

NSW DCCEW OPPORTUNITIES FOR A RENEWABLE FUEL INDUSTRY IN NSW DISCUSSION PAPER

5 SEPTEMBER 2024

INTRODUCTION

The Energy Users' Association of Australia (EUAA) is the peak body representing Australian commercial and industrial energy users. Our membership covers a broad cross section of the Australian economy including significant retail, manufacturing, building materials and food processing industries. Combined our members employ over 1 million Australians, pay billions in energy bills every year and in many cases are exposed to the fluctuations and challenges of international trade.

Thank you for the opportunity to make a submission under NSW DCCEW Opportunities for a Renewable Fuel Industry in NSW Discussion Paper.

It is pleased to see that the NSW DCCEW have decided to review its Renewable Fuel Scheme because we consider that the current NSW RFS will not achieve its intended outcomes of decarbonisation of the gas network and will most likely delay or thwart industries efforts to decarbonise themselves.

We believe this to be the case because:

- The current RFS design assumes that hydrogen is equivalent and therefore a direct substitute for methane, which it is not. Additionally, the current RFS design assumes a single end use of natural gas, which is also not the case. Not recognising the different use cases for gas within an industrial process results in the current RFS design being highly inflexible in its application.
- Because the RFS has “picked a winner” in green hydrogen it does not promote large scale supply of renewable gases. This further hinders large industry and commercial gas users from progressively decarbonising their gas supply through cheaper sources such as bio methane that also does not require substantial capital upgrades to customer plant and equipment.
- The narrow focus on green hydrogen and failure to understand the customer perspective has, in our view, created serious flaws in program design and is highly likely to lead to gas users paying penalties for not being able to purchase hydrogen that they simply can't access or that isn't available. At the same time, it tends to discourage renewable gasses that are much closer to commercialisation such as bio methane.

Hard-to-abate sectors already face a difficult challenge to decarbonise and therefore we must recognise that the use of traditional sources of methane will be required for many years to come as renewable gas builds scale and reduces in cost. The role of natural gas as a key transition fuel for both power generation and for industrial users where they progressively blend new sources of renewable gas with existing sources of natural gas can't be underestimated in its importance to EUAA members. For example, to convert from existing fuels and processes to renewable fuels, especially hydrogen, our members would need hundreds of GW equivalent of reliable and economic renewable fuels. It must also be recognised that in some cases, such as hydrogen, consumers will be

required to invest heavily in new end use technology (assuming it is technically feasible). In many cases it is the consumer who is likely to be the largest investor as part of a renewable fuels policy, yet they appear to have been largely ignored in the current RFS design.

The EUAA and its members support the decarbonisation of the economy and the energy sector. However, government policies, despite being well meaning, can actually hinder a company's decarbonisation efforts through poor design and execution. Government policies need to support industries efforts to decarbonise, unfortunately the current NSW Renewable Fuel Scheme penalises many of our members even as they attempt to decarbonise.

The types of scenarios of our members face include:

- Large multinational corporate entities that have targets to decarbonise their global operations with limited annual budgets. With small operations and large operational costs, Australian sites are well down the priority list for investment to replace or rebuild sites, thus budgets are only large enough to become incrementally cleaner.
- Companies that require a carbon atom for their process that will transition to natural gas (and eventually biogas when available) to reduce their current scope 1 emissions will be penalised under the current RFS, destroying the business case and potentially preventing the companies from reducing emissions.
- Companies that require the hydrogen atom in natural gas who cannot convert to 100% green hydrogen due to the global investment priorities of the parent but are planning to convert to a hydrogen blend are penalised under the current RFS, destroying the business case and potentially preventing the companies from reducing emissions.
- Companies that need the methane molecule for its chemical or physical properties who cannot transition their sites to biomethane quickly enough to avoid or reduce the current RFS liabilities, have the business case destroyed, potentially preventing the companies from reducing emissions.

