

24 June 2021

Carolyn van Leuven
Gas Industry Company Ltd
WELLINGTON 6140 (via email to consultations@gasindustry.co.nz)

Dear Carolyn,

Re: Gas Market Settings Investigation Consultation Paper

1. Thank you for the opportunity to comment on the consultation paper on Gas Market Settings Investigation. We congratulate the GIC on developing such a comprehensive piece of work in a relatively short time frame.
2. We attach our submission on the Gas Market Settings Investigation Consultation Paper. This submission is being made on behalf of the Major Gas Users Group (MGUG):
 - a. Ballance Agri-Nutrients Ltd
 - b. Fonterra Co-operative Group
 - c. New Zealand Steel Ltd
 - d. Oji Fibre Solutions (NZ) Ltd
 - e. Refining NZ
 - f. Wilmar International
 - i. New Zealand Sugar Company Ltd
 - ii. Goodman Fielder NZ Ltd
3. Nothing in this submission is confidential and some members may choose to make separate submissions.
4. While we address the submission questions directly in the template attached we also provide further comment below.

Clarifying Context

5. We note that the GIC work was prompted at the Minister's request to deal with a reasonably narrow range of questions¹:
 - a. To consider current arrangements that affected *security of supply* for the electricity industry;
 - b. To consider current arrangements that affected *certainty/transparency* of supply for major users;

¹ Minister's letter to the GIC – 18 December 2020

- c. That the relevant time frame posed for these questions was up to 2030, reflecting the Minister’s stated policy position that by 2030 New Zealand should have 100% renewable electricity generation.
6. From the construction of the wording in the Minister’s letter we observe that “certainty/ transparency of supply” is not the same as “security of supply” and the timeframe of interest is relatively short (up to 2030).
7. This narrow scope doesn’t seem to have prevented the GIC from looking at the sector more broadly and over a longer timeframe. However we wonder if in going beyond the Minister’s request whether some of GIC’s analysis has lost focus. The GIC is examining solutions that possibly wouldn’t be supported by a government whose expressed interest appears only focused on gas supply security for electricity generation until 2030, rather than seeing gas as an important part of New Zealand’s primary energy supply mix. For example, ideas around investment in further gas storage and LNG import seem out of touch with the realities of the timeframes and cost to develop these if they are only meant to support electricity supply security to 2030, and with the CCC’s advice to prevent new investments that lock into gas use.
8. The report touches on, but doesn’t address why the current situation is different from the past. It would have been useful to have fleshed out in more detail the general comments in Section 4.1.1 *Understanding how the gas system works* as to why it was supposedly easier to access gas in the past in comparison to now. In our view there are a number of important features in the gas market today that have changed since the period 2011-2017:

Market Feature	Then	Now
Government Policy on Gas	Gas is seen as an important crown mineral and investment in exploration, discovery, and development should be promoted internationally as an investment opportunity through annual block offers.	Crown Mineral Act Purpose Statement under review to reflect Government’s policy announcement in 2018 banning exploration. Block offer restricted to onshore Taranaki which has already been extensively explored.
Petroleum Upstream Investment	73 Active Petroleum Exploration Permits (PEPs)/ Prospecting permits. 27 Petroleum Mining Permits (PMPs) /Petroleum Mining Licences (PML). Producing fields in early to mid life.	13 Active PEPs, No change in PMP/PML and operators managing decline phase in late life fields.
Government policy on Climate Change	Climate Change policy instrument = Emissions Trading Scheme (ETS) with stable and predictable	Zero Carbon Act and establishment of Climate Change Commission (CCC) to advise on budgets with high

