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Ministry of Business, Innovation & Employment

Via email to gastransition@mbie.govt.nz

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Submission on "Gas Transition Plan Issues Paper"

Background

1. OMV New Zealand (OMV) is a major energy provider for the country, finding and developing natural gas deposits in Taranaki. Our business helps to meet the energy demands of New Zealanders in economically, environmentally, and socially responsible ways.

2. OMV welcomes the opportunity to provide feedback on the Issues Paper, ***Gas Transition Plan Issues Paper*** (the paper) from the Ministry of Business, Innovation & Employment (MBIE).

Responding to climate change is driving a transition in energy

3. The energy sector is at the heart of the challenge to reduce Greenhouse Gas emission levels. OMV sees that natural gas has an important role in acting as a lower carbon bridge, while the world switches from oil and coal to renewables.

4. In 2022, OMV launched a new global strategy which will see our oil and gas business decline over time to be replaced with low carbon energy sources. By 2050, OMV intends to be a net zero company across all of Scope 1, 2 and 3 emissions. OMV will gradually reduce fossil fuel production by 2030, with a stronger decline in the following decades. By 2050 we will exit fossil fuel production for energy use.

5. OMV recognises and supports the objectives of the Climate Change Response (Zero Carbon) Amendment Act 2019 (Zero Carbon Act) and its goal of achieving net zero emissions by 2050. OMV supports the Emissions Trading Scheme (ETS) as the primary mechanism for reducing emissions in New Zealand in order to achieve our net zero goal. OMV has shared its views on New Zealand's energy transition through previous submissions such as on the Climate Change Commission's draft advice to government (March 2021), the draft of

the first Emissions Reduction Plan (November 2021), and consultation with the Electricity Authority on the thermal transition (July 2023), among others. In the context of the required multi-decade, economy wide transformation to achieve net zero by 2050, our submissions have highlighted:

a. the critical importance of regulatory stability in enabling (or at least not hindering) the significant investment needed in New Zealand's energy system;

b. the need to make sure policy interventions are considered only when really needed to deliver emissions reductions that are additive over what would be achieved by the ETS alone, and such policy interventions should be justified by robust cost-benefit analysis;

c. the importance of ensuring that New Zealand's emissions are not simply exported to overseas economies; and

d. the need to ensure that all realistic decarbonisation options remain open and are not unnecessarily or prematurely closed off, to ensure optionality is maintained.

6. In New Zealand we are fortunate to enter the energy transition in an enviable position, with renewable energy sources providing most of our electricity (between 82% and over 90%, depending on weather) and around 40% of our total primary energy. Our domestic gas resources provide stability during this transition.

7. However, we are now transitioning from a stable, resilient energy system that for decades has supplied energy from a diverse range of fuels, towards a system that is much more highly renewable and electrified. Gas plays an important role in the current energy system. It provides a secure energy supply for electricity generation and for users of industrial heat, as well as a feedstock into chemicals such as methanol, and provides essential resilience and diversity of supply. This security needs to be maintained until practical low carbon solutions are in place to avoid energy shortfalls and further deindustrialisation.

8. The complexity of maintaining gas supply and demand through the energy transition is challenging. The Ministerial Foreword to the paper notes that "*it is almost certain New Zealand will need a level of reliable gas supply for years to come*". The Foreword also identifies the key issues: "*one of the key challenges for the gas sector is ensuring that investment in gas supply continues for an appropriate period of time so that the needs of the gas industry, and the electricity system continue to be met for as long as we need them*".

9. As a major investor in gas supply, we agree with these statements. We share some perspectives below.

Gas plays an essential role in New Zealand during the energy transition

10. Gas is a valuable commodity as a feedstock for petrochemical processes, electricity generation and as a source of industrial heat. Gas provides security of supply in the

electricity system through firming and peaking and also for security in a dry year. It supplies process heat for our key manufacturing industries, particularly high temperature process heat. And it provides energy for consumer needs in homes and businesses through space and water heating, and cooking. Gas in New Zealand has 300 large industrial customers, 5,000 large commercial customers, 11,000 small commercial businesses and 290,000 residential customers.

11. International analyses show that for low emissions energy to displace gas from high-temperature industrial heat requires wholesale electricity prices to be around a third of current prices, not just when it is windy or sunny, but continuously. Low emissions power costs would have to drop by a factor of five, or green hydrogen costs drop by a factor of more than ten. Alternatively, carbon prices must reach US$200 per ton of CO2 equivalent – not just in New Zealand, but in every country of the world[1]. The value and unique attributes means that gas is likely to be needed in New Zealand for a long time – although its use will change. We have outlined above the changing requirements for gas.

12. Gas is useful for resilience in the face of disasters. New Zealand is uniquely subject to natural risks- both from our tectonic setting and from climate-related weather events as recent experience has shown. The resilience of natural gas networks to weather events, and particularly the use of LPG bottles to provide emergency heat and power to communities, has shown that value of diversity in fuel supply and that having a complete dependency on one fuel is unwise.

13. Gas is also useful for providing deep resilience in the face of climate cyclicity. We can expect to experience dry years, and currently we have no alternative back up security for generation than the use of fossil fuels. Large-scale pumped hydro is unlikely to be operational before 2037 and is extremely expensive. Removing the optionality provided by gas generation during dry years before there is an economic alternative in place would be damaging to national energy security, affordability and sustainability. Without gas, the current fallback option is coal.

14. Gas is vital for regional economy of Taranaki, estimated at providing 41% of the region's GDP, and employing 7,430 people or approximately 10% of the Taranaki workforce.[2] And gas underpins all of this activity from a tiny physical footprint compared to wind farms or hydro lakes.

15. We believe that New Zealand needs to retain options for as long as possible during the energy transition. Gas is an indigenous resource that can buy you time and avoids coal use. We believe the focus should be on reducing emissions, not transitioning from gas.

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[1] Michael Liebreich (2023) *"Net Zero Will Be Harder Than You Think – And Easier."* BloombergNEF https://about.bnef.com/blog/liebreich-net-zero-will-be-harder-than-you-think-and-easier-part-i-harder/

[2] Energy Resources Aotearoa (2022) *"Building Energy's Talent Pipeline"*, https://www.energyresources.org.nz/assets/Uploads/Building-Energys-Talent-Pipeline-Skills-Plan-5-October-22.pdf

Gas use provides stability during transition ...

16. MBIE's *Energy in NZ 2023* report shows current annual demand for gas in New Zealand is approximately 145 Petajoules (PJ) in 2022, down from a historical baseline of 200 PJ. Since 2019, consumption is down by around 25% mainly due to reduced non-energy production (down 30%) and reduction in (baseload) electricity generation (down 20%). However general residential and commercial demand has essentially been maintained and connections have actually increased. Use of gas for baseload electricity generation is reducing and gas power stations are being used less frequently, mainly due to the market effect of the ETS and the rise in renewable generation capacity with more favourable Levelised Cost of Energy. The imminent closure of Contact's TCC plant is a further major example of this trend away from the economic operation of baseload thermal plant. It is clear that the ETS and the dynamics of the electricity market are producing significant emission reductions. However, the details of this energy transition are vital. The Climate Change Commission (CCC) noted that "*the speed with which Aotearoa reduces fossil gas use for generating electricity needs to be carefully managed to ensure electricity remains reliable and affordable*." However, New Zealand does not yet know how long it requires gas to be part of the energy mix for electricity generation; that policy analysis is ongoing in many agencies, including MBIE, and is dependent on many factors such as the rate of building renewable energy plants. Even after studying this question further, the outcome of any analysis will remain inherently uncertain due to the need to make assumptions which may change over time given the complexity of our energy system.

