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Attn: Submission analysis team
Climate Change Commission
PO Box 24448
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Submission on Climate Change Commission's 2021 Draft Advice for Consultation

Thank you for the opportunity to comment on the Climate Change Commission's 2021 Draft Advice for Consultation (the Draft Advice). This submission is made on behalf of Gas Industry Company, the co-regulator and industry body for gas in New Zealand. We recognise the scale of task the Commission is undertaking and the urgency of reducing New Zealand's climate emissions. In this spirit, we offer our specialist expertise about the gas industry, and extend an offer to continue to provide impartial advice about industry structure and performance.

We look forward to continuing our conversations on the assumptions in the Commission's model.

In particular, the model contains assumptions about Methanex's departure and its implications for current and future gas prices. Along with other details of the operation of the gas sector in New Zealand, we suggest ongoing engagement would benefit the refinement of the Commission's models, price outlooks and assumptions about industry adaptability.

This submission does not contain any confidential information.

Comments on the Draft Advice

Responses to specific consultation questions are appropriately the domain of other interested parties.

However, we wish to respond to parts of the Draft Advice where additional information will help to inform the recommended strategy, and where certain assumptions should be revisited.

This submission is divided into four parts:

- Part 1: Assumptions about flexibility and the role of marginal prices in the gas industry.
- Part 2: Assumptions about the utility of existing infrastructure in supporting the emergence of green gases.

- Part 3: Response to industry requests to regulate green gases, and to certify emissions from green gases and from blending green gases with conventional petroleum products.
- Part 4: Requirements for Investment in Electricity Networks.

Part 1: Assumptions about flexibility and the role of marginal prices in the gas industry

Throughout the Commission's modelling, there is an assumption that industries will operate in a rational economic fashion, overriding concerns about long term customer relationships, staffing and responsibilities to local communities.

An example of applying the approach in the gas sector is the assumption that industries with gas contracts will ensure supply is distributed to the highest value use, driven by higher willingness-to-pay. Under this assumption, some industries would on-sell their contracted gas to a higher value use for a higher price, foregoing utilising the gas themselves for their own operation. There are a few limits and complexities within the gas sector that this assumption does not account for. A key limit is that some gas contracts do not allow for further on-selling of gas. Further, the assumption does not factor in the commitments and contracts that these industries have in selling their products, nor the reputational and relationship risk these industries would have to manage if they were to reduce operation in order to on-sell their contracted gas. In our experience, a purely economic response to gas demand and prices cannot be guaranteed and individual industries will have their own incentives to operate in a certain way.

A better way to ensure supply and demand balance is the use of gas storage as a counterfactual, as the Commission already uses in the longer time horizon of the model. We would encourage the Commission to prioritise this sort of response in the industry, rather than implied flexibility in existing demand.

Part 2: Role of gas infrastructure in the future of green gas

At 5.3.2 Natural Gas (page 85), the Draft Advice suggests:

> *The transition away from natural gas may mean that, over time, many households would benefit from replacing gas appliances. This could happen as households naturally need to replace appliances and heating systems, reducing the cost to households.*

At 5.5.3 (page 93), the Draft Advice states:

> *Our path described in chapter 3 assumes that businesses would replace natural gas appliances at the end of their natural lifetime. Avoiding replacing these appliances early avoids significant additional cost.*

These statements, taken together, require that infrastructure continues to be available to meet natural gas demand to the end of the natural lifetime of many appliances.

However, Necessary Action 9, page 118, recommends:

> *c. Setting a date by when no new natural gas connections are permitted, and where feasible, all new or replacement heating systems installed are electric or bioenergy. This should be no later than 2025 and earlier if possible.*

This combination of recommendations implicitly assume that new connections can be banned while existing infrastructure continues to provide supply. Gas Industry Company, as the co-regulator of the sector, warns that existing infrastructure may not be viable for as long as anticipated in the banning scenario.

At page 112 the Commission queries:

> *"whether Aotearoa should keep its gas pipeline infrastructure long term as an option for low emissions gases… Also, whether the skills of those who work in the oil and gas sector should be actively retained in Aotearoa for new low emissions industries."*

Gas Industry Company sees the existing infrastructure as an essential component in the uptake of hydrogen and biogas.

Many of factors that are required to distribute natural gas and LPG are also required for low emissions fuels. A managed and orderly transition is required to retain skills, investment, and knowledge. If they were lost, then the capital cost of new infrastructure would fall on the first consumers. In that scenario, the capital cost would be a barrier to the introduction of new, low emissions fuels. Retaining and adapting existing infrastructure is likely to better facilitate uptake of green gases.