Market Feature	Then	Now
	settings that were understood by the sector and incorporated into long term business planning.	levels of uncertainty how these will play out in practice. Signals and direction of advice is not encouraging for the sector. ETS also under review.
Wholesale Market Supplier Diversity	Potential competing wholesalers included: Nova, Ongas, Greymouth, Shell, OMV, Genesis, and Contact.	Potential competing wholesalers: Nova, OMV, Greymouth.
Wholesale Market Customer Diversity	Methanex, Genesis, Contact - each with significant demand profiles to support their assets and support further resource discovery and development.	Methanex only customer with significant demand to support development.
Contracting Arrangements	Bespoke bilateral arrangements a reliable and cost-effective way to achieve supply and price security.	Parties less willing to enter into longer term supply arrangements; for price reasons and in some cases because of lack of certainty around own operations in New Zealand. Alternative contract arrangements through emsTradeport are also made more difficult through transmission arrangements that require annual capacity bookings.
Field deliverability/ reliability	Major fields (Pohokura, Maui, Kupe) reliable delivery.	Pohokura – ongoing and still unresolved issues with field deliverability since 2018

9. While the GIC notes that a vast majority of those they heard from concluded that market, commercial and regulatory settings for gas for the most part worked well and were manageable and there was no obvious better structure², our conclusion is that for the reasons outlined above these arrangements are not working as well as they used to.

² Executive Summary p1.

10. The issues of increased market concentration, reduced supply, and increased fragility of infrastructure in the gas sector are all connected with Government policy settings since 2018, not just across the gas sector, but the wider energy sector³. These have reduced confidence in investment in the gas sector throughout the value chain from producer to gas transport, and end users.
11. The problem framing by the Minister as one of needing supply security for electricity, but not the wider gas sector, misses the insight that security of supply for the electricity sector can only occur by creating security of supply for the whole sector. All sectors need appropriate time to adapt to transition and this will differ depending on technology options, their cost to implement, and what is dictated by the commercial reality of competing in global markets. Viewing gas for generation in isolation from the overall gas and energy system is not going to deliver supply security for any part of the sector. It will not be the generation sector (where gas sits near the bottom of the merit order), which provides investment confidence for the upstream; It is the rest of the sector, primarily petrochemicals and large industrial demand that will drive the confidence in the upstream to invest.
12. The importance of petrochemicals and larger industrials to gas system security also underpins the commercial viability of the gas transmission network in the North Island. The transmission system in turn feeds the distribution system supplying approximately 300,000 small industrials, commercial, and residential connections. This makes these sectors also dependent on the commercial viability of large users.
13. While petrochemicals and large industrials are key to sector viability, these are also industries that are seeing the greatest pressure on commercial viability in New Zealand as they battle rising energy costs, regulatory pressures/uncertainty on their investment in gas, and competition for maintenance and investment capital. When lack of security of supply, and lack of clear government policy support is added to this mix, investment timeframes for these companies shorten. This lack of confidence flows through not just the gas sector, but potentially disrupt the much wider New Zealand economic system⁴. On this basis it would seem just as critical that major gas users have not just certainty/ transparency of supply, but also security of supply through to 2050.

Problem Definition

14. The key insight from the GIC report is that although investment in resolving gas supply constraints is the solution, it is the lack of confidence to invest by business that has created the problem in the first place.

³ Similar issues exist in our view in the electricity sector, particularly around issues of political economy around Tiwai, and an aggressive push by Government for the Lake Onslow scheme.

⁴ These larger companies are often critical to regional economies for output, employment, skills, and overall economic resilience against overseas supply chain disruptions.

15. We are not confident that investment can be taken for granted in the same way as it would have played out prior to 2018. There is a significant disincentive to investment in the gas sector, created out of stated policies and also policy uncertainty as we started to outline above.
- a. Stated policy around gas being seen as a fossil energy source to transition away from in the New Zealand energy mix, preferably sooner rather than later –is a significant investment disincentive.

This domestic held view on the role of natural gas in the New Zealand energy mix is at odds with the importance being attributed to natural gas globally in the energy transition⁵. Even with reduced overall investment in petroleum exploration globally, remaining investment is being increasingly switched to gas⁶.