17. The role of gas in electricity generation is swiftly transitioning from providing baseload generation to more of a peaking and firming role. Recent forecasts from agencies such as the CCC and the Electricity Authority generally agree that the decline in the use of gas for baseload generation will lead New Zealand to achieve a highly renewable electricity market, nearing 100% in the next decade. Models differ in the precise timing and magnitude of this transition, but the trends appear to be firmly set. However, a key question remains about the economic viability of a reliable substitute for fossil gas peaking in the next 10-15 years. With its fast start capability and stable cost profile, gas will still be needed in a smaller but crucial role for security of supply and price stability in the electricity market for decades to come.

18. For example, the CCC's 2021 *Inaia Tonu Nei* Demonstration Pathway projected the construction of 200 MW of new fossil gas peaking plant by 2035. We note that the CCC saw a role for gas out to 2050 (and beyond). Recent modelling undertaken for Boston Consulting Group (BCG) and the Electricity Authority's Market Development Advisory Group (MDAG) indicates an ongoing role for up to 700MW of fast start peaking generation for the foreseeable future. Annual reporting from the major electricity generators in 2023 has again highlighted the need for gas peaking.

…and New Zealand has plenty of gas resources that can be developed through investment…

19. In New Zealand we are hugely fortunate that we have begun the energy transition from a strong starting point, and we have a diversity of energy sources, with wind, sun, water, geothermal, gas and oil.

20. There is plenty of gas in the ground. According to figures supplied to MBIE by the gas sector for *Energy in NZ 2023*, Pohokura has 269.5 PJ of remaining 2P reserves, and Māui has 188 PJ remaining 2P reserves. Total 2P reserves in New Zealand are 1,635 PJ. MBIE has noted that this is the first time estimated gas reserves have dropped below ten years of remaining use, based on an average annual gas use of 200PJs over the last ten years. However, while 2P reserves may be declining, the total 2C resources in NZ are 1,727 PJ. Pohokura has 113 PJ of contingent resources, and Māui has 85 PJs of contingent resources. Accordingly, gas resources are plentiful, but they need continuing investment to ensure they are developed in a timely manner. Changes in 2C assessments may reflect both changes in subsurface understanding and views of the future market, such that the view of how much gas can be economically extracted is continually changing. Turning 2C into produced gas needs investment, and such investment needs a customer.

21. The challenge is to keep gas in New Zealand's energy mix for as long as it is needed, and not have a premature exit of the gas sector. A disorderly exit would lead to unnecessary costs and avoidable risks to security of supply, economic development and sustainability, as coal use would likely fill the gap left by an unexpected decline in gas (or if not, electricity prices may spike or shortages could occur), whilst some activities specifically needing gas may well become uneconomic and/or disappear.

…but fields are aging…

22. Gas production in New Zealand comes from old fields and that production requires ongoing investment in these existing fields. New Zealand is fortunate to have world-class gas fields that have underpinned the New Zealand economy for decades and continue to provide essential energy. Despite their age, there is significant upside remaining in these fields. The recent Māui East discovery, a satellite to the existing Māui field, shows the potential remaining in these old fields. This is fortunate, as new discoveries such as Todd's Karewa discovery, and the recognized potential for further gas discoveries in Taranaki, are likely to be a decade away from production given the timelines typical for development.

23. Based on reporting by natural gas producers published in MBIE's *Energy in NZ 2023*, New Zealand's annual production from 2P Reserves is expected to peak at 170 PJ in 2024. It is then expected to start a sustained decline, falling below New Zealand's current 2022 demand of 145 PJ by 2027, and decreasing to 77 PJ by 2032. Note, these production profiles are based on 2P reserves estimates and do not include any additions that may come from 2C Contingent Resources that producers may decide to invest in.

…ongoing investment is required….

24. The availability of gas throughout the thermal transition will require continued investment. For example, around 80% of current field production at the Māui Field is delivered by wells that have been drilled since late 2020, highlighting the importance of investing in these existing fields. Investment decisions in gas supply are also "lumpy", requiring episodic, very large, up-front expenditure. For example, the recent Māui campaign required investment of approximately $500M. The sector usually aggregates drilling activities so that costs for mobilizing equipment to New Zealand are spread across operations. To mature the contingent gas resources in the ground, in order to reverse the decline in 2P reserves and to maintain field production rates, and ultimately to produce gas for customers, requires these drilling campaigns.

…and the investment climate is challenging.

25. New Zealand's de-industrialisation during the early part of the 21st Century is striking. We have seen the closure of the Marsden Point Refinery, the mothballing of Methanex's Waitara Valley plant, Tiwai Point keeping Potline 4 closed, and the Glenbrook steel mill reducing production. This gradual de-industrialisation and the departure of major energy users is providing challenges for investment in gas production as well as producing local detrimental economic impacts. We welcome MBIE's adaptation of the classic energy trilemma to include an economic development lens.

26. Recent government policy has led to uncertainty in the investment environment for energy. The unexpected cessation of new offshore petroleum exploration licence rounds in 2018 sent a shock through the energy sector. The government policy of ending fossil fuel use for electricity generation by 2030 has discouraged the construction of any new gas-fired peaking plant which most analysts and power generators identify are needed. Revisions to the Crown Minerals Act following the collapse of Tamarind have further signalled shifts away from promoting investment towards managing the sector, whilst putting significant impediments in the way of investors. Uncertainty has been further compounded by the possible multi-billion dollar government investment in the NZ Battery Project which has had the potential to radically transform the electricity system at some time in the future, but in the meantime is stifling investment in other options.

27. As the size of the gas industry reduces, there will be fewer opportunities to manage risk. Diversification and risk-sharing have traditionally been the most common strategies for managing investment in gas production. However, with the industry's contraction, there will be fewer opportunities to diversify investments and fewer parties willing and available to share the risk.

28. OMV itself is currently seeking to divest its New Zealand assets, and our experience is that regulatory delays in approvals for asset ownership changes can provide a handbrake on investment.

The current trajectory is worrying but can be altered

29. Risks of underinvestment in gas supply have been identified by the Gas Industry Company, who found that production could come largely from existing reserves until 2027, but beyond 2027 it is likely to require development of contingent resources.

30. The effects of underinvestment may occur sooner due to shortfalls in electricity supply for peak demand. Transpower has released its Security of Supply Assessment for 2023, suggesting that North Island winter capacity margins and New Zealand winter energy margins cross upper security standards in the mid-late 2020s. New Zealand has also been insulated from energy shortfalls in 2023 by recent wet conditions leading to excellent hydro conditions and oversupply of gas due to planned Methanex maintenance shut down of one methanol production train. However, a plausible scenario can be seen developing in the mid-2020s with winter energy shortfalls at peak times, prolonged high energy prices during a dry year, and a disorderly exit of thermal plants and accelerated industrial exit throughout the decade.

