Submission

Gas Market Settings Investigation

Introduction

Fonterra welcomes the opportunity to submit on the Gas Industry Company's (GIC) consultation document, Gas market settings investigation, and we trust that the commentary put forward is a constructive contribution to our collective decarbonisation challenge.

Fonterra is a co-operative owned by 10,000 New Zealand farming families. Working in partnership with the New Zealand Government, our country has a modern and world-leading dairy industry where our products are desired in markets both here and around the globe and where consumers are increasingly prepared to pay a premium for New Zealand products with strong sustainability credentials.

We are New Zealand's largest exporter and have 27 manufacturing sites spread across New Zealand, in addition to science and innovation centres and distribution facilities which are integral to the business. Each factory is unique in terms of the volume of milk it processes; the products it makes; the energy sources available; and the age of its assets.

Nine of our sites rely on coal as their primary source of energy, including one which co-fires with wood biomass. Seven of these sites are in the South Island where there is no reticulated natural gas available.

We acknowledge we are a significant contributor to New Zealand's industrial process heat emissions. These emissions come from our national asset network of 21 coal boilers and air heaters, and 76 gas boilers and air heaters installed across our manufacturing sites. These assets have an average age of 28 years, ranging in size from 1MW to 56MW, with a total installed capacity of ~1,300MW.

Our commentary on the consultation document reflects our commitment to meet New Zealand's overall emissions reduction targets by helping to deliver a workable regulatory framework that allows us to transition our national asset network off fossil fuels in an autonomous and efficient manner. *See Appendix A, Fonterra's National Boiler & Air Heater Asset Network.*

For many years we have been working to lower the emissions produced at our 27 manufacturing sites by transitioning to renewable energy. In 2020 we achieved our target of a 20 per cent reduction in our energy intensity, which is the energy used per tonne of product made, using 2003 as the baseline year. This programme has focused on improving operational practices in key energy use areas, as well as significant capital investments to make further reductions in energy use, as well as building new and more efficient plants.

Over the course of this programme, we avoided using ~1.5PJ of energy and avoided emitting 3.3 million tonnes of CO_{2e}. We have also transitioned to renewable energy sources with co-firing wood biomass at our Brightwater site and switching to wood pellets at our Te Awamutu site, which have significantly reduced our use of coal.

Our plan to eliminate coal use by 2037

We have committed to ending our use of coal by 2037, on the way to net zero emissions by 2050. Coal emits nearly twice as many emissions as gas and we will continue to reduce our emissions by increasing the energy efficiency of our sites and continuing to convert our coal boilers to use renewable energy sources such as wood biomass. As aligned with the Climate Change Commission's final advice, we continue

transitioning our manufacturing operations off coal and will not use coal after 2037. After that, we will then transition our sites off natural gas. Our ability to transition off coal in that timeframe is completely reliant on the availability of gas, and the external resources required to deliver the programme.

Energy is a significant cost input into the manufacturing process and maintaining a cost-effective energy supply is essential for our business to compete in a globally competitive market. We have strongly advocated in recent consultation documents to the Climate Change Commission, the Commerce Commission and the Ministry for the Environment, that any proposed decarbonisation regulation needs to acknowledge the interdependency of coal and gas, and the impact that the scarcity of gas may have on our ability to reduce and then eliminate dependence on coal.

Gas Market Settings

Our commitment to end the use of coal by 2037 is ambitious and will be challenging to meet as the current and forecast gas scarcity issues pose a significant material risk to completing this transition within this timeframe.

Over the past three years there have been significant disruptions in the gas market. With a disruption to the Kupe gas field; the decline in the Pohokura gas field; and no new significant gas fields planned, there is a significant risk of gas supply interruptions at our gas fuelled sites. If we do not have certainty of gas supply, we may need to start transitioning our 76 gas boilers and air heaters to renewable alternatives sooner than our planned pathway of 2037 onwards, which as outlined above, would impact and hinder the speed at which we transition off coal.