The ramifications for New Zealand are that for an upstream industry that is global, capital intensive, relies on a geological portfolio for a pipeline of opportunities to diversify technical and commercial risks, and has long investment cycles to recover its investment costs, New Zealand is increasingly reliant on remaining domestic based explorers as international E&P companies divert capital to other parts of their global portfolio. Domestic development however is still dependent on large overseas owned companies viewing New Zealand as somewhere where they want to continue to invest.

- b. A further stated policy (at least in direction) is that the ETS scheme with a carbon emissions cap, will see prices increase, and a phasing out of free industrial allocations. Uncertain is how prices will change and whether identified emissions intensive trade exposed (EITE) industries will continue to be recognised as strategic industries for New Zealand and if so, what level of protection (if any) will be offered to avoid carbon leakage.
- c. Policy uncertainty also arises from other sources including conflicting messaging from different parts of government:
 - i. Conflicting messaging between the Minister and the Climate Change Commission where, for example, the Minister has signalled her own preferred pathway around renewable electricity generation against the Commission's advice to focus on a wider energy picture.

We note the Minister has recently started to acknowledge that gas may have a wider role beyond supporting electricity. However the publicised lack of alignment between a Minister and the CCC and a voicing of different Ministerial priorities ahead of completing the CCC advice process, adds confusion on whose preferences will prevail.

⁵ For example the IEA World Energy Outlook 2020 under their Net Zero Emissions by 2050 Case shows very little change in gas consumption between 2019 to 2030, with natural gas picking up a greater share in the industrial and transport sector while still playing an important role in other sectors. As expected, the major reductions in fossil energy use are coming from higher carbon content coal, and oil.

⁶ <https://www.woodmac.com/news/the-edge/why-oil-and-gas-exploration-is-still-important/>

- ii. The Zero Carbon Act requires net emissions to reduce to net zero by 2050, yet the language and advice from the CCC emphasises that carbon budgets should be built around gross emission reductions. Similarly while it is open to the idea of carbon capture and sequestration being available for storing CO₂ from geothermal emissions, it avoids mentioning the same option for fossil energy sources. This seems to highlight an ongoing uncertainty and confusion between whether it is the ends, or the means, that should determine energy options.
 - iii. Further uncertainty exists around whether a date will be set (and when) for banning new gas connections. This is a significant decision which will determine whether transmission infrastructure has any future for gas in any form, fossil or renewable.
 - iv. There is also MfE promoting changes to the RMA that would see existing resource consents potentially overturned every five years. As one of our members has pointed out, *“why should I look to negotiate a 10-year gas deal, if my 25 year air discharge consent can be overturned by the regional council every five years?”*
 - d. Finally there is broader uncertainty, and unpredictability, in the way that policy impacting the business sector is being developed and set in New Zealand with significant differences from past practice. To some extent this is being reflected in the way that a final carbon budget might be adopted. There is a very short timeframe between the Commission advice release to Government at the end of May and the legislated requirement to set a carbon budget with supporting policies by the end of this year. While officials are completing a major piece of policy work with economic transformational impacts, there is no clarity on whether wider consultation on specific policy detail will be opened to stakeholder input before being finalised.
16. These background factors flow on to the substance of the gas supply and demand study and understanding of supply risk going forward. These in our view haven't been factored well into the report to give greater weight to the downside risk in supply.
 17. In the short term there is an assumption that the delivery problems with our largest gas field, Pohokura, will be resolved by a planned new offshore, long reach well to tap into the Pohokura formation. While this investment is being committed to by the Pohokura Joint Venture there are no guarantees it will deliver the desired outcome. If the intervention is unsuccessful or only partially successful, the current problems will persist into the short term. It is also an open question in our mind as to whether in the current investment climate, further attempts would be made to restore production.
 18. With respect to new supply coming from reported 2C contingent resources we are inclined to a pessimistic view on timing and quantities making it to 2P classification. The reasons for this are :
 - a. Historical reliance on 75% being what translates into reserves is not consistent with where the 2C resource is currently identified to sit. 2C is held primarily in the onshore Mangahewa and Kapuni permits. The Kapuni quantity as far as we understand it is only

inferred by seismic interpretation in much deeper formations, and still requires an exploration well programme to help characterise the resource. The Mangahewa subsurface structure is equally complicated, and almost certainly in tight formations requiring hydraulic fracturing and a large number of wells to produce. In both cases even if a resource exists, and is technically recoverable, it may not meet economic thresholds to develop.