Gas is highly suitable for many purposes, such as high temperature industrial processes, portable fuel requirements (for example, in remote locations), and flexible energy supply (a prosaic example is certain types of cooking). These uses of gas and LPG can be served by altering the mix of gas supplied. In many cases, new biogases are likely to be a lower cost, less disruptive and more efficient outcome than attempting to transition users and infrastructure to alternative energy, such as electricity.

At page 85, the Draft Advice states:

> *Households that use natural gas for heating and cooking are likely to see an increase in their natural gas bills as a result of our proposed emissions budgets. In 2035, the impact of our emissions budgets could increase the average household gas bill by up to $150 a year. This would affect homes with reticulated natural gas and liquified petroleum gas.*
>
> *However, natural gas prices are hard to predict as the gas industry is at the beginning of a transition partly because of climate policy. This introduces considerable uncertainty into future gas prices.*

We are not aware of industry research that supports the $150 a year statement.

To assist in modelling price impacts, we guide the Commission to a document published by Gas Industry Company on 11 December 2020, *Cost benefit analysis of information disclosure in the gas industry*, available at: https://www.gasindustry.co.nz/work-programmes/gas-sector-information-disclosure/consultation-2/document/7156.

That study for Gas Industry Company by independent consultants Sapere, compared the cost per unit of gas to the cost per unit of electricity for residential, commercial and industrial users. The analysis totalled energy from each source, then divided by the value of the entire market including distribution, transmission and retailer margin (but excluding GST).

The unit cost of electricity for residential users was around double that of gas. The unit cost for commercial users was a little over three times the cost of gas, and the cost of a unit of energy from electricity was more than six times the cost of a unit of energy from gas.

In recent months we have observed a constrained gas contracting market (due to a combination of short and medium-term factors). Market conditions appear to support the Sapere analysis, as some gas contracts have risen to near match the electricity alternative and we have seen customer cost increases of the order Sapere modelled.

Although there are limitations to the applicability of these values, and they are today's figures, we trust the data will assist the Commission in refining its assessment of the likely cost impact of switching, and in further understanding the background to consumer choices between energy sources.

Part 3: Certification of emissions from green gas blending with conventional products

Gas Industry Company is aware that industry is looking at ways that a transition from natural gas to green gas networks could fit within emissions budgets.

This work tends to assume that green gases would be blended with the supply of conventional gases, either directly into the product supplied to the end user, or indirectly through a certified balancing scheme in which one market would be entirely served renewable fuel, while another was served entirely conventional gas. In this way, over time, the proportion of renewable, low emissions green gases in use would rise, emissions would fall at a rate that met the Commission's recommended targets, and existing plant would have opportunities to transition.

Gas Industry Company has been approached by industry, as the co-regulator of the sector, to enquire whether it would provide the regulatory processes and assurance that emissions targets were being achieved through a blending strategy.

Gas Industry Company has the expertise and governance machinery in place to begin this work immediately. If the Commission accepts the industry plan to transition by blending green gases into their networks on an equal emissions reduction pathway, then Gas Industry Company undertakes it can make regulatory and assurance systems operational by 2025.

Gas Industry Company is comfortable it can provide this work under its current remit and systems. The co-regulatory model for natural gas was developed as the most efficient and flexible way to facilitate the emergence of a challenger industry. Hydrogen and biogas are similar challengers and would benefit from the adaptability of the co-regulatory model, and its fitness for working cooperatively across the sector.

Both hydrogen and biogas are gases as defined in section 2(1) of the Gas Act 1992. Many of our regulatory experiences with tracking and reconciling gas usage can directly translate to green gases.

Gas Industry Company is already working on establishing a green gas certification scheme. A scheme would enable the purchase and trading of certificates to claim the green attributes of the underlying gas, with a greater goal of promoting investment in green gas technologies. Such a scheme would require an independent verification of the green gases being produced and traded and is therefore able to provide confidence in the levels of green gas being used in networks.

Part 4: Requirements for Investment in Networks

Industry participants have raised concerns with us about the additional cost of upgrading the electricity network infrastructure if residential and commercial gas consumption is replaced with electricity, particularly in concentrated population hubs.

The scale of energy from gas entering our more densely populated cities, particularly during peak demand in winter, is such that significant investment is likely to be required to ensure secure electricity supply into and throughout the city.

We recommend that the Commission consider the wider implications of such policies, including the increased cost of network upgrades, and we suggest that the Commission discuss this risk further with network operators.

Conclusion

We look forward to continuing engagement with the Climate Change Commission in relation to its advice to government to help Aotearoa transition to a climate-resilient and low emissions future and would welcome the opportunity to discuss our submission with Commissioners.

Yours sincerely

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