31. However, this scenario and trajectory should not be viewed as fixed. It can be avoided by continued investment from the gas sector. There is plenty of gas in the ground. Resources exist that can be produced, contingent on suitable market and regulatory conditions. Drilling programmes have successfully rejuvenated old fields, and we have more planned. We are maturing plans for production from the new Māui East discovery. Methanex has mothballed the Waitara plant but not decommissioned it. Consents for new gas peaking plants exist. We expect gas will play an essential role during the energy transition, but uncertainty over government policy about what role gas has in the future and whether it will be "phased out" is deterring companies from making investment decisions.

We need to meet the agreed emissions plans

32. The paper asks the question "How can NZ transition to a smaller gas market over time?". We disagree with this positioning. **We should transition to a low emissions economy.** We disagree with any idea that gas should somehow be "managed out" or "phased down" as a goal. If the gas market were to for example maintain its current size, but with lower emissions (e.g. through carbon capture and storage), then that should be considered a good outcome.

33. The Climate Change Response (Zero Carbon) Amendment Act to the Climate Change Response Act 2002 (Zero Carbon Act) sets a goal for New Zealand to reach net zero emissions by 2050, without being prescriptive as to how we get there. The Zero Carbon Act has achieved wide cross-partisan support. We are concerned that the Gas Transition Plan (GTP) (as an input into the wider Energy Strategy) may provide an overly prescriptive pathway:

    a. It goes beyond the principal target of the Zero Carbon Act and would become another example of 'picking winners' in the path to net zero. We reiterate that the Government must ensure that all realistic decarbonisation options should

remain open and are not unnecessarily or prematurely closed off, to ensure optionality is maintained.

b. It would likely mean the cost to reach net zero is higher, since achieving the overall lowest cost abatement will be impeded by the sub-targets and the mechanisms to achieve them.

c. The concept also risks further embedding what is becoming considered to be industry sub-sector gross emissions targets (e.g. energy, transport etc) in the CCCs' demonstration path. Depending on how strongly a sub-sector target is considered to be firmly set, they also get in the way of New Zealand identifying and achieving the lowest cost abatement options, as optimising emissions reductions across the sectors to achieve the lowest overall cost will not be possible if sector targets are to be treated as firm targets. This would lead to emissions reduction silos and sub-optimal outcomes at New Zealand Inc level.

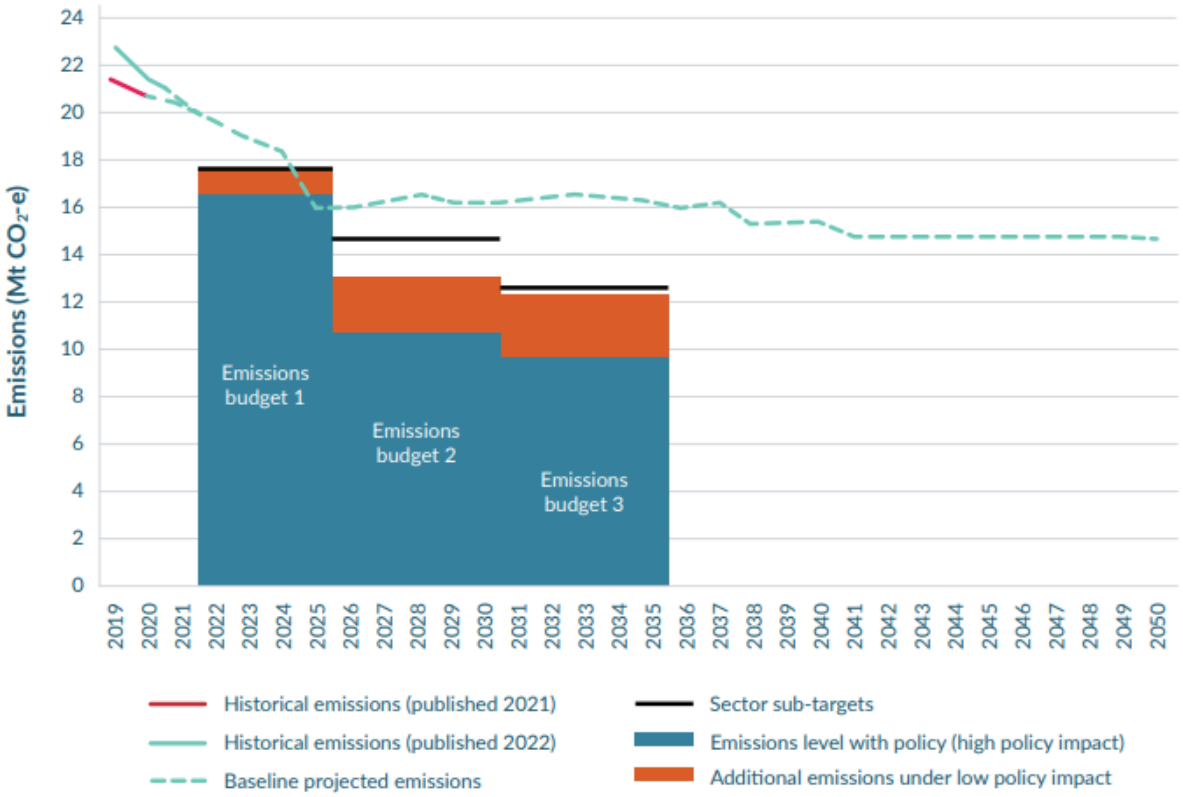
34. The transition pathway should be specified only at a very high level. This is to ensure that the pathway is adaptable over time as the process of changing a highly complex and inter-related energy system in the context of a rapidly changing technology landscape cannot be predicted with accuracy. Avoiding an overly prescriptive pathway will provide space for government and private enterprise to adapt without compromising the overall objectives and principles.

35. It is worth returning to what the Emissions Reduction Plan (ERP) set by the previous government committed to. This was to develop a gas transition plan by the end of 2023, and to set targets for the energy system:

    a. A deliberately ambitious target of 50 per cent of total final energy consumption coming from renewable sources by 2035;

    b. To monitor progress towards the Government's aspirational target of 100 per cent renewable electricity by 2030, and to review this target in 2024 before developing the second emissions reduction plan.

36. The ERP also quantified the targets for the Energy and Industry component, reproduced below:



37. The ERP did not set a target for the gas sector. Accordingly, we are concerned with Footnote 22 in the paper: "*The Climate Change Commission's demonstration pathway was used because the Emissions Reduction Plan's Energy and Industry component did not produce gas sector specific targets as part of the emissions budgets*." We understand that Figure Three in the paper, and the associated "targets" of per-year reductions, is drawn from unpublished models done for the CCC, which the sector has not had opportunity to comment on previously.

38. The paper goes on to say that it intends to use the targets in the CCC demonstration pathway as a guide to the minimum scale of emissions reductions required to reach the legislated emissions targets. We have outlined above the issues we see with adopting sector targets as firm targets. The paper now suggests that a quantified sub-sector target be adopted for the gas sector. This target-setting for a sub-sector goes beyond any discussion in the ERP as agreed by Cabinet and is inappropriate for the reasons outlined above.