- b. It takes time to explore, appraise, and approve for development 2C resources. This includes finding commercial partners that would help underwrite development risk. For example, in the past Todd, Greymouth, and OMV have been able to partner with Methanex, Ballance, and generators to underwrite each other's commercial risk to bring gas to production. This was in a time where gas was seen as part of the country's long term energy mix. Under the current policy environment it is considerably more difficult to justify long term participation commitments with other commercial partners.

Solutions

19. While the underlying public policy root cause of investment hesitancy in the gas sector is unlikely to be addressed in the short term, there are a number of actions that could be taken to mitigate some of the risks identified above:
 - a. We support the CCC's advice that MBIE be tasked with developing an energy strategy for New Zealand and we acknowledge the Minister's support for this recommendation. We think that this will help focus policy development and promote internal consistency across whole of government. However this needs to be an approach that is inclusive of the views of business rather than just a reformulation of the Climate Change Commission's view⁷.
 - b. In the meantime we favour the GIC and MBIE analysing the policy positions of other Government agencies such as EECA, CCC, to identify where these lead to regulatory and policy conflict and incoherence with higher level government objectives for the economy and climate action.
 - c. We support improved transparency and timeliness on New Zealand's forward gas position. This includes a better understanding of the source of contingency, and an indicative timing and range of costs for proving 2C resources. This includes having those updates available within 3 months of the close of the reporting year, rather than the current norm of 7 months.
 - d. The GIC should also consider a new work-stream to simplify gas transport arrangements. This work should pick up the pro-market features that the abandoned GTAC would have brought, such as fully variable pricing within transmission zones. The GTAC capacity and pricing arrangements better reflected the different nature of gas contracting needed to construct a forward gas book under tighter supply arrangements.

⁷ This is not a criticism of the Commission's work but it acknowledges that their draft advice in particular noted that the Commission had a very limited understanding of the intricacies of the gas market and its place in the energy and economic system

While we understand why GTAC was abandoned, we also believe a fit for purpose transmission regime matched to the current environment, can be achieved without a level of intricacy around physical capacity management that would otherwise complicate the code arrangements.

Other Solutions

20. For the reasons outlined in the table below we don't consider the following ideas as especially relevant or workable within the context of the Minister's request and Government policy settings and intentions:

Proposed solution	Comments
Gas storage	Lack of gas storage wasn't an issue for the current energy shortage. Lack of gas in storage was. While gas storage can address some unexpected, impaired deliverability from existing fields, a more cost-effective solution might be to drill more wells into existing permitted fields where gas is already stored naturally. This could be funded as a form of reserved capacity for the electricity sector.
Potential contribution of LNG	We do not consider LNG import to be a viable option as long as Government Policy and CCC advice is to retire the use of gas faster than would otherwise occur under a market where policy is agnostic about fuel choices.
Potential government investment	We are unsure what this would look like without it being a major disruptive and undermining intervention in the workings of the gas or electricity wholesale markets. Whereas the Crown underwrote the development of the gas industry last century, we see the role of Government today is to improve investment confidence for the current market participants.
Support for long-term wholesale contracts	If users had certainty on their own viability and confidence from their investors this would already be happening. In reference to our example on proposed RMA reforms on gas/coal consuming assets, it is also a lack of policy coherence that is adding to shortened investment timeframes.

