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Environment Committee

Crown Minerals (Petroleum) Amendment Bill

Genesis Energy Limited (**Genesis**) is pleased to provide this submission in respect of the Crown Minerals (Petroleum) Amendment Bill (the **Bill**), as the legislation drafted to give effect to the Government's decision relating to offshore petroleum permitting (made on 12 April 2018).

1. Introduction

- 1.1 Genesis is unique in its position as a vertically integrated energy company with a diverse portfolio of assets. These include electricity generation and retail businesses, a 46 per cent stake in the Kupe Joint Venture (owner of the Kupe off-shore oil and gas field) and reticulated natural gas and liquified petroleum gas (**LPG**) distribution and retail businesses.
- 1.2 As a large thermal generator, using gas and coal to assist in providing security of supply to the electricity generation sector and as New Zealand's largest energy retailer with more than 500,000 customers, Genesis considers it has a responsibility to address the potential impacts of the Bill, in particular, as they relate to:
 - (a) security of national energy supply;
 - (b) decarbonising the wider New Zealand economy; and
 - (c) consumer prices and affordability.

2. Policy alignment

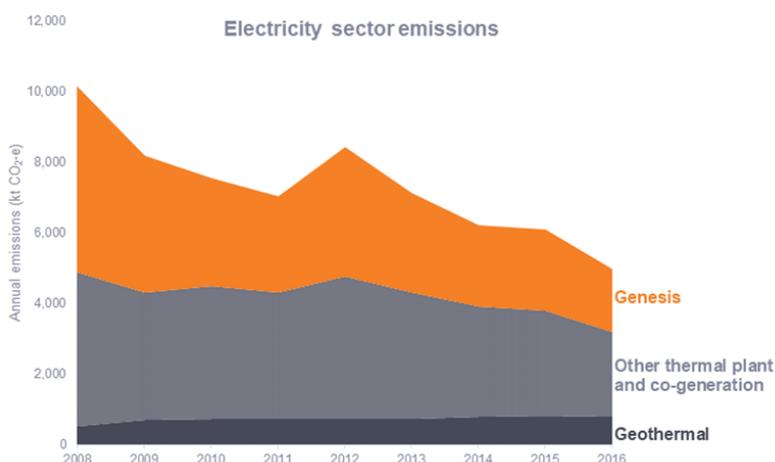
- 2.1 Genesis believes in supporting the country's pathway to a lower carbon future, however, we also believe that greater policy alignment is required to ensure the number of unintended consequences are kept to a minimum. In our recent submission on proposed changes to the Emissions Trading Scheme, Genesis noted policy alignment as crucial for the successful decarbonisation of the New Zealand economy.
- 2.2 Work currently underway to build a climate-resilient economy includes: the Zero Carbon Bill; the establishment of an independent Climate Change Commission along with the current work of the Interim Climate Change Committee; the Transition Hub, supported by

the work of the Productivity Commission in its *Low emissions economy* inquiry; and reviewing the Emissions Trading Scheme as the key policy tool for reducing emissions.

- 2.3 Genesis sees the Bill proposed as impacting each of these independent pieces of work and carrying direct linkages and implications for the electricity sector, as a sector that is central to the decarbonisation of New Zealand.
- 2.4 New Zealand’s decarbonisation efforts must focus on opportunities that have the greatest emissions reduction potential. In prioritising these efforts, consideration must be given to what is technically and commercially feasible, able to be scaled and comes at least cost to consumers.
- 2.5 We must now see that translate to the actions of Government departments to ensure that the transition is effective, consistent, predictable and stable. Regulatory silos cannot exist if we are to achieve a successful net zero economy that continues to grow and prosper with positive investment throughout the transition and beyond.
- 2.6 We have seen strong consultation and evidence based decision making through the Interim Climate Change Committee and the Zero Carbon Bill. Robust consultation processes and policy cohesion lay the foundations for informed decision making and stand to minimise unintended consequences for New Zealand as a whole. Genesis recommends that the government consider delaying decision on the Bill until the Climate Commission have laid the most effective path to net zero emissions in 2050.

3. Security of national energy supply

- 3.1 Notwithstanding that New Zealand’s electricity sector is already the third most renewable in the OECD, in February 2018, Genesis made clear its intention to remove coal from Huntly by 2030, as we continue to play our role in helping to further decarbonise New Zealand. We note that within the past decade, Genesis has already halved its emissions and reduced coal use by 80 per cent. Much of this has been achieved through the increased use of gas. Gas plays a key role as a transition fuel as we move to further increase renewable generation and decarbonise.