While our members are supportive of NSW's efforts to decarbonise the supply of gas and fuels more generally and are largely willing to pay an efficient premium for a cleaner gas supply, the RFS is currently designed to deliver green hydrogen, which is not a direct substitute for natural gas, and will be used by the transport sector in the first instance. Under the RFS transport users will benefit but not pay while energy users pay but will not benefit.

As mentioned above, for Australian companies to transition to 100% hydrogen, substantial investment, and potentially whole site rebuilds are required, and capital is simply not available for all sites at this stage for these large projects. These companies can transition to hydrogen blends in the future, but not while they are funding the transport sector to decarbonise through the current RFS liabilities. Additionally, the lack of other zero carbon fuels in the RFS combined with the transport sector cross subsidisation prevents companies from beginning or continuing any significant decarbonisation tasks.

The EUAA and its members are strongly opposed to cross subsidisation in government policies, and as such call for the NSW Government to suspend the current RFS during the current review. It is our opinion that the existing RFS should be suspended and if suitable amendments can't be made to address the issues we and our members have raised in submissions then the RFS may need to be scrapped and new legislation that provides a clear investment signal for renewable fuel users is created to replace it.

PROPOSED CHANGES TO THE RFS

The NSW Government has “picked a winner” (green hydrogen) in the current RFS which happens to be one of the highest cost renewable fuels available. The scheme needs to allow the market to determine the best mix of renewable fuels for NSW’s decarbonisation, that is, allowing all renewable fuels and the lowest cost fuel (from supplying and on-site capital investments) for each end use to be delivered.

The NSW RFS needs to be renewed or replaced with a scheme with the following high-level outcomes:

- Remove cross subsidisation and place liabilities on the entities that are benefitting from decarbonisation. For example, green hydrogen will benefit the transport sector in the short term and in the longer term may benefit gas users but under the current RFS, gas consumers will be liable for hydrogen busses in the public transport system and Sustainable Aviation Fuel (SAF). The cost of this should be placed on the public transport and aviation sector who then recover this via transport customers. Any policy design must ensure the liability is proportioned to the end use.
- Opening up the eligible renewable fuels so that the market can deliver the lowest cost renewable fuel outcome to the sector that is easiest to decarbonise. The current RFS is modelled on the successful NSW bioethanol and biodiesel mandates, however that market is far less complex with single products to single markets. That model is inappropriate for the broader transition to renewable fuels where there are multiple end uses.
- The NSW RFS should also focus on domestic decarbonisation and should not support the export of decarbonised renewable fuels in the first instance. If export of renewable gas does occur, especially in large volumes, a level of domestic reservation should be in place to avoid the economic destruction we have seen brought about by LNG export.

RENEWABLE FUEL CHALLENGES

The EUAA notes that Australia is limited to supplying only 22.5% of the current natural gas consumption from biomethane,¹ with most currently operating biogas plants supplying small electricity generation units or being flared. There are currently few projects either operating, in construction or planned to supply biogas to industry or the existing natural gas network that are of sufficient volume to make a large difference to industries emissions. This lack of access to commercial quantities of biomethane presents a barrier to industry trying to decarbonise, as does the geographic distance between biomass resources and industrial plant locations for some businesses.

Similarly, green hydrogen faces significant difficulties in being rolled out and scaled up to meet governments emissions targets. The hydrogen molecule has significantly different properties to natural gas which creates technical issues for the end user. One EUAA member has run tests operating on 100% hydrogen and had difficulties with the high moisture flue gas, embrittlement of the boiler and different steam pressures for use in existing plant operations. However, others have had relative success with hydrogen trials, albeit in a smaller more bespoke manner. It seems clear that the success or otherwise of hydrogen will be on a case-by-case basis.

Given the production of a MWh equivalent of hydrogen requires 1.2 MWh of electricity, the EUAA considers there is a risk of undue strain on electricity infrastructure, during a time when Australia is undergoing its biggest

¹ RACE for 2030, B5: Opportunity Assessment – Anaerobic digestion for electricity, transport and gas Final Report, May 2023

transformation in the electricity sector. The additional electricity infrastructure requirements are in addition to the NEM upgrades identified in AEMO's 2022 Integrated System Plan.