Yours sincerely



Richard Hale/Len Houwers
Hale & Twomey Ltd/Arete Consulting Ltd
Secretariat for the Major Gas Users Group

Question	Comment
Q1	Do you agree with our characterisation of the role of gas in New Zealand?
	<p>In general terms, the characterization is correct, however it misses some key nuances relevant to the topic. This is particularly in relation to gas' strategic relevance for New Zealand:</p> <ol style="list-style-type: none"> 1. Gas is a key part of the energy mix and plays a pivotal and integral role in supporting our trade export and import substitution sectors that enables NZ to pay its way in the world. <p style="margin-left: 40px;">Gas is a key energy input in the harder to abate sectors (steel, Methanol, Urea), and is also integrated into various site complexes including for cogeneration and process heat (e.g. pulp and paper, dairy). Significant capital is tied to these facilities and fuel switching shouldn't be assumed as being an immediate option. Rather the next best alternative, if forced, may be to simply stop operation in New Zealand and invest in other parts of the globe. This is particularly as many of these larger companies are overseas owned.</p> 2. While gas has a carbon footprint in New Zealand, it plays a role in keeping global emissions lower (domestic urea, steel, paper products, sugar, displacing coal for generation). 3. Major Users also deliver key contributions to regional economies including high paid, high skilled jobs, and deliver economic diversity in support industries (engineering, mechanical trades, suppliers etc.) 4. The ability of these companies to be successful in New Zealand is also lowering barriers for investments in energy transition initiatives (for example Ballance/ Hiringa partnership, First Gas work into green gas). 5. Gas currently has no viable alternatives, other than import, where it is used as a feedstock (Methanol, peroxide, and Ammonia/Urea). These industries also provide inputs into other parts of the domestic economy (resins for wood products, bleaching for paper industry, and pasture growth for dairy, sheep, and beef).

Question	Comment
Q2	Do you have any comments in relation to the gas supply and demand outlook?
	<p>The gas supply and demand outlook seems optimistic:</p> <ul style="list-style-type: none"> • Our producing gas fields are all at late stage maturity requiring ongoing investment in managing the decline phase. There are greater risks in reservoir performance, and a reliance in unproven reservoirs in the same field delivering future production at the same time as the service sector for upstream work is being thinned out through loss of exploration opportunities. This leads to longer timeframes and higher costs to execute work programs. • On an aggregate basis the short term supply and demand outlook looks reasonable, but it misses potential market frictions that exacerbate supply constraints – including inability to contract term gas under traditional arrangements and difficulties in multiple supplier and shipper arrangements for individual sites under current market arrangements. • There is also an assumption that the intervention in our largest gas field, Pohokura, will be successful in restoring production. Aside from risks in the extended reach drilling program itself, there is equally a risk that the intervention will not be successful in restoring production. There is no plan B, other than reducing demand further if interventions to restore short term supply do not work. • The 2C development profile also seems optimistic. <ul style="list-style-type: none"> ○ 2C resources are primarily held in unproven reservoirs characterized by seismic, not drilling interpretation. Assuming that the full 2C outcome could be delivered seems highly unlikely. ○ The timeframes for 2C development are also optimistic (see comments on commercial outlook for gas).
Q3	Do you agree with our characterisation of the commercial outlook for gas?
	<p>We think that the issue of reduced investment confidence is a critical point to highlight upfront. This is the underlying problem to resolve for underwriting energy security in New Zealand.</p> <p>The factors for reduced confidence need to be explained but it seems clear to us that this largely reflects a significantly different policy environment that doesn't treat gas as a long term valuable energy option. So, for example while it is true that in the past major users have underwritten field development opportunities (Methanex with Todd, Ballance with Greymouth) this was under different Government policy settings that encouraged investment in developing Crown minerals and saw a long term future for fossil energy in NZ.</p>

