Infrastructure New Zealand

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Submission template

Submitting on the *Advancing NZ's Energy Transition, Gas Transitions Plan Issues Paper, Interim Hydrogen Roadmap, Developing a regulatory framework for offshore renewable energy and Measures for transition to an expanded and highly renewable electricity system.*

This is the submission responds to all the above listed consultation documents.

The Ministry of Business, Innovation and Employment (**MBIE**) seeks your comments by **5pm on Thursday, 02 November 2023**.

Please make your submission as follows:

1. Fill out your details under the "Your name and organisation" heading and, if applicable, check the boxes underneath on privacy and confidentiality.
2. Fill out your responses to the discussion document questions. Your submission may respond to any or all of the questions. Where possible, please include evidence to support your views, for example references to independent research, facts and figures, or relevant examples. If you would like to make other comments not covered by the questions, please provide these in the "General comments" section at the end of the template.
3. Before sending us your submission:
   a. delete this first page of instructions
   b. if your submission contains any confidential information, please:
      - state this in the cover page or in the e-mail accompanying your submission
      - set out clearly which parts you consider should be withheld and the grounds under the Official Information Act 1982 (**OIA**) that you believe apply
      - provide a separate version excluding the relevant information for publication
4. Submit your submission by either:
   a. emailing this template as a PDF or Microsoft Word document to gastransition@mbie.govt.nz
   b. mailing your submission to:

      Energy Resources Markets Branch
      Ministry of Business, Innovation and Employment
      15 Stout Street
      PO Box 1473, Wellington 6140
      Attention: Gas Transition Plan Issues Paper submission

Please direct any questions that you have in relation to the submissions process to gastransition@mbie.govt.nz.

Release of Information

Please note that submissions are subject to the OIA and the Privacy Act 2020. In line with this, MBIE intends to upload copies of submissions received to MBIE's website at www.mbie.govt.nz. MBIE will consider you to have consented to uploading by making a submission unless you clearly specify otherwise in your submission. MBIE will take your views into account when responding to requests under the OIA and publishing submissions. Any decision to withhold information requested under the OIA can be reviewed by the Ombudsman.

Submission on the *Gas Transitions Plan Issues Paper*

Name	
Organisation (if applicable)	Infrastructure New Zealand
Contact details	

Release of information

Please let us know if you would like any part of your submission to be kept confidential.

☐ I would like to be contacted before the release or use of my submission in the summary of submissions that will be published by MBIE after the consultation.

☐ I would like my submission (or identified parts of my submission) to be kept confidential, and **have stated below** my reasons and grounds under the Official Information Act that I believe apply, for consideration by MBIE.

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Infrastructure New Zealand

2 November 2023

Infrastructure New Zealand's Submission on MBIE's Energy Transition Consultation Package

Infrastructure New Zealand response on energy consultation

1. Introduction

1.1 Infrastructure New Zealand (INZ) welcomes this opportunity to make a submission on the suite of consultation documents on changing the energy landscape in New Zealand.

1.2 INZ is New Zealand's membership organisation for the infrastructure sector. We promote best practice in national infrastructure development through research, advocacy, and public and private sector collaboration. Our members come from diverse sectors across New Zealand and include infrastructure service providers, investors, and operators.

1.3 While INZ has submitted as New Zealand's leading infrastructure sector organisation, our members may make their own submissions raising those issues specific to their areas of interest or expertise.

1.4 We have prepared this response to MBIE's suite of consultations on the future of the New Zealand energy market, in one response. We recognise the inter-dependent nature of the energy system and its transition to a renewable future and have addressed this consultation response as such.

2. General remarks

2.1 INZ welcomes the consultation exercise undertaken by the Ministry of Business, Innovation and Employment (MBIE). The challenges in transitioning the energy system are inherently interdependent, and thus requires a coordinated and holistic approach. MBIE is right to consult on the suite of initiatives together, and to welcome submissions observing the interactions between those initiatives.

2.2 The energy decarbonisation transition challenge in New Zealand and the rest of the world is large, critical, and urgent. Our climate is changing, and we must act swiftly and decisively to rapidly reduce our emissions, to meet our national emissions reductions targets, and transition to a net zero economy by 2050.

