectives, but they should not replace a robust national MRV framework. Certification should complement MRV, not substitute for it. Verification competence is critical. The program should not assume that large audit firms are inherently better equipped for this work. Assessing lifecycle emissions, feedstock impacts, land use effects, and fuel production pathways requires specialist expertise. Smaller technical firms often have deeper subject matter capability, and the program should not unintentionally restrict participation to a narrow group of large organisations. International schemes can be recognised where they add value, but the program should rely primarily on clear Australian rules, high quality MRV, and independent, technically competent verification to ensure that sustainability claims are accurate and reliable.

Question 4.1: What are your views on the following factors affecting the merit of a proposal?	These factors are relevant, but their weighting must reflect the core purpose of the program, which is to deliver real emissions reductions in sectors that cannot decarbonise through electrification. The most important factor is the project's ability to produce significant volumes of LCLF for aviation and other hard to electrify sectors. Carbon reduction potential should therefore focus on the scale, reliability, and timing of the emissions reductions that the project can deliver. A project that produces small volumes of fuel, even if it has strong secondary benefits, cannot materially contribute to national decarbonisation goals. The program should prioritise projects that can displace meaningful quantities of fossil fuel and offer a clear, measurable contribution to emissions reduction targets. Economic benefit is important but should remain a secondary consideration. It is reasonable to expect that large projects will create jobs, support regional communities, and generate new economic opportunities. These outcomes should be treated as the natural result of building serious industrial capacity, rather than as the primary drivers of project selection. These indicators are baseline expectations when significant public funding is involved. They should not be used to elevate projects that cannot deliver meaningful emissions reductions or that are not capable of operating at commercial scale. Fuel security is a genuine strategic benefit of domestic LCLF production. Australia has limited refining capacity and is heavily dependent on imported liquid fuels, which exposes the country to significant geopolitical and supply chain risks. Projects that improve sovereign fuel capability, diversify supply, reduce reliance on imports, and provide a stable domestic source of aviation fuel offer important national benefits. This should be considered a strong merit factor, especially when a project produces real physical fuel for domestic use rather than relying solely on certificate based systems. Sustainability should be assessed as a minimum standard that every project is required to meet. Projects must demonstrate responsible land and water management, credible feedstock strategies, and long term access to inputs that do not undermine food security or biodiversity. These expectations represent normal responsible business practice and are not distinguishing features. They ensure that projects do not create environmental or social harm while delivering the program's primary objective. Supporting an efficient market is important to the extent that projects help build a functioning domestic industry. The ability to secure credible offtake agreements, provide transparent price information, and reduce barriers for future projects will contribute to long term stability. Knowledge sharing and reducing market fragmentation are useful, but these should complement, not overshadow, the central requirement that funded projects must produce real volumes of low carbon fuel. Overall, these factors provide a useful framework, but the program should maintain a clear hierarchy. The highest merit should be given to emissions reductions delivered at scale, fuel security outcomes, and the ability to build a genuine domestic LCLF industry. Other factors are valuable, but they should not dilute the focus on real physical production and measurable climate impact.
Question 4.2: Recipients under the Program will need to deliver benefits according to the Community Benefit Principles under the Future Made in Australia Act (see Appendix D of the Policy Design and Engagement Paper). How do you consider the Community Benefit Principles in relation to LCLF projects? Are there specific Community Benefit Principles that are more or less relevant?	The Community Benefit Principles are relevant to LCLF projects, but they should be treated as baseline expectations rather than the primary test of merit. Any project that receives substantial public support should already be operating in a way that delivers responsible employment, fair treatment of workers, appropriate engagement with local communities, and respect for the rights and interests of First Nations peoples. These are fundamental requirements for good business practice and good governance, not differentiators. For LCLF projects, some principles are naturally more relevant than others. Regional economic development is important, because many potential production facilities and feedstock supply chains will be located outside major cities. There is a clear opportunity to support regional jobs, skill development, and local service industries. There is also a strong and specific relevance for First Nations communities in relation to land use, feedstock production, and project siting. Projects that engage early and genuinely with First Nations communities, and that demonstrate tangible benefits and long term partnerships, will be better aligned with the intent of the Future Made in Australia framework. At the same time, the Community Benefit Principles should not dilute the core objective of the program, which is to build a real domestic LCLF industry and deliver emissions reductions at scale. They should function as minimum standards that every supported project is required to meet, rather than as a way of elevating projects that do not perform strongly on emissions reduction, fuel security, or commercial scale. In other words, in addition to producing LCLF, projects must meet basic expectations about how they treat people, land, and communities. That is appropriate and reasonable, but it should not displace the primary decarbonisation objective.