RENEWABLE FUEL'S IMPACT ON GAS INFRASTRUCTURE

A further challenge will be re-distribution of network charges. We anticipate that with the level of electrification of residential and small to medium enterprise will see a decreasing total volume of gas flowing through existing pipeline infrastructure.

This will mean that under the existing regulatory system where regulated businesses recover a total revenue figure that is not related to the number of customers or total volume, those who will continue to use the existing gas system (i.e. those who can't afford to electrify or are unable to do so) will pay an increasingly higher per unit cost.

This creates a dual affordability issue (higher cost molecules plus higher cost transportation) and intergenerational equity issues of those who are left to pay the bill when others have left the party.

It is from these perspectives that the EUAA strongly believes that the parts of the economy that can electrify, should electrify (i.e. residential, commercial buildings, personal vehicles, light commercial vehicles and some industrial heating), and that the limited biomethane and initial tranches of green hydrogen production should be reserved for the industries that cannot electrify. Further, we suggest consideration be given that biomethane should have enhanced protections to ensure that the limited supplies go to those industries that cannot electrify and cannot utilise hydrogen.

It must be recognised that in the case of either electrification or production of meaningful quantities of hydrogen we will be faced with significant increases in the volume of electrical energy and associated energy infrastructure (i.e. transmission, storage, system strength) and that these costs must be considered as part of an overall renewable fuels economy.

Therefore, in addition to significant increase in energy system costs the transition away from natural gas needs to be considered and implemented by the government in an orchestrated manner, to ensure that those that transition away from the natural gas do not leave increased costs for the remaining natural gas consumers, and that sufficient volumes of renewable fuels and natural gas are available at all times during and after the fuel transition to meet the total fuel demand.

SUGGESTED ADDITIONAL POLICY APPROACH TO RFS

To resolve some of the issues around utilisation of renewable gases, including collection of feedstocks for biomethane, the EUAA strongly urges NSW Government to orchestrate the transition by identifying industry that requires biomethane and assisting in co-locating biomethane production either onsite or nearby. Food harvesting and processing regions make ideal candidates for biomethane production and consumption.

Similar orchestration could also be performed for the green hydrogen industry, and any green hydrogen production facility built for export should have a domestic reservation applied to its production levels to avoid a repeat of the Queensland LNG export program's impact on domestic fossil gas prices and should not receive RFS certificates for exported hydrogen.

Given the relative scarcity of both biomethane and hydrogen over the next decade, the need for industry to decarbonise and remain competitive nationally and internationally, and the reliance on the methane molecule by many industrial heating loads or as a feedstock (i.e. a requirement for the hydrogen or carbon atom), the EUAA strongly recommends a NSW RFS targets these hard to abate businesses with a targeted policy of orchestration, facilitation and where appropriate to maintain competitiveness, financial support of the renewable gas production facility and/or the consumer business.

RFS CERTIFICATES

EUAA urges the NSW government to consider geographic barriers to emissions reductions by industry, noting that many industries located close to feedstocks, energy inputs and/or ports which now places them at a disadvantage for supply of appropriate renewable fuel volumes and/or space restrictions due to encroaching industry or residential zones.

The EUAA is also aware of several industry consumers looking to expand production to (among other markets) assist with Australia's energy transition. These increases in production will likely necessitate increased natural gas (and electricity) consumption. Government would be advised to consider this issue as part of its RFS.

Both of these issues could be resolved through the government creating fungible certificates for renewable fuels.

Although NSW already has a market-based certificate scheme legislated for renewable fuels, it is the EUAA's position that certificate schemes are best implemented Federally with fungible certificates, rather than state based, allowing for industry to apply one rule across all jurisdictions and to transfer the benefits to plant that are geographically or technically difficult to decarbonise.