From a business continuity risk perspective, we must be able to process all our farmers' milk, so are unable to have too many manufacturing sites undergoing significant infrastructure changes at the same time. Due to the nature of the New Zealand seasonal milk supply curve, there is only a very short period every year when we can undertake significant changes to our manufacturing sites. Maintenance at our sites is undertaken when the cows have dried off for the season, and it must be completed before calving begins and the amount of milk to be collected significantly increases. Over a six to eight-week period, we go from collecting around four million litres of milk a day to around 82 million litres a day. All of our sites must be able to work close to their full capacity to process the quantity of milk we received during our Spring peak volume period.

In order to focus on our transition off coal, we need confidence that we will be able to operate our existing gas assets during that period.

Gas Supply and Demand Modelling

In the modelling presented on future gas supply and demand scenarios, we would like to highlight that the inclusion of co-generation gas use in the electricity gas use volume is a mischaracterisation. This is because these co-generation plants are contractually required to run and supply both steam and electricity to our manufacturing sites. The volume of gas used in these co-generation plants needs to be included with the industrial gas use volume as their primary purpose is to supply energy to operate the manufacturing facility.

We also strongly encourage that any gas supply and demand modelling does not assume the exit of Tiwai or Methanex from the market. Given the uncertainty about the future footprint of these two companies, we believe it is more prudent to model the companies based on the netback gas value – i.e. what they can commercially pay for electricity or gas compared to the international market they sell into.

Given the current market uncertainty, we see it as important that any new regulation of the gas industry encourages market disclosure of the required price to bring contingent (2C) gas reserves to market, including the expected timeline once that gas price is triggered. This would help to provide gas users with better visibility of future pricing prior to existing contracts ending, allowing users time to develop next best alternative development decisions.

As we have advocated in recent consultation documents to the Climate Change Commission, the Commerce Commission and the Ministry for the Environment, the continued commercial viability of the existing gas pipeline is critical to ensure the network can be used for alternative low emissions energy sources such as biogas or hydrogen.

The current regulatory framework does not appear to adequately accommodate for a significant decrease in the use of gas networks and adjustments to the return on the regulated asset base from decreased use. There have been recent examples of gas users ceasing to operate, such as Southdown and Otahuhu, and

their share of gas network costs then allocated to remaining users with no change in the service being provided and little notice provided for the significant increase in costs from the re-allocation. No other business in a workably competitive environment can re-allocate costs to remaining customers if a customer no longer purchases their products.

If the regulated asset base continues without impairment or another regulatory mechanism, fewer users will have to pay for higher costs despite no change in the quality of service being provided. It is uncertain at this stage if the utilisation of the gas network will increase or decrease as the country decarbonises, so ensuring there is a mechanism that can adjust for either scenario is vital.

Current Issues

Access to transparent information

We acknowledge the proposed amendments to the Gas Act which are currently before Parliament and aim to enhance regulation-marking powers in relation to information disclosure and to ensure that settings around enforcement and penalties are suitably robust. However, we are concerned that the proposals on information disclosure do not go as far as reserves disclosure requirements used in countries including the USA and Norway, which mean that contingent (2C) and proven (2P) gas reserves include a disclosure of the required gas price to economically bring it to market.

We agree with the GIC's assessment of contractual arrangements in the gas market and that current issues being experienced by gas users are due to the transition from short term contracts in a plentiful gas supply situation, to long term contracts to underwrite reserve development. One area of concern remains the concentration of supply to a small number of owners and the loss of subsequent competitive tension. We would encourage the GIC to further explore ways to ship gas via the existing pipelines at short notice.

As noted in the section above, we are concerned that the risk of delaying the introduction of green gas into the existing gas network has not been fully accounted for in the consultation document from a transition perspective. We note that while green gas technology is mature, the challenge is in bringing multiple industry and government bodies together to make it happen. We believe this is an area of opportunity for the GIC, alongside EECA and MBIE, to provide transitional leadership.

We note that there has already been a reduction in national gas usage, with FirstGas projecting a 10 to 20 per cent reduction in gas transmission volumes and the Climate Change Commission projecting a reduction of up to 40 per cent in their final advice to Government. The decision on how to equitably handle the fixed costs of the gas transmission system across remaining users' needs to be included in either the upcoming gas Default Price-Quality Path (DPP), or if more appropriately set in the Input Methodologies (IM), then a bespoke IM needs to be consulted on ahead of the gas DPP reset.