39. Moreover, the setting of a target as a minimum level without any discussion of the inherent uncertainties involved is not in alignment with the Terms of Reference of the GTP which state it should "*establish realistic, but ambitious, transition pathways for the fossil gas sector to decarbonise in line with the 2022-2025, 2026-2030, and 2031-2035 emissions budgets, noting the inherent uncertainties involved".*

40. The starting point of assuming that the targets in the CCC demonstration pathway are a guide to the minimum scale of emissions reductions required to reach the legislated

emissions targets appears to start with a figure in mind. This misses the opportunity that the GTP could provide – and was recognized in its terms of reference - in providing a discussion of the balance required in the outcomes of the GTP(sustainability, security, equity, emissions reductions, and energy conservation & efficiency). Instead, it starts from the assumption that a sub-sector target of emission reductions trumps all other considerations. It appears that the transition pathways are assumed to be set and quantified at a very detailed level, rather than providing analysis of potential transition pathways. This approach runs the risk of developing an overly prescriptive pathway that runs counter to the flexibility embodied in the Zero Carbon Act.

41. It should be recognized that identifying and achieving the lowest cost abatement options is aimed at achieving the lowest overall cost to New Zealand Inc. It may well be that the security of supply provided by gas, and the avoidance of peak energy shortages, may outweigh the costs to the economy of limited emissions reductions in the gas sector. For example, if gas fired peaking plants cannot provide cheap, secure energy then higher electricity prices may slow down the electrification of transport and industry. This is discussion and analysis that we would like to see happen as part of the GTP.

42. The GTP is an input into the Energy Strategy. The Government's objectives for the Energy Strategy are:

    a. Energy affordability and energy equity for consumers.

    b. Ensuring that our energy supply is secure and reliable, including as we adapt to the effects of climate change and in the face of global shocks.

    c. Our energy system transitions at the pace and scale required to support a net zero 2050.

    d. Our energy system supports economic development and productivity growth aligned with the transition.

43. These high-level objectives for the Energy Strategy with a focus on net zero 2050 are appropriate and suggest a welcome consideration of the energy trilemma (with an additional economic development lens). As a key input into this strategy, the GTP should not have a sole focus on emissions reduction from a single sector without considering the balance needed to manage the trilemma and maintain productivity.

44. We note that in later Emissions Plan periods there is an assumed progressive closure of Methanex's operations to make a significant contribution to the country's emission reductions. A closure of Methanex's New Zealand operations would (based on the current make-up of global methanol production) almost certainly result in increased global carbon emissions since the marginal methanol production is coal-based in China.[3] We note below our views on the effect of a closure of Methanex's operations will have on gas supply for the market overall including reduced gas supply for non-Methanex customers. We do not believe that the decarbonisation of New Zealand via

[3] https://www.beehive.govt.nz/sites/default/files/2018-06/07_Methanol%20Applications.pdf

deindustrialisation and export of emissions overseas is a desirable plan for the country to pursue.

45. The gas sector is actively reducing its emissions. According to Energy Resources Aotearoa (ERA), New Zealand's natural gas and LPG emissions from production, processing, transport, and use fell by 2.35 million tonnes between 2010 and 2021. The sector is 37 per cent more emissions efficient than it was in 2010.

46. OMV is on track to achieve emissions equivalent to 0.059 tonnes of CO2 per ton of oil this year, which is below the minimum International Association of Oil & Gas Producers emissions intensity benchmark. As part of our emissions optimisation work, we have replaced a 792 kW gas-turbine compressor with a 125 kW electric compressor at the Māui production facility, reducing annual emissions by about 3,200 tonnes. We also replaced steam-fired water makers with reverse-osmosis units for an additional 6,000 tonne per year reduction. New operating practices for Māui A turbines reduced emissions by 3,000 tonnes per year, and the upgrade of the Māui A burner management system reduced emissions by 4,000 tonnes per year.

Continued investment needs a foundation customer

47. It may be tempting for the Government to view the emissions reductions in Figure 3 of the paper produced by step-changes in Methanex's activities as a desirable goal, leaving adequate gas for a rump of electricity generation. However, this neglects the complex relationships that enable investment in gas production. Electricity generation would be highly unlikely to have secure, affordable, long-term access to fuel from reservoirs with adequate deliverability without being developed in symbiosis with a larger consumer of gas. It is worth noting here that Methanex have provided gas to gentailers in 2022 and 2023 over winter which has eased security of supply concerns and reduced coal burn.

48. The rest of the gas market is symbiotic with Methanex. When gas producers are embarking upon major investments to develop more gas to supply consumers, they need gas offtake certainty to be able to invest. Methanex have typically played this role for the industry by committing to offtake for a portion of the yet-to-be-developed gas. With the project under-written, the gas producer can then market the rest of the gas to other consumers. Without Methanex providing underwriting for gas field investments through long-term supply agreements, it is unlikely the gas market will exist in anything like its current form. This holds true for both offshore and onshore gas production. OMV has invested US$ 500m in the last 3 years drilling development wells at both Maui and Pohokura, which would not have been possible without Methanex as a foundation customer. Other consumers have benefited from the additional gas supply brought to market through these investments.

49. The economics of offshore drilling in New Zealand means that drilling a single incremental well in an existing field is seldom commercial due to the very high costs to mobilise a drilling rig from overseas. Wells must usually be aggregated into a campaign which – if successful - brings large slices of gas to the market. Lining up 20+ smaller customers that could replace Methanex to buy a significant proportion of

that gas to support the investment decision would be extremely challenging. Moreover those customers are unused to carrying the investment risk. Wells are intrinsically uncertain due to incomplete subsurface knowledge. Methanex can bear that risk due to their corporate scale and their experience. Others are less familiar and less able to shoulder that risk - especially as their risk may well be existential. A failed well would mean no gas for them, and thus the risk of being switched off. We find it unlikely that any will accept that risk.

50. Accordingly, Methanex must be central to any future plan for gas in New Zealand. For example, encouragement of Methanex to achieve emissions reductions without de-industrialisation would maintain a smooth transition. Gradual emissions reduction from Methanex could include many of the options under discussion in the paper, including blending of biogas with their existing gas stream, use of "blue" hydrogen derived from natural gas, or coupling carbon capture and storage with their existing processes. All of these would support much needed investment into existing gas assets in a decreasing blend and would avoid the shock to the wider energy system of a rapid cessation of supply driven by closure of plant. These would underpin the development of nascent industries such as biogas, green hydrogen, and offshore wind for power-to-X applications. It is likely that the requirement for a big customer will underpin a hydrogen economy in New Zealand, as it has underpinned the last century's hydrocarbon economy. This may still be Methanex, if it can economically transition to hydrogen and tap in to emerging markets for green methanol. This complex transition would be eased by a GTP that connects these elements and by government action which could smooth out the inevitable "bumps" in the road.

51. Moreover, Methanex plays a globally important role in producing methanol from gas rather than using coal, and so contributes to significantly avoided emissions. We note that Methanex, as a company that receives an Industrial Allocation of NZUs in recognition of the fact that its overseas competitors do not face carbon tax/costs, is influenced by policy that affects this allocation. We urge MBIE to ensure that the strategic importance of Methanex to the continued supply of gas in New Zealand, and thus the energy security of the country, is fully appreciated by your sister agencies when considering any changes to the ETS.

Don't look at gas in isolation

52. We congratulate MBIE on undertaking the development of an Energy Strategy. We are hopeful that such a strategy will be able to overcome any siloed thinking on New Zealand's energy system. It would be unhelpful for the government to consider the issues of gas in isolation from an evaluation of other interconnected elements of the system. A GTP without a matched plan for increasing renewable energy and a commercially viable solution to address the intermittency of renewable generation (for example) would be subject to significant risks to security of energy supply.