However, a certificate-based scheme is not the only policy option available to government. EUAA considers that a combination of policy mechanisms is required to stimulate the deployment and uptake of renewable fuels in Australia. The first policy mechanism is orchestration and facilitation, where government identifies the consumer with the specific renewable fuel requirement, e.g. identifying industry that requires biomethane and facilitating the co-location of biomethane production either onsite or nearby. Another example is for government to identify regions with co-located resource (biomass) from food harvesting with food processing located nearby. The second component of the policy would allow for grants to either or both the production facility (to reduce the cost of the renewable fuel) and the consumer (to reduce the cost of implementation, particularly where the business is transitioning to green hydrogen and/or competing internationally for finance).

It must be recognised that a market-based approach for renewable fuel increases the cost for consumers, in addition to the increased cost from transitioning to renewable fuel (it is known that biomethane costs more than fossil gas and green hydrogen is even more expensive). Should government continue with its market-based certificate scheme, government should be alleviating these additional costs during the early years of implementation through capital support, incentivising the transition and attracting new investment to the country through cheaper renewable fuel implementation costs than elsewhere.

As mentioned above, the EUAA is not opposed to a well-designed market-based certificates scheme for renewable fuels, however does oppose the cross-subsidisation of new renewable fuel consumers by existing fossil gas consumers that is currently present in the NSW RFS. Given that in the next decade it is highly likely that the

majority of biomethane will be used for industrial heating and feedstocks, while green hydrogen is likely to be used to replace diesel, the EUAA may support a single renewable fuel target with separate certificate schemes for green hydrogen and biomethane (similar to the RET having Large Scale Certificates and Small Generation Certificates) and/or a certificate scheme where the liability lies with the end user industry (e.g. aviation, heavy transport etc).

Whatever decision is made for NSW renewable fuel ambitions, the NSW government needs to analyse the costs of the transition with the impact to large energy consumers being considered given the magnitude of the increase in fuel costs (inclusive of renewable fuel purchase price, supply charges, and the cost of policy implementation), plant conversion or replacement costs and the impact these have on competitiveness, both domestically (interstate) and internationally.

We also urge further discussion on the evolving intergenerational equity challenges of gas pipelines that may face a dwindling group of at risk (can't afford to change) or high value/hard to abate customers who may end up paying disproportionate network fees.

RESPONSE TO SELECTED CONSULTATION QUESTIONS

RENEWABLE FUEL POLICY OBJECTIVES

- 1. Do you support these primary objectives? Are there other objectives renewable fuel policies should address?**

We support the primary objectives of the RFS, however find them inconsistent with the National Energy Objectives, that is they do not consider efficiency. The EUAA supports least cost approaches to decarbonisation. The current hydrogen focus of the RFS is currently the most expensive approach.

EXISTING POLICIES AND PROGRAMS

- 2. What actions can the NSW Government take to continue support for hydrogen production in NSW?**

The hydrogen industry is in its infancy globally. Emerging industries develop successfully when governments provide direct financial support and facilitation, through grants or equity investments. Emerging industries do not develop successfully or quickly when market-based mechanisms (i.e. a certificates scheme) are the only form of financial support as they do not result in a competitive market price for the end product. The NSW Government would be better placed to provide the hydrogen industry with facilitation and grants/equity injections, and corresponding financial support through grants to end users of the hydrogen to support capital rebuild if it is the NSW government's plan to develop a hydrogen industry. Building hydrogen supply at scale without also developing the demand will potentially be disastrous.

- 3. What could be implemented or learnt from existing policies and programs?**

The first policy mechanism is orchestration and facilitation, where government identifies the consumer with the specific renewable fuel requirement, e.g. identifying industry that requires biomethane and facilitating the co-location of biomethane production either onsite or nearby. Another example is for government to identify regions with co-located resource (biomass) from food harvesting with food processing located nearby.

INFRASTRUCTURE

4. How can the NSW Government support infrastructure reuse and development that delivers efficient, low-cost renewable fuel supply chains across the state?

As described above, orchestration, facilitation and financial support at both the supply and demand ends of the market.

5. How can the NSW Government support regional renewable fuel supply? Is there an opportunity to aggregate feedstocks at existing regional facilities such as landfills or wastewater treatment plants to create hubs for renewable fuel production?