2.3 However, the transition must be orderly and fair. We must maintain a stable and affordable supply of energy to those that need it to support wider decarbonisation efforts in things like transport, support low carbon growth in industry, and ensure an equitable transition for households. A swift, successful transition relies on building and connecting significant new renewable generation capacity, firming intermittent generation, and improving resilience in the grid and distribution networks.

2.4 Energy is a critical part of the transition to a net zero carbon economy. It makes up approximately 40% of New Zealand's carbon emissions, spread across transport (18%), manufacturing and construction (8.2%) and electricity generation (5.7%). It is also fundamental to a modern, successful society, so the transition must be approached with a careful balance of ambition and realism.

2.5 Decarbonising our economy has the potential to make New Zealand significantly wealthier by reducing or removing the need to import energy from international markets. It could also make New Zealand more economically resilient, reducing our trade deficit, and shielding us from international oil shocks.

3. The role of government

3.1 The government has a critical role to play in supporting New Zealand's energy transition. The scale and complexity of the infrastructure required to successfully transition New Zealand's energy system to low carbon, is beyond the investment scope of the government. Rather, it should use its position to maximise the opportunity for private enterprise to invest and develop the infrastructure required.

3.2 The government should have a primary focus on providing certainty in an inherently uncertain environment, and only intervening further where market failures arise. Certainty, along with a permissible consenting framework, will help maximise the investment opportunities for private development in renewable generation and other green economy initiatives.

3.3 Greater certainty in the energy market will support private decarbonisation efforts across the country, and therefore support our pathways to a low carbon economy. It will also ensure that the private sector can deploy assets in the most effective way, focusing investments in the highest value areas, while avoiding the risks of stranded assets.

4. Regulatory certainty

4.1 The scale of development for the transition, the volume of infrastructure that needs to be built, and the lifespan of that infrastructure necessitates a predictable, stable, and permissible regulatory environment, to make investment conditions as favourable as possible.

4.2 Stable regulatory regime

4.2.1 Assets and investments in the energy industry, like generation plant, transmission and distribution infrastructure, and demand sources like boilers for spatial and process heating and high capacity multi vehicle charging hubs, all have high upfront costs, with benefits realised over a long period. For significant investments to be made in that infrastructure, investors want a degree of assurance about a permissible future regulatory environment. For things like wind generation (offshore or onshore), that's assurance that they will be able to maintain their assets safely and efficiently without burdensome compliance checks. For users of significant energy, like hydrogen electrolysis, establishing a long-term regulatory regime, with assurances that it won't materially change over the lifespan of the infrastructure, will help make those investments more attractive. For regulated network investment, clear, long-term commitment to the principles of financeability and financial capital maintenance will shave critical basis points of the cost of financing.

4.2.2 The government may also need to play a role in bringing the industry together to address and agree on a fair approach to network upgrades, to avoid first-mover-disadvantage, where the first new connection that is the catalyst for a line up grade bears the majority of the upgrade costs. Developing a standard agreed methodology is critical, and could include a reimbursement from subsequent connections, paid back to the original connector in due course. An approach to that effect would maintain the integrity of a user pays approach, while mitigating first mover disadvantage risks.

4.2.3 Creating regulatory stability requires the government to gather a range of positions from across society together early and continuously, to help build and maintain a social licence for the industry. Maximising regulatory certainty with the time scales required in the energy sector also likely necessitates a degree of cross-party support. An effective, efficient, safe, and orderly transition is in New Zealand's best interests. Maintaining the support of the public will minimise future pressure to change the underlying regulatory regime.

4.2.4 Recent significant government decisions, like the ban on offshore oil and gas exploration, risk creating uncertainty and instability in the regulatory regime.

4.3 Predictable consenting frameworks

4.3.1 Most of the infrastructure required to make the transition in the energy sector will require resource consent. It is well understood that resource consent is a necessary process to balance objectives like environmental protection and resource allocation, against promoting development. However, to promote the development required for the transition, the government should ensure that the resource consenting system is navigable and predictable for applicants.

