Fonterra submission on the Gas Transition Plan Issues Paper

November 2023

Fonterra welcomes the opportunity to comment on the 'Gas Transition Plan Issues Paper' that forms part of the engagement on the New Zealand Energy Strategy.

Fonterra is a co-operative owned by about 8,300 dairy farmers in New Zealand, with 28 processing plants across the country. We are the largest exporter of dairy products in the country and a significant supplier to the domestic market.

Our 28 sites across New Zealand have nearly 100 boilers and air heaters, with greater than 1,300 MW of installed capacity. Each of our sites has a unique energy supply and security situation. For example, our plants in the South Island are currently reliant on coal, while most of our North Island sites utilise fossil gas.

New Zealand's energy infrastructure and fossil gas resources continue to be critical to Fonterra's success and we acknowledge the vital role the Government plays in setting the strategic direction for the country in this portfolio.

Fonterra recognises the challenges and opportunities of transitioning to a low-emissions economy. We are committed to reducing our reliance on fossil fuels and investing in renewable energy alternatives. However, we also acknowledge that fossil gas will remain an essential part of our energy mix for the foreseeable future, as we work towards achieving our net zero emissions target by 2050.

To achieve our 2050 target, we plan to end our use of coal by 2037 and reduce our scope one and two emissions in absolute terms by 50% in 2030 from a 2018 baseline. Overall, 55% of our manufacturing emissions are from coal, 18% from fossil gas, with the rest coming from co-gen and electricity and this is a major reason why we're prioritising the decarbonisation of our coal reliant South Island sites first.

Fonterra believes the issues raised in the consultation paper provide a clear rationale for having a well-developed plan for transitioning the gas sector to a low emissions future. It's critical that this transition happens in a managed way, to avoid price shocks and disruptions, which would have significant economic impacts on New Zealand's economy.

Ensuring that fossil gas continues to remain available during the transition, at prices that remain economic and affordable for end users, should be the highest priority.

Fonterra also believes that it is unlikely that major discoveries of fossil gas will continue to be made in New Zealand fields, even with a lifting of the ban on new oil and gas exploration, and so we urge continued focus on planning the transition away from fossil gas in a managed way and not rely on the uncertainty of future discoveries being made.

We discuss these issues and others in more detail below and are happy to provide further information or engage in discussion with officials if requested.

	Question	Fonterra's comments
Transitioning our gas sector		
	How can New Zealand transition to a smaller gas market over time?	We believe the key to New Zealand's transition towards a future gas market with a different fuel mix is having appropriate market signals as early as possible to ensure the least disruption possible while maintaining security of supply. It's vital to New Zealand's industry that there is not a sudden shift to significantly reduced supply of fossil gas as transitioning industrial boilers will require substantial capital and time due to several constraints, such as equipment and skills availability. Fonterra recognises the importance of transitioning away from fossil fuels and we have a national plan underway to do so in a carefully managed way. This is why we are prioritizing the decarbonization of our coal sites, which means we will continue to rely on fossil gas at several North Island sites for several decades to come. Work also needs to be advanced on better understanding the price and volume metrics for fossil gas alternatives, such as biogas and renewable synthetic methane, so that industry can understand whether they are viable options as non-renewable fossil gas volumes drop off. Plans for reutilization of pipelines for alternative gases, re-routing, or potential abandonment should be explored sooner rather than later in an open manner to allow end users to plan for changes.
	What is needed to ensure fossil gas availability over the transition period?	We believe the current market structures are functioning appropriately with the existing demand in the system for the physical gas market. But there will be increased costs, such as accelerated depreciation, resulting in an increasing rate of end users' switching away from fossil gas. As this rate of exit grows, it's likely that distribution will no longer be economical and hence pipeline owners will remove service. There may be merit considering regulation similar to that relating to Chorus copper lines removal.
	What factors do you see driving decisions to invest or wind down fossil gas production?	The primary factor is the rate of end users switching away from fossil gas, which is driven by the economics of alternative renewable options. Remaining users will face a growing percentage of the fixed cost and there is likely to be a tipping point that will make it uneconomic for many of those users to continue, which will accelerate the transition to alternatives.