As described above, orchestration, facilitation and financial support at both the supply and demand ends of the market.

7. What action would best support investment in these projects or an NSW renewable fuel industry? Are there example projects where this would accelerate development?

As described above, orchestration, facilitation and financial support at both the supply and demand ends of the market.

8. Should the NSW Government establish renewable fuel demonstration projects? If so, what would be the best model to support these projects?

There have been many renewable fuel demonstrations around the world. For the NSW government to establish its own demonstration, it needs to identify a specific issue with the development of the supply and demand markets that the demonstration project will provide the market with the solution.

SUPPORTING DEMAND

10. How can the NSW Government accelerate the use of renewable fuels?

As described above, orchestration, facilitation and financial support at both the supply and demand ends of the market.

11. Should the NSW Government set, or redesign existing mandates for the use of renewable fuels? If so, what industries or fuels should be prioritised?

The NSW RFS needs to be renewed with the following high-level outcomes:

- Remove cross subsidisation and place liabilities on the entities that are benefitting from decarbonisation. For example, green hydrogen will benefit the transport sector in the short term and in the longer term may benefit gas users and under the current RFS, gas consumers will be liable for Sustainable Aviation Fuel (SAF) when this liability should be placed on the aviation sector. The liability needs to be proportioned to the end use.

- Opening up the eligible renewable fuels so that the market can deliver the lowest cost renewable fuel outcome to the sector that is easiest to decarbonise. The current RFS is modelled on the successful NSW bioethanol and biodiesel mandates, however that market is far less complex with single products to a single market. That model is inappropriate for the broader transition to renewable fuels.
- The NSW RFS should also focus on domestic decarbonisation and should not support the export of decarbonised renewable fuels in the first instance.

12. Would renewable fuel purchase requirements for the NSW Government's assets support investment in production facilities?

While this would assist, it is highly unlikely that the NSW Government's total renewable energy demand would make a significant impact.

13. Should the NSW Government set targets for renewable fuel use? If so, should these targets be broad or fuel and industry-specific?

Any target should be broad, allowing the market to find the cheapest, most efficient way to meet the target.

14. What incentives can the NSW Government put in place to accelerate the use of renewable fuels?

As described above, orchestration, facilitation and financial support at both the supply and demand ends of the market.

15. What support do asset owners need to refurbish or upgrade existing assets for renewable fuel usage?

As described above, orchestration, facilitation and financial support at both the supply and demand ends of the market.

ACCELERATING SUPPLY

16. What funding mechanisms or support should the NSW Government consider supporting research and innovation and improve the commercial viability of renewable fuel production?

The challenge identified in the biofuel industry is the composition of Australia's biomass being different to other nations, and therefore requiring slight engineering changes to production equipment. Funding of R&D in this area is of immense assistance.

17. Should the Renewable Fuel Scheme be expanded to support other renewable fuels?

The RFS, if retained, needs to be expanded to include all renewable fuels for the target industries.

Opening up the eligible renewable fuels so that the market can deliver the lowest cost renewable fuel outcome to the sector that is easiest to decarbonise. The current RFS is modelled on the successful NSW bioethanol and

biodiesel mandates, however that market is far less complex with single products to a single market. That model is inappropriate for the broader transition to renewable fuels.

18. If the Renewable Fuel Scheme is expanded to include other renewable fuels, who should be the liable parties and why? (See Appendix B for reference)

Liability for the RFS should be on the entities that are benefitting from decarbonisation. For example, green hydrogen will benefit the transport sector in the short term and in the longer term may benefit gas users and under the current RFS, gas consumers will be liable for Sustainable Aviation Fuel (SAF) when this liability should be placed on the aviation sector. The liability needs to be proportioned to the end use.

19. Should the Renewable Fuel Scheme incentivise fuels that offer short-term emission reduction, longer-term emission reduction or a combination? (See Appendix C for more detail)

The RFS should incentivise the most efficient and least cost decarbonisation.