53. We have also discussed above that gas in New Zealand is intertwined with the global methanol market. The isolation of the New Zealand gas market is often assumed from an electricity-focused viewpoint, but in fact much of our gas is transformed and

exported into international markets. Changes in the use of methanol internationally-particularly the growing role of methanol as a bunkering fuel for international shipping – will continue to influence the New Zealand market. The relatively low emissions profile of New Zealand methanol compared to coal-derived methanol may provide a competitive advantage as shipping seeks to decarbonize and a true green methanol sector develops. The development of green methanol as a shipping fuel is being actively pursued by the shipping sector but the scale of the amount of electricity or biogas required means this may take decades to be fully established. A purely domestic focus on the gas transition risks missing vital elements of the complex picture of gas.

54. We would also like to ensure that a focus is established on the small but significant role of the liquids produced from New Zealand's gas-condensate fields. The value of LPG as an indigenous fuel that has demonstrated advantages for resilience in the face of natural disasters and can provide access to energy in rural areas should be recognized. LPG also delivers many of the advantages of gas as a cheap source of heat for consumer and business needs. And from the perspective of a gas producer, the produced liquids are an important commercial element to the value of the fields. Decisions that affect the domestic LPG market will have direct flow-on impacts to the provision of gas for other sectors.

The scale of what is needed is immense

55. The energy derived from gas use is enormous. The 145 PJs of gas used in New Zealand in 2022 would equate to over 40 TWh of electricity – roughly the total 2023 national electricity generation. Any plan to manage a transition away from gas is daunting in scale. We have discussed above how gas is needed for peaking and firming, for industrial heat, and as a contributor to energy security during dry years. No economic alternative yet exists. And we have discussed above how the future availability of gas depends on investment, which in turns depends on the ongoing presence of a major customer and stable regulatory settings.

56. As discussed above, we strongly believe that the future of gas should be outlined in broad strokes. This approach is crucial to allow for adaptability over time, considering the intricate and interconnected nature of the energy system, especially within the rapidly evolving landscape of technology. By steering clear of an overly rigid plan, we create room for both government and private enterprises to adjust without jeopardizing the overarching goals and principles.

This is a difficult balance...

57. We have outlined above the scale of the challenge and some of the risks that we perceive. A great deal needs to go right to ensure a smooth transition. Investment needs to be maintained in the existing gas fields and deliver successful increases in production. Customers need to remain active such that the investment is underwritten.

Gas infrastructure needs to have a commercial case to continue to be maintained. New gas peakers need to be built and the existing ageing peaker fleet needs to continue to operate. Renewable build-out needs to keep pace with demand and not cause pricing increases due to just-too-late commissioning in times of challenging supply chains.

58. We can expect that there will be occasional turbulence during the energy transition. What must be avoided is the engineering of sudden shocks into the transition that trigger irrevocable tipping points (e.g. plant closure, asset decommissioning, company exits) that lead to a disorderly exit of the gas sector and de-industrialisation of downstream activities, whether the shocks are demand-led or supply-led.

…and the government must play a role.

59. The sector needs supportive long-term signalling from government. The Gas Transition Plan provides an opportunity to provide this signal. The GTP should indicate that government sees a role for gas out to 2050 for hard-to-abate sectors like chemical feedstocks; process heat; peak and firming electricity generation within a highly-renewable grid; dry year security; and as a contributor to a diverse energy system that maximises our indigenous energy supplies and is resilient to natural disasters.

60. Our current experience of attracting investment to New Zealand as our divestment process develops has given us a valuable outside-in perspective on the international view of investment in the New Zealand gas sector. We view continued investment in gas as essential to provide secure energy supply, as well as tax and royalty benefits to the country. But clear government signals that it supports investment into gas are requiredInvestment is ultimately a human decision. The Government has over time increased the hurdles for investment in the sector and increased uncertainty on legislation, which have affected investors' confidence.. Regulatory approvals have taken so long that investors have pulled out of investment deals due to lack of certainty.[4] Clear government signals are needed that make it obvious that a long-term role for gas is seen.

61. The Government should move quickly to avoid providing further barriers to investment, such as those provided by the decommissioning financial guidelines. Policy uncertainty in this area is still a major barrier to investment.

62. We caution against setting targets without full consideration of the unintended consequences. New Zealand's energy is a finely balanced system. Stating a policy that gas will be out of the electricity generation mix by 2030 has had the effect of deterring investment, leading to a decrease in our security of supply. Similarly, policy that forces de-industrialisation through the next ten years via inflexible sub-sector emission targets will simply unbalance the energy trilemma.

[4] Jadestone Energy, (2022), *"Termination of Maari Acquisition",* https://www.jadestone-energy.com/termination-of-maari-acquisition/

63. We are not the only country working on energy transition. The government's role in these international analogues is often to create a conducive environment for collaboration by providing a neutral platform for discussions, setting common goals, and ensuring transparency. This includes establishing advisory panels, task forces, or industry forums where stakeholders can participate. OMV is a signatory to the Energy Resources Sector Net Zero Accord which could function as one such platform for this kind of participation. The Government can also incentivize collaboration through policy support that aligns with the shared objectives of ensuring a reliable gas supply to 2050 and transitioning to cleaner energy sources.

64. We suggest that the GTP must recognize the challenges that gas producers face and aim to engage with them to develop effective strategies for a successful transition. The issues highlighted in this submission underscore the need for collaboration, innovation, and adaptive strategies to ensure a sustainable future for both the gas industry and the broader energy landscape. Ensuring continued gas supply while transitioning to alternative energy sources is a complex challenge that requires careful planning, collaboration, and strategic measures.

65. A particular element within many international analogues is public engagement: stakeholders engage with the public to raise awareness about the importance of the energy transition and the role of gas supply. Public participation is considered crucial for a successful transition, and stakeholders work together to communicate the benefits and challenges of the process.

66. The Government has a key role to play in this public engagement. Bringing the public along with the policy through the energy transition will be difficult. Depicting fossil fuels as “bad” and renewable energy as “good” ignores the many shades of grey in the economy. The subtle changes required such that gas shifts from baseload energy to high-value essential services is not well aligned to the attractive simplicity of banning activities and fuels. Communicating such complexity to the public, such that social licence exists where required investment can be made, is essential but challenging. If the social license for gas production or consumption is lost prior to the establishment of economic alternatives, then a scenario of a disorderly exit becomes more plausible.

67. Social licence is a complex issue in the energy sector that may affect renewable energy as it does fossil fuels. As we move to increased renewable energy, the footprint of the required solar farms, wind turbines, and biomass plantations may become increasingly unacceptable. The trade-off between local and global environmental priorities may cause the balance of social licence to swing against the massive, required build-out of renewable energy. Gas production and use has a relatively small local footprint due to its exceptional properties and may help to address the balance-but only if optionality is maintained.

68. Rapidly phasing out gas without adequate renewable energy capacity could lead to energy supply shortages during peak demand or unexpected renewable energy shortfalls, potentially risking grid stability and reliability. The GTP might lead to economic challenges if industries and consumers face higher energy costs due to premature phase-out of gas and a reliance on expensive biofuels for peaking services.

This could affect affordability for businesses and households, and the higher electricity costs will slow the electrification of industry and transport undermining the overall goal of reducing New Zealand emissions.

69. We view the key role for the GTP and for government is as a connector, to help connect the disparate parts of the "new gas" economy. There is a huge opportunity for New Zealand for smart linkages between old gas fields, depleted gas fields, Carbon Capture Utilisation and Storage, biogas, petrochemicals, and hydrogen so that no gaps are left during the energy transition and to make smart use of existing infrastructure.