Gas support for electricity security of supply

We acknowledge that the consultation document captures the important role gas plays in providing a backup energy source to renewable electricity generation variability and dry year risk. It also captures the limited gas demand response from industrial users like Fonterra. Continuity of gas supply is paramount to our business as we don't have the ability to stop production at our manufacturing sites without material consequences.

As a major gas user, we are very concerned that pipeline owners will face increased pressure on their asset management plans to reduce cost as national gas usage decreases. As this could increase the risk of supply disruption, we believe that the GIC should ensure this risk is appropriately managed. This includes ensuring appropriate business continuity plans are put in place to manage risks with a focus on supply restoration.

The consultation document does raise the issue of force majeure and the impact for a small number of suppliers to fill the shortfall. As the document does not propose any solutions to this issue, we believe there needs to be a simplified way for all parties to ship gas via the existing pipelines at short notice and encourage the GIC to undertake further work on this option.

Further to this we consider that greater prioritisation of gas supply in a critical outage event needs to be given to the dairy industry, especially during the peak milk months of September to December to help minimise the environmental and economic damage that would occur from a sustained gas outage. This prioritisation would help to ensure that in the event of a critical outage, a safe and environmentally secure shut down could occur through the ability to complete critical processing.

Unpredictability

As noted above, we would encourage the GIC to introduce requirements for gas producers that would mean both contingent (2C) and proven (2P) gas reserves include a disclosure of the required gas price and timeline to economically bring it to market. We believe this transparency would help in the development of green gas alternatives and the ability of companies to bring solutions into the current network.

Price

We acknowledge that the consultation document captures all the key drivers and risks associated with price, as well as the limited electricity demand response to price currently being seen in the market. As is acknowledged in the document, an increase in spot market prices can no longer drive more generation into the market given the majority of companies are either fully hedged or are on Fixed Price Variable Volume (FPVV) contracts.

Potential Solutions

Gas Storage

We note that the existing Ahuroa gas storage facility was developed under the current regulatory framework and has only been filled to 40 per cent since 2018. It is therefore questionable if further regulatory or financial incentives to develop new gas storage facilities are warranted, especially if further costs are imposed on gas or electricity users.

We acknowledge the potential benefit of gas storage for managing dry year risk, however the financial drivers to develop a new gas storage facility must stand on their own compared to other dry year solutions, in the context of a declining gas and thermal generation future. If end users or producers assess that the economics have merit, then they will progress it.

Increase information availability

Please see our response above regarding the introduction of disclosure requirements for contingent (2C) and proven (2P) gas reserves.

Better understanding risks

Due to supply side consolidation with a limited number of companies and fields, we believe that the GIC should introduce the need for disclosure of production facility asset management plans and reliability metrics.

Regulatory framework for gas pipelines

We note the work underway by the Commerce Commission on the emerging issues for New Zealand's electricity and gas networks (Open Letter) and would strongly encourage that the GIC be involved in this work programme with respect to gas pipeline regulation.

As noted in our response to the Commerce Commission's Open Letter, we recommend that some consideration is given to the impact limitations will have on the gas network as current gas users decarbonise. As this occurs existing assets in the gas network become stranded which could significantly impact the ability for the network to be used for alternative low emission energy sources such as biogas or hydrogen.

Green gas

Noting our comments above, we believe the GIC could play an enabling role with industry to help generate solutions on how to implement green gas solutions at an accelerated pace. This could occur through industry workshops and help to get critical mass volumes online as fast as possible, which would also help to reduce costs. There could also be a role for GIC to help understand the potential impact on end user gas assets if hydrogen was introduced into the pipeline.

LNG

We would strongly encourage that the GIC continue to develop the business case for LNG importation, so industry users have a clear comparison to what is required to bring local contingent (2C) gas to the market.

We welcome the opportunity to continue working with the Gas Industry Company on our decarbonisation plan and would like to assist the Government and relevant agencies in developing detailed decarbonisation scenarios. We would also be happy to provide submissions referred to above as requested.

ENDS

Appendix A - Fonterra's National Asset Network