- 3.2 It is important to recognise the extent to which New Zealand’s renewable generation places us at the mercy of the weather, specifically wind and rain. Our thermal generation

assets and storage provide us with fuel diversity, that allows us to manage security of supply and maximise the value of renewable generation assets, as we push for an ever-greater penetration of renewable generation in our electricity system.

- 3.3 Based on currently available technologies, without thermal generation capacity and the development of gas storage capability, security of supply in New Zealand will be dependent on coal or be compromised. Whilst a number of emerging technologies exist (for example hydrogen), these are in their infancy and are not yet sufficiently proven to be anywhere near as cost effective from an electricity perspective and, depending on the fuel source, carry their own emissions. Emerging technologies require significant capital for further research and development and offer no guarantee to be viable as an alternative fuel source for electricity generation between now and the impact of the Bill.
- 3.4 We remain focused on working with the sector to address the broader market reliance on coal and meeting our stated intention to cease coal-fired generation by 2030. Uncertainty over the source and storage requirements of gas supplies in the 2030's will make it more difficult to remove coal from our electricity system. Gas is one of the few alternatives to help reduce our dependence on coal in the electricity sector in the near term. Further, it will be harder to justify the necessary capital investment in gas storage without confidence of the ability to continue to source sufficient gas to justify the investment.
4. **Decarbonising the wider New Zealand economy**
 - 4.1 New Zealand's current emissions profile is comprised of agriculture (49%), transport (19%), other (17%), industrial processing (6%), waste (5%) and electricity generation (4%).
 - 4.2 The electricity sector will play a critical role in the decarbonisation of higher emission sectors (such as the Transport sector) through electrification made possible by leveraging New Zealand's existing high penetration of renewable electricity generation. However, it will be challenging to support increased electricity demand from high emission sectors while also reducing the electricity sector's own emissions and maintaining security of supply until new technologies become available.
 - 4.3 The inconvenient truth for New Zealand is that, with 60% of electricity generated from hydro-power stations and with six to twelve weeks of hydro storage, thermal plant (including at times coal) provides the crucial firming support that has allowed us to enjoy such a high level of renewable electricity. The multi-month 'seasonal risk' we face when national lake levels are low is unique to New Zealand and will require longer-term technology solutions that are currently uneconomic.
 - 4.4 In order to meet the seasonal electricity demand shift and to provide dry year support, New Zealand needs 3,000 - 4,000 GWh of 'deep energy' storage over and above our hydro lakes in order to support our renewable electricity system. This equates to 6 to 8 hydro storage reservoirs the size of Lake Taupo. This amount of electricity is equal to circa 10% of New Zealand's annual electricity demand. Currently, coal and gas are the only two fuel sources capable of being stored in sufficient quantities to provide this deep energy storage in an economic way.
 - 4.5 The energy sector, including electricity and oil and gas sectors, must collaborate effectively to successfully take the next steps to further decarbonisation – this extends to investing in building the right renewable generation and storage solutions.

5. **Consumer prices and affordability**

- 5.1 The risk to energy consumers during this transition to increased renewable generation and further decarbonisation is that, if policy increases the cost of thermal firming (back-up for hydro risk) before the alternative technology solutions exist, the cost of providing secure and reliable electricity for consumers will increase. This, in turn, will increase household bills and reduce New Zealand's competitiveness as a place to do business.
- 5.2 Without new gas discoveries, New Zealand is estimated to have circa ten years gas reserves at current production rates. As domestic gas supplies diminish, more expensive gas imports will become necessary. This will carry clear consumer price implications and lead to increased electricity and gas prices. These price impacts are likely to be felt sooner than expected and before 2030 as domestic gas prices trend towards parity with imported gas prices. Imported gas is currently 2 – 3 times the price of domestic gas. This trend is likely to be accelerated further as domestic gas producers elect to restrict production to obtain higher prices later rather than sell it to domestic users in the shorter term. This dynamic will be similar to the recent Australian experience when supplies were constrained.

6. **Existing petroleum operations**

- 6.1 Kupe's operations fall outside the New Zealand Government's decision in April to halt new permits for offshore oil and gas exploration via the Block Offer programme. Under the proposed changes in the Bill, the Kupe permit is protected as an existing permit so its position as a key player in supplying gas and LPG to New Zealand homes and businesses is unaffected, at least until discovered reserves have been fully developed and extracted. At this point, the field has several undeveloped firm prospects within its current permitted area that provide potential future reserves.
- 6.2 We look forward to further engagement on these and other matters in the coming months. In the meantime, if you would like to discuss anything further or you request these views to be presented in person, please contact me by email: tracey.hickman@genesisenergy.co.nz

Yours sincerely



Tracey Hickman

EGM Wholesale and Generation