4.3.2 In practice this means setting out clearly what factors will be considered in resource consent applications, by whom, and under what time frame. It is unclear now, for example, what the consenting authority is for offshore wind in New Zealand's Exclusive Economic Zone.

4.3.3 These are long term assets so consents should also be valid for as long as possible, which gives more flexibility to developers to, for example, stage development of the consented development sites. Staged development could allow for the developers to smooth investment in personnel and supply chains, while avoiding shocks to the electricity market.

4.4 Clearly communicated objectives and realistic goals

4.4.1 Linked to regulatory certainty, the government should develop and clearly communicate its objectives, why and how it might intervene in energy markets (if at all), the outcomes it wants to achieve, and its overall goals for the energy market. To the extent possible, goals and outcomes should gather cross-party support, to increase their credibility and longevity.

4.4.2 Goals and objectives should be backed with a programme of work for the government, to improve credibility. Realistic and clearly communicated goals with support can help build momentum in the sector, through a collective sense of purpose. It can also help local developers pitch investment cases to overseas fund managers, by demonstrating a government and societal support for development to support the transition. Given the scale of infrastructure investment required, there must be an explicit strategy to ensuring its financeability and minimising the cost of capital.

4.4.3 Clearly communicated objectives can also help alleviate commercial inefficiencies from stranded assets. For example, new residential and commercial gas installations may have an expected life span of 15-20 years. However, it is likely that with the planned transition away from fossil gas as a primary fuel source, the supply of those fuels may fundamentally change in the life span of that asset. This could be a change in the fuel provided through reticulation, a significant change in price, or a complete stop in the supply of gas. If government clearly communicates its intentions to, for example, phase out reticulated fossil gas, then consumers and investors can factor that risk into their investment decisions and may choose other fuel sources like electricity. Relatedly, the regulatory regime must support managed (rather than disorderly) decommissioning of the pipeline infrastructure, in a way that maintains the confidence of investors in other parts of the energy sector. Transparency is critical.

4.4.4 We think that New Zealand's goals for renewable energy should focus on transitioning the domestic economy as its priority. The opportunities for the New Zealand economy to have a clean, stable, locally sourced, and independent fuel source are immense. While there may later be opportunities to use our natural assets to export clean energy through vectors like ammonia, the uncertainty around those technologies, the international markets for commodities like green ammonia, combined with the scale of development required to meet our own needs, means we should prioritise our domestic market first.

4.5 Intervening for market failure

4.5.1 To improve certainty in the energy transition, it is important that the government is clear about why and where it will intervene to avoid market failure, and where it will "leave it to the market". This could for example be in underpinning New Zealand's energy future. The New Zealand Battery Project investigated a range of dry year solutions, on the untested assumption that the market won't provide sufficient security of supply during years with low hydro inflows.

4.5.2 With the Lake Onslow project likely being scrapped by the incoming Government, it is important for the government to consider and communicate what other solutions that it thinks will provide security of supply in dry years with a highly renewable grid. Furthermore, it should work with the market to determine what it needs to invest in those outcomes, and whether there are barriers that need to be removed. For example, if the market solution is to provide gas peaking for dry year cover, then it is likely that it will need significant investment in new generation plant, gas storage facilities, and possibly exploration and gas field development, which the market will only provide if there is sufficient certainty that there will be sufficient profitability over the lifespan of that asset. Recent work shows that a lack of investment in dry year generation would lead to significant electricity shortages in dry winters. Long-term commercially driven demand response is another valid market option that needs to be in the mix. It would likely need to be accompanied with a sufficient incentive for those large consumers electing to reduce their energy requirements for weeks or months on end. The government should also consider the societal impacts of reducing production from high energy users.

4.5.3 While dry year risk has been the feature of recent work, shorter term intermittency from wind and solar generation is also a looming risk. The government should be clear about where it will intervene in the market to support things like short term firming assets, to help create a stable and affordable supply of electricity to the country. An unstable or unaffordable electricity supply could mean households, commercial operators, and industry lack confidence in the electricity market to transition away from other forms of energy, like petrol, coal, gas, or biomass. Electricity shortages also have clear social consequences that are best avoided and risk consumer confidence in the sector.

