

Submission from
Fossil Fuels Aotearoa Research Network
on the
Gas Market Settings Investigation Consultation Paper
24 June 2021

General comments

Flawed argument for more gas, ignoring climate change

The broad argument of this paper (c.f. p 21-43) is that uncertainty of gas supply is a major issue for the gas market, industry users as well as for the economy. Continued gas supply is needed (a) to deal with the risk of rising prices (no doubt for political reasons); and (b) to provide what GIC and the fossil fuel industry call 'energy security' which the paper equates with security of gas supply, which is apparently caused by the shift to reliance on 'variable resources' (i.e. renewables). The consequences of continued gas production and consumption for climate change are not discussed nor taken into account in supply/demand scenarios. Instead, government policy settings and regulations are recommended to stimulate demand for gas, in order to encourage more investment in development of existing reserves and new infrastructure after 2030.

Yet the paper also discusses how the gas industry (e.g. Methanex) as well as domestic and commercial customers are already modifying their demand for gas in response to changing supply energy circumstances. Some companies with long-term contracts are even on-selling excess supply, which helps maintain market 'flexibility'. In other words, while calling for action to encourage production and raise demand, the paper shows how in light of projections of declining supply and demand over the next decade and rising costs (including from increasing ETS unit costs), the market is demonstrating how investors, producers and most users can and will respond to the government's plans for rapidly phasing out gas reliance and transitioning to 100% renewables by 2035.

"Clean burning gas"

The claim (p10) that gas is the 'cleanest burning' of all fossil fuels is misleading. It is the sort of spin the gas industry likes to use. Such claims are inappropriate for an agency charged with providing the Minister of Energy and Resources with neutral, fact-based advice. It gives the impression, for example, that the GIC is trying to dodge evidence around fugitive methane. The 'clean gas' claim is not credible research around GHG emissions over the entire life-cycle of fossil fuel production, distribution and

consumption is taken into account. Several studies¹ have concluded from this perspective that there is little difference in emissions profile between gas and coal. That leads to the following point.

International research and policy work challenging gas as a 'bridge fuel'

The focus of the paper is on gas market settings, as requested by the Minister. But this is not a reason to ignore the broader issue of whether there is gas should have any significant role in transitioning to a zero net carbon energy system. There are mounting calls from UN agencies, financial organisations, and climate scientists for phasing out fossil fuel production and use *sooner* rather than later. A considerable body of literature has challenged petroleum industry claims that gas can be a medium to long-term 'bridge fuel'. For example, see OilChange International's report *Burning the Gas 'Bridge Fuel' Myth: Why Gas Is Not Clean, Cheap, or Necessary*, 30 May 2019 <http://priceofoil.org/2019/05/30/gas-is-not-a-bridge-fuel/>; and a literature review by the Fossil Fuels Aotearoa Research Network (FFARN) titled *Why Natural Gas isn't a Bridge Fuel to a Low Emissions Economy*, May 2018 http://www.terrenceloomis.ac.nz/uploads/5/3/3/3/5333337/ffarn_paper_-_gas_not_a_transition_fuel_v.2.pdf

Comments on supply and demand outlook

Supply projections

MBIE's report *Energy in New Zealand 2020* 'Forecast gas production profile' (Table E7) anticipates a steep decline in total annual gas production from approximately 200 PJ in 2020 to less than 20 PJ by 2040, levelling out at approximately 5 PJ by 2050. According to the consultation paper, the GIC² intends advising the Minister that this drop in supply (portrayed as problematic for the 'normal' functioning of the gas market and risking 'energy insecurity' because renewables supposedly aren't reliable) can be addressed in the short-term by incentivising demand and encouraging investment in developing existing reserves.

Demand projections

The broad assumption (p 2 and in the body of the paper) appears to be that demand for gas will continue over the next 10-15 years, especially from those who cannot switch readily to alternative technology and renewable energy. Demand projections in the

¹ E.g. Fulton, Mark, Nils Mellquist, Saya Kitasei, and Joel Bluestein, 2011. 'Comparing Life-cycle greenhouse gas emissions from natural gas and coal.' Worldwatch Institute, August 25. https://www.westerngrid.net/wp-content/uploads/2012/08/Natural_Gas_LCA_Update_082511.pdf Anderson, Kevin Anderson and John Broderick, 2017. 'Natural Gas and Climate Change.' Tyndall Centre for Climate Change Research, Manchester University, 17 October.

² Based primarily on the views of gas suppliers and major users apparently.

paper need to be checked against MBIE's website chart comparing past and current demand. See table 'Observed gas consumption by sector':

- Industry consumed 34.2% of the gas supply in 2020. That proportion has increased since 2007 (a low point since 1990 of around 55PJ). It reached 80-85PJ by 2019 (See *Energy in NZ 2020* Fig E18.)
- 30.4% of gas is consumed in electricity generation. That figure has been about the same since around 2007 with minor fluctuations.
- 26.1% of gas in 2020 was consumed in non-gas use (mostly by Methanex). This figure is a drop from a decade ago, and is likely to decline significantly if the government accepts the recommendations of the Climate Commission and negotiates the closure of all Methanex production plants by 2040.
- 4.1% of gas in 2020 was consumed by residential use, down from 6% in 2016. The Climate Change Commission is recommending an end to new gas connections and ending the installation of gas appliances from 2025.