The challenge of decommissioning

70. When considering the role of government in the future of the gas sector, we wish to make a particular note on decommissioning as an example of how government action could produce hurdles to investment with unintended consequences. As discussed above, New Zealand's fossil fuel infrastructure is ageing. As operator of three of Aotearoa New Zealand's four offshore fields, OMV considers it appropriate that the issue of decommissioning is being addressed by the Government. There is no question in OMV's mind about the need to decommission in a safe, environmentally responsible, and efficient manner, and to provide financially for those activities. OMV prides itself on being a responsible operator and we work hard to understand the decommissioning scope of our assets (based on international best practice) and the associated costs, and we make proper provision for those in our accounts.

71. The Crown seeks secure and affordable energy supply, alongside protecting itself from undue risk. To achieve all these goals will require a delicate balance of policies. As previously submitted on, the Decommissioning Guidelines as currently framed swing the balance too far in the direction of protection from risk and place the Crown's other goals in jeopardy. The Guidelines will impact ongoing investment in existing gas fields at a critical time in New Zealand's energy transition and may jeopardise the security of energy supply for the country.

72. We are concerned that these guidelines appear to have been developed without due regard to the wider policy setting of the energy transition, with a sole focus on avoiding risk to the Crown and without analysis of their impact on the wider picture of investment in the gas sector. Policy settings need to ensure that the energy system can continue to meet the needs of New Zealanders through the transition.

73. We believe that the Guidelines as currently formed will provide a significant constraint on the capital needed for such investment. The Guidelines may add undue costs to our operations, materially affect cash flow for our late-life assets, increase risk for ongoing investment, and may ultimately accelerate end of field life. We urge MBIE to consider the delicate balance between all the policy levers at their disposal, including the Guidelines, that is required through the energy transition to ensure security of supply.

The future of gas is exciting

74. We have discussed above the emerging "new gas" economy, where existing gas assets are blended or repurposed with new technologies such as hydrogen or biogas, alongside ongoing investment in the ageing conventional gas fields. Customers gradually transition to new energy sources. The gradual transition for existing infrastructure will ensure that optionality is maintained and with it, the efficiency and flexibility of gas supply. This could involve optimizing storage facilities, upgrading pipelines, and ensuring reliable distribution networks. As an example, we consider that the idea of a gas peaking/firming plant in Taranaki, fuelled by a renewable/fossil gas blend from subsurface storage, and linked to emission capture and sequestration, is a very attractive concept. Such an asset would contribute to energy security for New Zealand while lowering emissions.

75. Our view is that the Government should not try to "pick winners" in this emerging picture, but look to assist development of new ideas, and to keep as many options available as possible. We believe the Government can play a vital role in connecting the new technologies as they try to gain scale and enable them through a supportive regulatory environment.

76. As per our 2050 corporate strategy, we expect use of fossil gas will concentrate on irreplaceable high-value applications such as chemical feedstock, particularly where CO2 can remain bound in long-lived chemical form in methanol end-uses. We anticipate that the changing role of gas in New Zealand will produce many opportunities.

77. We provide some comments below on the elements of the future of gas raised by the paper.

Renewable gas

78. Renewable gases are highly attractive as an element of a circular economy, using a waste product for value. We are pleased to see the advances being made in renewable gas production in New Zealand. Blending of biogas with existing gas streams will produce early emissions reduction while maintaining the viability of existing infrastructure. Renewable gases can act as a supplement or alternative to fossil gas during periods of high demand.

79. Questions remain about the scale that can be achieved in biogas. As we have outlined above, the scale of energy use from gas in New Zealand is immense and renewable gases may only ever be able to contribute a small percentage of this energy. Nevertheless, it may well be a valuable part of the future energy mix.

Hydrogen

80. We have provided comments on hydrogen as part of feedback on the draft hydrogen roadmap consultation paper. OMV maintains a keen corporate interest in the role that hydrogen may play in the global future energy mix. OMV, together with Kommunalkredit AG, is investing EUR 25 million in a 10MW green electrolysis plant in order to be able to produce up to 1,500 tons of green hydrogen annually, starting in 2023.

81. In our refinery in Schwechat in Austria, we have been using so-called grey hydrogen (produced from hydrocarbons such as natural gas) for years to produce sulphur-free diesel and gasoline. We intend to use green hydrogen to hydrogenate bio-based and fossil fuels in order to substitute grey hydrogen in the refinery. We deliberately opted for green hydrogen production on an industrial scale as we see the potential it holds – for lower-carbon road use as well as for reducing CO2 emissions in industrial operations. We believe that substitution of green hydrogen within existing petrochemical processes is a key application in New Zealand.

82. We see a high potential of hydrogen especially in freight transport and public transport, where electrification is often difficult or impossible. Therefore, the contribution that hydrogen can make in the sector that is difficult to electrify is very significant. OMV and Österreichische Post AG, Austria's leading provider of transport and logistics services, have signed a Memorandum of Understanding for the use of green hydrogen in heavy goods transport. We note with interest the similar steps towards use of hydrogen in heavy transport in New Zealand.

83. We wish to make some further summary points here:

    a. As discussed above, we believe that the focus of the Government should be on achieving emissions reduction with the greatest efficiency and lowest cost, rather than choosing particular sectors or fuels to drive emissions cuts. Such policy choices are likely to deliver suboptimal outcomes and increases the risk of unintended consequences.

    b. Hydrogen has many advantages as noted in the paper. We are investing internationally in green hydrogen, but we note that the development of "blue" hydrogen derived from gas with carbon capture and storage may be an important part of the energy transition. We suggest that blue hydrogen may be a useful incremental and cost-effective emissions reduction, allowing industry to gradually transition without shocks. Exploration of the potential role of blue hydrogen as part of the energy mix may discover a useful decarbonized indigenous fuel source. Displacing "grey" hydrogen derived from gas that is used in existing industrial processes could bring significant and rapid emission reductions.

    c. For green hydrogen to make a significant contribution to decarbonisation developments will require large quantities of cheap electricity. Our experience in gas development in New Zealand leads us to consider the analogies with last century's hydrocarbon economy. The current exploration of large offshore wind

developments in Taranaki to provide large quantities of electricity will need large-scale, long-term customers if they are to proceed. The requirement for a big customer will likely underpin a hydrogen economy in New Zealand, as it has underpinned the last century's hydrocarbon economy. This may still be Methanex if it can transition to hydrogen. Alternatively, it may be a new hydrogen export facility or a new power-to-X export facility. In either case, the likely role of export markets will be key, just as it is for gas production. Domestic electricity consumers will benefit from the symbiotic effects of this large pairing, just as the New Zealand electricity sector has benefitted symbiotically from methanol export in terms of low electricity prices and security of supply. Other sectors in New Zealand may be able to decarbonize faster with similar symbiotic effects.

Storage

84. The increasing variability in the needs of thermal electricity generation and other gas consumers implies that the gas system will need to be more flexible than its current state in order to balance supply and demand. New Zealand has very little energy storage, and this forms a critical weakness in the energy system. We are aware this has been well recognized by government, and the increasing dominance of intermittent renewables in models of the future energy system places even more emphasis on the role of storage.