Question	Comment
	<p>A number of major gas users have overseas owners (Methanex, NZ Steel, OJI, Wilmar) who constantly review where investment should go. Current Government policy settings, and unique approach to policy development, consultation, and advice, has increased political risk for investors to the extent that much shorter investment horizons are now seen as prudent. A number of large users who may have been prepared to underwrite 10-year gas contracts in the past are now seeing unacceptable risk in being unable to meet the obligations this would create in a less certain policy environment.</p> <p>Leaving aside the greater political risk impacting on forward investment decisions the assumptions around the role of 2C resources need to be calibrated, both in terms of quantity that might ultimately reach 2P resource category, and timing.</p> <p>With respect to development of 2C resources into 2 P category:</p> <ul style="list-style-type: none"> ○ Cost to develop these and bring gas to market not understood (including upstream). This affects both quantity and timing of 2C conversion to 2P category. There is likely to be less gas available and will take longer (if at all) to develop because of downstream uncertainties.
Q4	<p>Have we captured the issues fairly and accurately? Have we missed anything?</p>
	<ul style="list-style-type: none"> • Good comprehensive coverage of issues, but most are symptoms related to overall regulatory and policy environment uncertainty that is cutting across more than just the gas sector. • Analysis should highlight policy determination and settings as root cause. The rest of the described issues can be better understood in this context.
Q5	<p>What are your views on the potential solutions stakeholders have raised? Can you share any more detailed information to help inform us on how feasible or effective they might (or might not) be?</p>
	<ul style="list-style-type: none"> • Solutions may be technically feasible but face significant confidence barriers while gas is considered to be only important to protect electricity supply security. • Gas storage would have a better business case if these could be seen as able to be repurposed to CCS for fossil energy, not just CCS for geothermal.

Question	Comment
	<ul style="list-style-type: none"> • Failure to distinguish between fossil energy/ raw material and fossil emissions and a political belief that the two separate issues can never be decoupled is an underlying belief system that is undermining investment confidence in solutions, including for gas storage, field development, and LNG import • Improving information on 2C to 2 P in terms of timing and economic price would help reduce uncertainty about the role of gas going forward. • Development of a coherent Energy Strategy as recommended by the CCC would enable a better conversation and understanding of how the overall energy system, including gas contributes to public wellbeing. • All of these need to be supported by a public policy development process that is predictable, and trusted to deliver sound advice that will be listened to by Government.
Q6	Are there any other potential solutions?
	<ul style="list-style-type: none"> • Address the dimension of political risk first to build back investor confidence (both upstream and downstream)– this is particularly relevant for overseas investors and decision makers who are comparing New Zealand to other jurisdictions where they have investments, or opportunities to invest.
Q7	Do you agree that there is potential in a set of solutions linked to providing greater confidence to support the required investment in gas supply and flexibility, and that there is unlikely to be a single solution?
	<ul style="list-style-type: none"> • Single solution is restoring faith in government policy setting and decision environment. This will open up the other opportunities.
Q8	What are the most important next steps to ensure that gas can support security of supply in the electricity market and that major users have sufficient certainty/transparency about gas supply for their operations during the transition?
	<ul style="list-style-type: none"> • Major Users need more than certainty/ transparency about gas supply. They equally need to understand that supply is secure while they work on their own climate change adaptations and energy transition strategies. • It would be helpful if Government focused on net carbon emissions (as per legislation) and expressed more agnosticism as to how that can be achieved. All other major environmental legislation in New Zealand is outcome based rather than prescriptive. The same approach should work for Climate Change. The outcome should be on keeping all energy options open while using the ETS scheme and carbon budgets to set constraints on how energy choices develop.

Question	Comment
	<ul style="list-style-type: none">• The Market needs stabilizing to avoid demand destruction from undermining viability of current infrastructure<ul style="list-style-type: none">○ Transmission arrangements need to reflect reduced risk of pipeline congestion and need for greater flexibility to transport gas.○ More timely reporting of gas reserves and indication of how and when 2C reserves might come to market and at what price point/ range.