4.5.4 The government should also ensure an orderly transition from fossil fuel peaking plant. Given the focus on decarbonisation and uncertainties within the regulatory framework for gas exploration, development and consumption, some demand for gas is expected to start reducing over the coming years. This will likely happen before we have a reliable alternative to fossil gas. This will then impact the willingness for New Zealand's upstream fossil gas producers to continue to invest money to extract the gas, and also our generators from investing in new gas peakers, or the upkeep of existing peakers. It is likely that the government will need to intervene in the market to underpin investment in fossil gas assets, to help manage an orderly transition.

4.5.5 Peaks in electricity are already putting stress on the market. The government should consider and communicate incentives to increase New Zealand's capacity in peaking generation, and to reduce peak consumption in industry and households.

4.5.6 Further, forced conservation campaigns, where households are asked to reduce their electricity consumption during periods of electricity scarcity, such as in dry years, likely have negative consequences on social outcomes (like reduction in spatial heating), and commercial activity. There may be a role for government in ensuring the market provides sufficient security of supply throughout a range of market and weather conditions, to ensure those negative consequences are avoided, to the extent possible. The government has not played a significant role in the market in the recent past, but that may need to change to ensure wider public good objectives are maintained in the competitive market.

5. Pipeline and certainty

5.1 INZ has recently released a report, completed by Infometrics, demonstrating the cost to New Zealand of not having a stable infrastructure pipeline. They have estimated that committing to a more certain infrastructure pipeline could result in productivity and savings improvements of between 13% - 26.5% on future infrastructure projects. If applied, these savings could increase the amount spent on infrastructure delivery by between $2.3 billion and $4.7 billion a year over the 2025-31 period. We know that the boom-bust cycle of infrastructure sectors like construction can have significant negative consequences on things like long term productivity, skills development, and investment. With such a large investment required in the energy sector, we should do what we can to create and communicate a smooth and predictable pipeline of development.

5.2 Government has a role to play in creating the pipeline, to help alleviate information asymmetries, and improve market efficiency. Government can gather, amalgamate, and share information on things like grid and distribution network upgrades, things like development of new generation and storage assets, and construction plans for wider infrastructure, like ports and national vehicle charging networks, including public transport charging plans. While very few of those investment decisions are directly in government hands, various government departments and agencies, though resource consent, monitoring, or other oversight, have information on upcoming investments. The government can also work with the sector to help drive a centralised information sharing mechanism.

6. Developing the workforce

6.1 The transition requires large and sustained development over a long period of time. This necessitates developing a very large workforce with a wide range of skills right across the country. The transition presents great opportunities for young people, and for regional development, especially in areas that the economy is transitioning out of, like oil and gas in Taranaki.

6.2 The government can play a role with industry in connecting school leavers, through to tertiary institutions, to opportunities emerging in the sector. Some professions like civil engineers take several years to train and deploy into the industry, so it is critical that government and tertiary institutions work with the sector to understand their needs and the opportunities ahead of time. As discussed above, a clear direction on the transition to renewable energy sources will help.

6.3 We are not alone in these challenges. Australia is facing challenges from greater regionalisation, combined with much of the generation assets being away from major population hubs, making it harder to attract the right people to the right jobs in an already tight labour market. The government should keep watch of Australia and other similar markets, to take lessons and act before the problems emerge in New Zealand.

6.4 The transition away from sectors like oil and gas in Taranaki presents a risk to the local economy. However, those skilled people, with detailed understanding of the local landscape are critical to the development of things like offshore generation, and port infrastructure. Supporting those people into new roles in emerging sectors is important for the individuals, the local economy, and the emerging industries. Government has a role to play in connecting those people to the opportunities in the emerging industries. As discussed above, a clear direction on the transition to renewable energy sources will help people plan their careers with some degree of certainty, and for organisations to avoid that crucial local knowledge being lost.