85. It is also impossible to ignore the role of recent policy settings, as it would be difficult to justify any new gas storage solution that requires significant capital investment that cannot be executed (designed, consented, sanctioned, built and filled) and achieve payback before 2030 (by when the previous government had targeted a 100% renewable electricity system). We expect this has constrained the range of possible solutions and the appetite for considering them. In the future, Pohokura may be suitable for underground storage of gas, hydrogen or CO2. However, it has a long life left, and part of its attractiveness is due to proximity to industrial sites (Methanex) that would need to remain in order to maintain this option in the future.

86. "Storage" could also involve Demand-Side Management in gas. Discussion of New Zealand's need for deep energy storage has focused on electricity demand response from industry, such as the smelter. Demand Response in emergencies has been provided by Methanex in the past, but commercial incentives for a petrochemical producer to lean in to support the electricity market are complex and not necessarily well-aligned. We note Transpower's prudent approach when forecasting security of supply to not count on such action if agreements are not in place. Nevertheless, Demand Response could be useful if discussions with users could lead to demand-side management strategies to reduce gas consumption during peak demand periods. It may be possible for the Government to play a role to encourage industrial gas users and large consumers to adjust their energy use patterns through incentives or pricing mechanisms. And methanol itself is a useful indigenous fuel that is low-hazard, storable, becoming globally important as a bunkering fuel for shipping, and can be used in existing gas peakers in New Zealand with straightforward modifications. Methanex could play a vital role in ensuring the energy security of New Zealand.

87. At a larger scale, the Government has long recognized that it is unclear that commercial incentives exist for the private sector to build dry year cover. As noted above, NZ has relatively little energy storage. Subsurface gas storage could be increased to allow a strategic reserve. This may be worthy of further investigation. We note the NZ Battery Project will further develop its understanding of what will happen in our electricity market if there is no 'NZ Battery' solution. At time of writing the future of the NZ Battery Project is uncertain but the question of energy storage should remain as a central element of any Energy Strategy. The counterfactual scenario assumes fossil fuels, such as coal and gas, continue to have a role to play in providing dry year cover, and as peakers for very short periods of high demand.

88. The scale of energy storage to achieve dry year security is immense. MBIE estimates that a dry year will cause a 5 Twh gap in New Zealand's energy mix. Estimates by Enerlytica[5] suggest that aggregate call on gas in a dry year would be an additional 17-25 PJ which could well require additional gas delivery of over 200 TJ/day to feed electricity generation. Total maximum gas system deliverability in New Zealand is 647 TJ/day and the average in 2022 was 419 TJ/day. Maximum deliverability from the Ahuroa Gas Storage facility is 65 TJ/day. This is suitable for supplying peaking plant from existing flexible storage but clearly insufficient for sustained dry periods.

89. Recent studies by MDAG, BCG and the Electricity Authority have all concluded that strategic reserves are unwarranted in New Zealand due to their distortionary effect in the market and the difficulty in maintaining incentives for investment. However, government involvement in securing strategic gas reserves has many precedents internationally. Several countries (including the USA, Germany, France and China) maintain strategic gas reserves as a part of their energy security and emergency response strategies. These reserves are intended to ensure a stable and reliable supply of gas during emergencies, supply disruptions, or periods of increased demand.

90. The management of these reserves typically involves government agencies or state-owned entities tasked with overseeing their operation and release when needed. We agree that further work is required in New Zealand to understand the reality, costs, feasibility, and role of government of seeking to rely on gas in a dry year. We think it is unlikely, with the right policy settings, that direct government investment in the gas system would be required.

Carbon Capture, Utilisation and Storage (CCUS)

91. We welcome the paper's discussion of CCUS. The importance of CCUS has been recognized across the political spectrum in New Zealand in recent years, and the inclusion of CCUS as part of the paper is useful. Many countries are moving rapidly towards embracing the role of CCUS as a vital tool in the energy transition. OMV has

[5] Enerlytica (2023), *"LNG import and options to increase indigenous gas market capacity and flexibility in New Zealand",* https://www.mbie.govt.nz/dmsdocument/27262-lng-import-and-options-to-increase-indigenous-gas-market-capacity-and-flexibility-in-new-zealand-march-2023-pdf

identified CCUS as a key opportunity for the company as we move toward our net-zero ambition. It is a key decarbonisation technology for heavy carbon emitting industries like steel or cement, with OMV aiming to capture and store not only its own emissions but also those of third parties as well. The underlying technology has been safely used for decades around the world. With our license EXL005 "Poseidon" located in the Norwegian North Sea, we have started our first major project in this area. The intention is to inject CO2 captured from multiple identified industrial emitters in North-West Europe, including OMV subsidiary Borealis' various industrial sites in Europe. OMV has a target of storing 5 million tonnes of CO2 per year by 2030.

92. In New Zealand, we are exploring solutions that would allow us to produce our Māui East discovery by separating CO2 from the gas stream[6] . Our corporate environmental goals mean that we are unwilling to agree any development path for the discovery that would involve venting the CO2 into atmosphere. The ETS provides an additional incentive to avoid emissions. In our view, Māui East is not true CCUS: it is a relatively simple separation of CO2 from the natural gas stream, and reinjection at the site into the reservoir it came from. It is more analogous to the reinjection of water that is produced with gas, a common procedure in the sector. Accordingly, we believe the regulatory setting within the Exclusive Economic Zone is relatively straightforward, the technological requirements well within our capability, and the challenge is one of determining an economic way forward.

93. As part of Māui East scenarios, we have explored other, more complex options such as aggregation and storage of third-party CO2. We believe CCUS is a very real scenario for Taranaki. The region is one of the best placed in the world for CCUS, with existing infrastructure, depleted fields that have previously contained CO2 for millennia, and deep local expertise.

94. However, our view is that as the options become more complex - particularly onshore – the regulatory regime becomes less clear and government could helpfully provide an enabling regime to allow opportunities for this key emissions reduction technology to be realized without regulatory uncertainty. We suggest that such a regime could include:

    a) Inclusion of CCUS as a removal option in the ETS.

    b) A “sandbox” or pilot study that will allow testing of the regulatory settings required. Other countries have proceeded with pilot studies for decades that have demonstrated the technical and commercial feasibility of CCUS and have allowed the development of legal and regulatory frameworks.

    c) Long-term planning for use of declining gas fields. We believe there is a significant future role for CCUS for depleted gas fields beyond the “productive” life of the asset. Such use is likely to have stakeholders that exist beyond our current commercial view of the fields. A risk exists that the optionality of such a future role

[6] Wood Beca Limited (2023) *“Review of CCUS/CCS Potential in New Zealand”,* https://www.mbie.govt.nz/dmsdocument/27264-review-of-ccus-ccs-potential-in-new-zealand-march-2023-pdf

would be forgone as the decommissioning of the fields proceeds at end-of-life, particularly if such timing is accelerated by inappropriate decommissioning regulations. We note the useful provision in the Crown Minerals (Decommissioning and Other Matters) Amendment Act 2021 for repurposing of assets. We would welcome discussions to connect field operators with potential future stakeholders such that New Zealand's future needs and opportunities for CCUS are factored in to our late-life planning for the fields.

d) Stakeholder and iwi involvement. This is a vital role for government and while it should be done in partnership with industry, the Government must lead this discussion to ensure it is not seen by stakeholders as industry-led, as we have observed in other jurisdictions. A key factor must be the views of Māori on this important development.