Climate Change Commission's final report

- The paper states (p 2) "we understand that there is sufficient gas 'in the ground' to meet mass market (residential, commercial and agricultural), industrial and electricity generation demand until at least 2035 (and likely significantly beyond), *provided demand supports investment into producing it*. Out to 2027, that production could be delivered from existing gas reserves but beyond then contingent resources would likely need to be developed to meet demand." I.e. *unless* there was a significant reduction in demand.
- The paper states (p 2; also discussed on p 11-12) "*If the Tiwai smelter closes at the end of 2024, that will further reduce demand for gas to generate electricity.*" The Climate Change Commission's final report to government has been released, and recommends the negotiated closure of Tiwai Point aluminium smelter by 2024. The smelter consumes around 13% of the country's electricity annually. Concept Consulting modelling does not appear to include an option in which the smelter closes. Even allowing for a time lag in upgrading infrastructure to supply the North Island, the increased availability of electricity from the smelter's closure is likely to result in cheaper electricity and significantly less gas demand over the medium-term transition period discussed in the paper (i.e. up to and beyond 2035 when country has moved substantially to renewables).

- The consultation paper was written before the CCC released its final report. Advice to the Minister will need to be revised to assume the closure of the smelter by around 2024, since it is likely ‘gas in the ground’ will be sufficient to meet demand to 2035 and there will be less need and investor incentive for new natural gas infrastructure. There could however be a case for additional infrastructure to distribute biogas and green hydrogen more widely.

Current arrangements and potential issues (p 21-43)

‘Transition timing’ (p 2, 10 and p 35ff) – The paper presumes the continuation of a viable gas market and a role of gas “in the medium to longer term” (p 11). At the same time (and perhaps for that reason) it is unnecessarily vague about the pace, nature and timing of New Zealand’s energy transition and presents this as a problem for the government to address. Gas investors, producers, and major users may have a vested interest in a protracted shift from reliance on fossil fuels to renewables *sometime* in the future (e.g. beyond 2035 when dwindling reserves become a serious issue). That is no reason why the GIC should be ambivalent about the nature and length of the transition. After all, the Government with Opposition support has passed the Zero Carbon Act, Climate Minister James Shaw set out a Climate Change Action Plan in 2019, Taranaki has developed Roadmap to 2050, and the CCC has recommended a clear pathway and milestones to a low emissions economy. The paper itself acknowledges there are a number of interrelated policy workstreams already helping accomplish an ‘orderly transition’. Indeed, according to climate change studies, a speedier transition away from continued investment in and reliance on gas, oil and coal to alternative technologies and renewable resources is urgently required if we are to avoid 2-5 degrees Celsius warming by the end of the century.

If the gas industry wishes to argue for a continued role for gas till 2035 and beyond because of the ‘unreliability’ of renewables, their cost compared to fossil fuels, and/or the unavailability of new technology, they should set out the evidence for their case rather than trying to raise doubt and uncertainty about the transition process. The GIC should not buy into industry spin.

Potential solutions

‘Green gasses’ – The paper neglects to discuss the distinction between green hydrogen (produced by hydrolysis) and blue hydrogen (produced from natural gas). The former is preferred and supported financially by the government. This preference has clear

implications for the paper's assertion that gas has a role in the adoption of hydrogen as an alternative fuel, and the paper should be amended accordingly.

'Increasing policy predictability' – The paper seems to buy into code language used by the petroleum industry designed to keep the debate going over reliance on fossil fuels in public discourse and communication policy makers, re-litigate policy decisions like the ban on offshore exploration, encourage continued extensions to existing permits by the Minister, and challenge new legislation like the rig decommissioning bill that threaten industry profitability. The GIC's advice to the Minister should be objective, neutral and climate science-based.

The paper notes the call by several gas producers and major users for working in collaboration with the government to develop a new energy strategy, reference to other workstreams that could be of relevance. There is also a strong case, as the Fossil Fuels Aotearoa Research Network pointed out in its submission on the 10 year Minerals and Petroleum Strategy (now adopted), for an urgent revision of that Strategy in light of the work on Tranche 2 review of CMA review in light of recommendations from the CCC. If the GIC is recommending development of a new Energy Strategy, it should also advice the Minister that she will need to revisit and revise the recently announced Minerals and Petroleum Strategy to include a planned phase out of all oil and gas exploration and production by 2030.

'Potential government investment' – There may well be a case for government investment in new infrastructure for extending the distribution of green hydrogen and biogas. We would argue that there is no business case, based on climate science, that would see government subsidising long-term gas contracts, development of risky and costly commercially unproven reserves, or improving natural gas infrastructure.

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