21. For feedstock producers and businesses currently exporting biomass crops, tallow and used cooking oils for overseas renewable fuel production, would an incentive scheme support the local sale of these important feedstocks?

Creation of a domestic demand for the feedstocks through of a renewable fuels industry will place upward pressure on feedstock process and will therefore potentially provide the incentives needed for the current feedstock exporters to sell domestically. NSW DCCEEW needs to perform an economic analysis to determine if the upward pressure on biomass feedstock process domestically is sufficient to provide this incentive to current exporters.

22. Should a reservation policy be used to keep feedstock on shore to support the local industry?

If the NSW Government gets the demand and pricing of feedstocks right, there will be no need for reservations on feedstocks, however a domestic reservation on exported renewable fuels and/or making exported renewable fuels ineligible for the generation of RFS certificates may be required. Again, NSW DCCEEW needs to perform an economic analysis to determine if these mechanisms would be sufficient.

24. Should a hierarchy of use for bio-feedstocks be enforced to prioritise feedstocks for applications where there is no available alternative for decarbonisation?

It may be more appropriate to have a hierarchy for the renewable fuels, given that it is unlikely that renewable fuels will completely replace current natural gas consumption. For example, we suggest consideration be given that biomethane should have enhanced protections to ensure that the limited supplies go to those industries that cannot electrify and cannot utilise hydrogen.

VALUE FOR NSW COMMUNITIES

26. Should there be a limit on financial support for renewable fuel export projects? If so, what is that limit and when should it apply?

The NSW Government should be focused on decarbonisation of its domestic fuel consumption, and therefore exported renewable fuels should be ineligible for RFS certificates. Additionally, allowing renewable fuel exports to be eligible would likely mean domestic users will fund those certificates, i.e. the NSW consumers cross-subsidising foreign countries to decarbonise, further threatening the viability of these businesses.

MANAGING MARKET RISKS

29. How can the NSW Government support companies and industries with cross-border markets to decarbonise?

By aligning the RFS Certificates with the Federal Government's Guarantee of Origin Certificates, the GO certificates could be used to decarbonise the entire business, not just NSW sites.

30. How can the NSW Government encourage a fuel transition that aligns with technological advancement?

By opening up the eligible renewable fuels so that the market can deliver the lowest cost renewable fuel outcome to the sector that is easiest to decarbonise due to the technology being commercially available. The current RFS is modelled on the successful NSW bioethanol and biodiesel mandates, however that market is far less complex with single products to a single market. That model is inappropriate for the broader transition to renewable fuels.

CONCLUDING REMARKS

The EUAA supports the NSW Government's efforts to reduce emissions to net-zero by 2050. However, care must be taken to ensure that social license is in place for the transition and that the transition occurs in the least-cost for suitable equipment, and not at any-cost (gold plated).

The EUAA firmly believes that policy objectives should be technology neutral and therefore available to all renewable fuels.

The EUAA does not support cross-subsidisation from the existing fossil gas consumers (industry, households) to new renewable fuel consumers (transport). We also do not support increasing costs for large fossil gas users that make them uncompetitive either nationally or internationally or prevent them from their own decarbonisation efforts.

The EUAA will support an NSW renewable fuel policy that supports those who can electrify to electrify, reserves biomethane for those industries that require the methane molecule for either their industrial heating requirements or as a feedstock and includes a domestic reservation for export oriented renewable fuel projects where the exported volume is not eligible for RFS certificates.

EUAA would also welcome further discussion on the stranded asset risk of gas pipelines and the need to deal with potential intergenerational equity issues that may occur.

It is EUAA's position that the best suited policy position for the renewable fuel industry is orchestration, facilitation and financial support, as has been described throughout this submission.

We call for the NSW Government to suspend the current RFS during the current review. It is our opinion that the RFS may need to be scrapped and new legislation that provides a clear investment signal for renewable fuel users is created to replace the RFS.

The EUAA welcomes further discussions with us and our members around the issues raised in this submission.

Do not hesitate to be in contact should you have any questions.



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