6.5 However, even with a well-planned skilled workforce pipeline, and support to transition careers with the changes in the sector, it is likely that New Zealand will still need to import skilled labour. It is therefore critical that we get the immigration settings right, through various phases

of the transition. It is likely that there will be significant competition in the global workforce to support energy transition, so there is a role for the government to ensure that immigration settings are permissible and attractive, so the sector can bring in the people it needs to support development. This can be done through things like green listing professions that are critical to support the transition. It is likely, however, that settings will need to remain nimble to the demands of the sector through various phases of the transition.

6.6 Finally, the government has a role to play in helping train New Zealand-based developers in things like iwi relationship building, especially if those developers draw their experience from different jurisdictions. With better cultural competency, developers will likely be able to work better with iwi partners to manage concerns, achieve consent, and bring in investment.

7. Developing the supply chains

7.1 The global demands on supply chains for things like renewable generation equipment are already coming under strain, with many countries across the world transitioning their electricity generation. In future, it is likely that the competition for scarce production and resources will increase. There is an opportunity therefore for the government to consider what Research and Development, or regional initiatives it could support, to help onshore some of those manufacturing opportunities. New Zealand's transition offers a market that could be sufficient to incubate a new industry, which could come with high paying jobs, and a long-term demand source.

7.2 The government should also consider what it can do to help support investments in things like port and roading infrastructure ahead of the demands from the renewable energy industry. For offshore wind prospects off the west coast of New Zealand, there is a limitation in that the Port of Taranaki is the only deep-water port on that coast. An emerging offshore wind industry off the west coast, could present an opportunity to redevelop the Port of Taranaki and surrounding infrastructure, to support economic development in the region.

7.3 We understand that the government of the state of Victoria is supporting the Port of Hastings, near Melbourne to support the offshore wind developments nearby. We can take lessons from that development, for similar redevelopments in Taranaki and other places. However, there is a risk that if we do not redevelop our own infrastructure, then offshore developments will rely on existing nearby infrastructure like the Port of Hastings as an assembly and launch point.

8. Staying connected to developments in Australia

8.1 Despite the scale of the development required to transition the New Zealand energy sector, our demand for new infrastructure is small compared to other regions in the world, like Europe and North America. We should look for opportunities to connect with the Australian market to induce economies of scale, to attract large investors like sovereign wealth funds.

8.2 Many firms work trans-Tasman and will share resources between the Australian and New Zealand projects. Improving certainty in our long-term pipeline will help foster trans-Tasman initiatives to help drive down costs and improve the commercial viability of more projects.

8.3 Finally, regulatory divergence between Australia works against ambitions to create a trans-Tasman market. To the extent possible, New Zealand regulators should consider what precedence has been created in the Australian market and diverge only where it makes sense to our unique context.

9. An interconnected infrastructure system

9.1 Finally, it's worth reiterating the fundamental importance of a stable, resilient, and affordable supply of energy to the New Zealand economy. Everyone uses energy, from households, to businesses, to large industrial consumers.

9.2 Without a stable, resilient, and affordable electricity supply, we risk decision makers not having confidence to transition their existing fuel sources to electricity, thus deteriorating our progress to a low carbon economy. We also risk deteriorating investment in the New Zealand economy for things like new industrial initiatives, which require a stable electricity supply.

9.3 To help meet our climate commitments, the government should take a leadership role in connecting different sectors of the economy, with the energy sector likely at the centre of those discussions. That could include things like strategy around the location of chargers for electric vehicles and other electric transport infrastructure; or support for government services like hospitals and schools to electrify.

Appendix One: Our recommendations

1. Promote regulatory certainty by developing regulatory frameworks in partnership with the sector that they operate in, and with local interests like iwi and community groups.
2. Develop permissible and predictable consenting frameworks, with long horizons for development.
3. Improve certainty in government policy by setting ambitious but realistic targets for renewable energy development and seek cross party consensus on the direction of travel, and with a focus on decarbonising the domestic economy first.
4. Ensure an orderly transition away from fossil gas as a primary fuel source and a peaking electricity supply by assessing what financial support the industry needs in the coming decades.
5. Support a stable infrastructure pipeline by gathering and sharing information on things like grid and network upgrades, with the energy industry.
6. Start developing the workforce required to build the infrastructure required to transition the economy.
7. Support the sector to remain connected to similar developments in Australia.