95. Our view is that in New Zealand, CCUS is a useful interim measure to help reduce emissions from existing industries. It is unlikely to be needed in the long-term as new industrial plant that may be built in the future will likely be designed to be zero-emission either due to the nature of the industry or the nature of the fuel used for the industrial processes, and we firmly expect that new energy technologies will supersede the use of fossil fuels for energy by 2050. However, as an interim measure CCUS has a window of opportunity in the next 10-15 years where it can usefully aid in reducing emissions. This short window means that the requirement for an enabling regulatory regime for true third-party storage is urgently required. Delays of several years in developing such a legal framework would erode the likely economic lifetime and benefits of any CCUS scheme and mean the opportunity for securing an easy win in emissions reduction during the energy transition would be lost.

LNG Imports

96. As a gas producer with deep knowledge of local and international gas markets, we do not believe it would ever make sense to import LNG to replace/substitute for domestic production of gas. New Zealand is fortunate to have domestic gas resources. Reliance on imported LNG to backfill a shortfall in domestic production, produced presumably by a lack of investment and a disorderly exit of gas customers and gas producers, would be a huge failure of energy policy.

97. However, as a dry-year solution, LNG import is likely viable. The report[7] produced by advisory firm Enerlytica as part of the GTP outlines the viability of LNG imports for the purpose of dry year cover. Although expensive when compared to indigenous gas resources, LNG may provide dry year cover that is significantly cheaper than options that have been under consideration such as the Lake Onslow pumped hydro scheme Technological advances in LNG are attractive due to their flexibility. Floating LNG terminals and modular temporary thermal plant could be rapidly installed or

[7] Enerlytica, (2023), "*LNG import and options to increase indigenous gas market capacity and flexibility in New Zealand"* https://www.mbie.govt.nz/dmsdocument/27262-lng-import-and-options-to-increase-indigenous-gas-market-capacity-and-flexibility-in-new-zealand-march-2023-pdf

decommissioned in response to changing demand. Changes in global LNG trade patterns also suggest that occasional cargoes of LNG could be secured in times of need.

SUMMARY OF QUESTIONS AND ANSWERS

How can New Zealand transition to a smaller gas market over time?	We disagree that this is necessary. The focus must be on decreasing emissions, not transitioning away from any particular fuels.
What is needed to ensure fossil gas availability over the transition period?	Continued investment in production, which requires a major customer to underpin the investment.
What factors do you see driving decisions to invest or wind down fossil gas production?	Deindustrialisation- particularly any decision by Methanex to scale down or close- will lead to a rapid wind down of gas production. Government policy, including decommissioning regulations, may prevent further investment.
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. Government needs to be responsive to changes- i.e. approval of changes in ownership of assets should not be unduly delayed. Supportive regime for decommissioning needs to be established. A credible government strategy could provide a useful communication framework for stakeholders in the sector.
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?	No comment.
What role do you see for gas in the electricity generation market going forward?	Peaking. Dry year cover. A reducing role in baseload as more renewable energy is built.

What would need to be in place to allow gas to play this role in the electricity market?	Continued gas supply. Continued investment in production. Continued presence of major petrochemical customers to allow the symbiotic relationship with electricity generation to continue.
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 is essential for security of supply. No viable economic alternative to gas peakers yet exists. Gas can contribute to ensuring security of supply in dry years. Gas can displace coal in many applications - such as dry year response or process heat. The price of gas can provide stability in a market for diverse fuel types where otherwise shortage may lead to price spikes. Gas is resilient in the face of natural disasters and can ensure security of supply.
Do you see alternative technology options offering credible options to replace gas in electricity generation over time? Why / Why not?	Yes. A combination of emerging technologies will likely replace gas in the future for electricity generation. Hydrogen, biofuels, methanol-fuelled peakers, and batteries all appear attractive. However, the viability, timing and costs of such options are as yet unknown. We feel it would be unwise to base a strategy for the energy security of the country on these until more certainty is achieved. Note our global corporate strategy assumes that we will exit the use of gas for power generation by 2050.
If you believe additional investment in fossil gas infrastructure is needed, how do you think this should be funded?	New gas peakers are needed, urgently. We believe that supportive government policy will remove roadblocks to private sector investment in these peakers.
On a scale of one to five, how important do you think biogas is for reducing emissions from fossil gas? Why did you give it this rating? Do you see biogas being used as a substitute for fossil gas? If so, how?	4. Biogas is highly attractive as an element of a circular economy, using a waste product for value.

	Blending of biogas with existing gas streams will produce early emissions reduction. Questions remain about the scale that can be achieved in biogas.
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? Do you see hydrogen being used as a substitute for fossil gas? If so, how and when? What else can be done to accelerate the replacement of fossil gas with low-emissions alternative gases?	5. Hydrogen can play a role in reducing emissions from natural gas, as an economic step on the journey to true zero-emission green hydrogen.
What role do you see for gas storage as we transition to a low-emissions economy? On a scale of one to five, how important do you think increasing gas storage capacity is for supporting the transition? Why did you give it this rating? What should the role for government be in the gas storage market?	5. Gas storage can provide flexible delivery of gas to thermal peaking plant and dry-year support. NZ is short of energy storage, and gas storage is a proven, inexpensive mechanism for energy storage. Gas storage has a tiny local environmental footprint compared to hydro storage (for example). Existing infrastructure and expertise exists in NZ for gas storage. Viable sites for gas storage have already been identified. It may be that economic incentives for private sector investment in gas storage may not be well established due to the “episodic” need for gas peaking or dry year cover. In this case, further investigation is warranted

	to determine if a government role may be to provide a strategic reserve.
On a scale of one to five how important do you think CCUS is for reducing emissions from fossil gas use? Why did you give it this rating? What are the most significant barriers to the use of CCUS in New Zealand? Do you see any risks in the use of CCUS? In what ways do you think CCUS can be used to reduce emissions from the use of fossil gas?	5. Taranaki has excellent subsurface potential for CCUS, and existing above-ground infrastructure to contribute. An enabling regulatory regime is needed, particularly for onshore CCUS and storage of third-party CO2. CCUS must be in the ETS. Government must play a role in helping public understanding of CCUS. CCUS may lead to zero-emission use of thermal power during the transition.
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? What role do you see for the government in supporting such a scheme?	Renewable gases may only ever be able to contribute a small percentage of NZ energy compared to the positions stated on natural gas. Nevertheless, it may well be a valuable part of the future energy mix.
Our position is that LNG importation is not a viable option for New Zealand. Do you agree or disagree with this position? If so, why? What risks do you anticipate if New Zealand gas markets were tethered to the international price of gas?	We don't believe it would ever make sense to import LNG to replace/substitute for domestic production of gas. NZ is fortunate to have domestic gas resources. Reliance on imported LNG to backfill a shortfall in domestic production, produced presumably by a lack of investment and a disorderly exit of gas customers and gas producers, would be a huge failure of energy policy. However as a dry-year solution, LNG import is likely viable and while it may not be the solution ultimately landed upon, it would significantly cheaper than options such as Lake Onslow. Enerlytica produced a report

	outlining the viability of LNG imports for this purpose. Technological advances in LNG are attractive due to their flexibility. Floating LNG terminals and modular temporary thermal plant could be rapidly installed or decommissioned in response to changing demand. Changes in global LNG trade patterns also suggest that occasional cargoes of LNG could be secured in times of need.