Question 4.3: How will overseas policy developments interact with domestic policy settings to support projects reaching final investment decisions? For example, LCLF demand-side targets or mandates, and international frameworks such as the International Civil Aviation Organisation long-term global aspirational goal for international aviation (LTAG) of net-zero carbon emissions by 2050.	Overseas policy developments will strongly influence investment decisions for LCLF production, particularly because Australia does not yet have an established domestic policy framework. The question presumes an interaction between international and domestic settings, but at present there is no clear Australian policy for international signals to interact with. This means that overseas policies are currently the dominant drivers of investment decisions, and without comparable domestic measures Australia will continue to fall behind jurisdictions that have moved early with clear support frameworks. International mechanisms such as the International Civil Aviation Organisation long term aspirational goal, the European ReFuelEU Aviation mandate, the United States Inflation Reduction Act production tax credits, and the Singapore minimum uplift requirement all create stable and predictable demand for low carbon fuels. These signals give producers confidence that real volumes of fuel will be purchased over long time frames. Unless Australia adopts similar demand side measures combined with long term production support, investors will continue to prioritise projects in countries where policy certainty already exists. In practice, this means that Australia cannot rely on overseas developments alone. The country must implement its own aligned and credible policy settings if it wants international signals to support domestic final investment decisions. A well designed minimum uplift requirement for sustainable aviation fuel, paired with long term production incentives and concessional finance, is essential if Australia wants to compete for capital. Without these settings, the interaction will be one directional, in which overseas policies attract investment and Australia watches the opportunity pass by.
Question 4.4: In addition to production support, what other measures are considered critical to achieve final investment decisions for projects? What are their key features?	In addition to production support, projects need a combination of demand certainty, concessional finance, and streamlined regulatory processes in order to reach final investment decisions. Demand certainty is critical. A well designed minimum uplift requirement for sustainable aviation fuel, starting at a modest level and increasing predictably over time, would provide a clear and durable signal to both airlines and producers. This is more effective than relying on abstract price signals or voluntary pledges. A credible obligation that is aligned with international developments is one of the most powerful tools for unlocking investment. Concessional finance is also essential. Large LCLF facilities require significant capital and long payback periods. The involvement of the Clean Energy Finance Corporation, the National Reconstruction Fund, and potentially state based financiers can reduce the cost of capital, share risk, and give commercial lenders confidence. Instruments such as concessional loans, loan guarantees, and equity co investment, combined with long term production incentives, will materially improve the bankability of projects. Regulatory clarity and efficiency are another critical factor. Projects should have access to clear, predictable, and timely approval pathways. Long delays, inconsistent requirements, or overlapping regulatory processes increase risk and can cause projects to stall before construction. A coordinated approach that integrates environmental approvals, planning processes, and fuel safety standards will reduce uncertainty and send a signal that government is serious about enabling projects, rather than merely funding them on paper.
Question 4.5: What are the intersecting policies you expect need to be considered to unlock a domestic LCLF production industry?	A number of intersecting policies will need to be considered to unlock a domestic LCLF production industry. The Safeguard Mechanism and any future sectoral emissions frameworks will influence the incentives for both fuel producers and fuel users. If these frameworks recognise and appropriately value low carbon fuels, they can create additional pull for LCLF uptake. If they are misaligned or exclude low carbon fuels from consideration, they may undermine the business case. Energy policy is also central. Access to renewable electricity and low emission hydrogen at competitive cost will significantly affect lifecycle emissions and production economics for some pathways. Policy settings around renewable energy deployment, hydrogen infrastructure, and electricity market reform will therefore have a direct bearing on the viability of LCLF projects. Waste policy, agricultural policy, and land use frameworks will influence feedstock availability, competing uses, and the sustainability of supply. In the transport sector, policies such as the New Vehicle Efficiency Standard, aviation environmental commitments, and any future domestic aviation decarbonisation strategy will need to align with the objectives of this program. If aviation and freight policies assume the availability of low carbon fuels without providing clear support for their production, the result will be a gap between ambition and capability. The Guarantee of Origin framework for energy and fuels, if implemented, will also need to be coherent with this program. It should support transparent accounting without creating unnecessary cost or complexity, and it should not evolve into a substitute for real domestic supply.

Question 4.6: Is there any other feedback you would like to provide that isn't covered by questions above?	The most important feedback is that this program must stay focused on real fuel, real emissions reductions, and real domestic capability, rather than becoming another exercise in financialisation or certificate trading. Guarantees of Origin and book and claim frameworks can play a supporting role in emissions accounting and international reporting, but they should not be allowed to dominate the design of the program. If Australia builds a system in which physical fuel is exported while domestic users purchase certificates to claim environmental benefits, then the country will have created a paper solution rather than a genuine decarbonisation outcome. The program should avoid the pattern where Australia excels at concept development, pilot projects, and roadmaps, but fails to achieve commercial scale. That outcome is entirely avoidable if policy design is clear about what success looks like. Success means a small number of large, commercially operating LCLF facilities that supply real volumes of fuel into the Australian market, particularly into aviation. It means minimum uplift requirements that provide demand certainty. It means stable, long term production incentives that are simple to understand and bankable. It means robust MRV frameworks and competent, independent verifiers, rather than an assumption that a particular type of certificate or a particular category of firm will guarantee integrity. If the program maintains this focus, it can help Australia move beyond trials and concept papers and into the domain of serious industrial capability. If it does not, the risk is that public funding will support complexity rather than scale, and that Australia will remain a buyer of certificates and imported fuels rather than a producer of low carbon fuels in its own right.