		There is a risk that this could have significant impact on economic activity and therefore it is vital that industrial users have sufficient time to transition.
	Does the Government have a role in enabling continued investment in the gas sector to meet energy security needs? If yes, what do you see this role being?	Yes. We believe the Government has an important role in ensuring the transition is orderly and with clear signals as to the associated timing and economic impacts.
	Does the Government have a role in supporting vulnerable residential consumers as network fossil gas use declines? If yes, what do you see this role being?	N/A
	What role do you see for gas in the electricity generation market going forward?	Low utilization, fast-start peaking plants continue to play an important role within the electricity market. These plants are vital to providing security of supply and will continue to be required until there is sufficient Demand Response and/or renewable overbuild.
	What would need to be in place to allow gas to play this role in the electricity market?	The market drivers are already in place. We do not agree with suggestions of a capacity market, which would likely result in stifling innovation and prolonging the use of such peaking plants.
	Do you think gas can play a role in providing security of supply and/or price stability in the electricity market? Why / Why not?	Yes. Gas will play a role for providing security but not for price stability, until there is sufficient Demand Response or renewable overbuild which can deliver both. Thermal fuels increase price volatility as they bid prices high enough to cover fixed and variable costs.
	Do you see alternative technology options offering credible options to replace gas in electricity generation over time? Why / Why not?	Yes, Demand Response and renewables overbuild.
	If you believe additional investment in fossil gas infrastructure is needed, how do you think this should be funded?	N/A
Key issues and opportunities		
	On a scale of one to five, how important do you think biogas is for reducing emissions from fossil gas? o Why did you give it this rating?	Biogas will be an important fuel for the future low emissions economy and therefore should be rated five. The Government should look at strengthening regulations to divert organics away from landfills and into biogas production, as this is likely to be the lowest cost way to decarbonize the existing gas infrastructure. It will allow retailers to offer green gas to those wanting to pay the premium to make it financially viable.
	Do you see biogas being used as a substitute for fossil gas? o If so, how?	Yes. As above, the high capital cost to switch means a higher operational price can be paid and still achieve the same total cost of ownership.

		Diverting all organics away from landfill also drives other benefits, like prolonging the life of existing landfill sites, reducing fugitive emissions and smells from the landfill operation, and results in an organic fertilizer without the risk of the operational odors impacting neighbors that come from composting operations.
	On a scale of one to five, how important do you think hydrogen is for reducing emissions from fossil gas use? Why do you think this?	Hydrogen is likely to play a small role, but it is unlikely to displace existing mains gas due to transmission compatibility issues as well as the requirement to change end user equipment. We would rate it a one.
	Do you see hydrogen being used as a substitute for fossil gas? If so, how and when?	Yes, in the production of synthetic methane at scale.
	What else can be done to accelerate the replacement of fossil gas with low-emissions alternative gases?	Support could be considered to undertake analysis and develop a business case for renewable synthetic methane and associated economic benefits. Support could also be considered to enable greater production of biogas through incentivizing organics away from landfills and composting operations.
	On a scale of one to five how important is a renewable gas trading to supporting the uptake of renewable gases? Why have you given it this rating?	Renewable gas trading is not a priority for Fonterra right now, but we recognize there may be a role for it in the future. There is sufficient demand for renewable gas already, there just needs to be producers willing to build plants in the regions.
	What role do you see for the government in supporting such a scheme?	Consider mapping potential supply and demand across regions and connect stakeholders.
	On a scale of one to five how important do you think CCUS is for reducing emissions from fossil gas use? o Why did you give it this rating?	The economics of CCUS remain questionable and, at least for Fonterra, we do not have high point-source emissions that would justify investing the capital and energy intensive processes required. We would rate this as a two.
	What are the most significant barriers to the use of CCUS in New Zealand?	Dispersed point source emissions, high costs.
	Do you see any risks in the use of CCUS?	No, the oil and gas industry already has experience with gas reinjection.
	In what ways do you think CCUS can be used to reduce emissions from the use of fossil gas?	We believe there is likely to be limited potential to reduce emissions from fossil gas via CCUS in New Zealand, but it should continue to be examined for Bioenergy with Carbon Capture and Storage (BECCS) as a way to accelerate negative emissions or as a feedstock for synthetic methane. For example, Huntly Rankine units could theoretically be run on biomass with carbon capture technology to produce synthetic methane with hydrogen electrolysis for pipeline injection.
	What role do you see for gas storage as we transition to a low-emissions economy?	There continues to be a rationale for gas storage with renewable gases, particularly increasing security of supply in the network.

	On a scale of one to five, how important do you think increasing gas storage capacity is for supporting the transition? o Why did you give it this rating?	We see limited value in increasing gas storage capacity as demand for petrochemicals and electricity reduce.
	What should the role for government be in the gas storage market?	None.