

To: MBIE Energy and Resources Team

Date: 27 October 2023

RESPONSE TO MBIE CONSULTATION ON ADVANCING NEW ZEALAND'S ENERGY TRANSITION - NOVEMBER 2023

1. INTRODUCTION

- 1.1 This response to the Ministry of Business, Innovation and Employment (**MBIE**) has been prepared by Murihiku Regeneration, which has been engaged in clean energy/ green energy and energy transition related policy planning for the last three years.
- 1.2 In terms of engagement over the discussion documents, along with Te Rūnanga o Ngāi Tahu (**Ngāi Tahu**), we have undertaken two direct workshops, and participated in discussions around the hydrogen roadmap and offshore wind development. Murihiku Regeneration is also working closely with the MBIE Just Transitions Programme, leading in the clean energy space and also with regional leaders (Mayors and Councils), existing and new developers, and generators and other actors in the regional energy system.
- 1.3 It is noted that Te Rūnanga o Ngāi Tahu (Ngāi Tahu) have also made a whole of tribe response to the discussion documents, and it is not intended that this response replicate those statements, but rather focus from a regional level perspective. As a part of our system engagement, we have co-ordinated two MBIE related workshops, and have participated in a number of pan-iwi workshops around the discussion documents.
- 1.4 Given the interconnections between the various documents, this response is intended to cover issues raised across the consultation documents, rather than specific responses prepared for each. We also encourage the Crown to refer to Ngāi Tahu's own response to this consultation, its responses on offshore renewable energy and the National Policy Statement for Renewable Energy, which cover related issues.

2. KEY SUMMARY

- 2.1 Overall, in response to the discussion documents we make the following comments:
 - a) The need for a more ambitious, urgent, and well-coordinated energy transition;
 - b) We see the MBIE discussions documents lacking in ambition and urgency; the consequences is that it signals a transition strategy and policy parameters that will be linear, tentative, and potentially too late to guide a transition that is already occurring.
 - c) There is a clear need for both regional and national leadership in the energy transition – Murihiku-Southland is ready and willing to take on a role in that space.
 - d) The Crown/government will need to be an active enabler, supporter to kick start the transition; and

- e) For Murihiku-Southland – certainty over the long-term intentions of the Tiwai Smelter, the introduction of green hydrogen at scale, and the overbuild of new renewable energy projects is essential.
- 2.2 To also support this response, we enclose the Murihiku Regeneration High Level Energy Transition Plan, as Annex A, which outlines the initiatives we see as necessary to effect a timely energy transition for Southland.

3. MURIHIKU REGENERATION

- 3.1 Murihiku Regeneration is an Iwi led regional development construct led by the Murihiku-Southland Upoko through Hokonui Rūnanga by the Hokonui Health and Social Services Trust to support its members, Murihiku Hapū, the community, Iwi-Māori, and Ngāi Tahu whānui.
- 3.2 Murihiku Regeneration is supporting the regional response to the emerging energy transition, the need for rapid decarbonisation and climate adaption, and supporting workforce planning and preparation for intergenerational development through a portfolio approach based around the four Ngāi Tahu pou (social, cultural, environmental, and economic).
- 3.3 Murihiku Regeneration has three focus areas within its energy transition programme:
- a) **Tiwai Future** – includes closure, clean-up, remediation, environmental impact, cultural and leading to future/re-purposing opportunities. Being led through Awarua Rūnaka (remediation/community development) and supported by Hokonui Rūnanga.
 - b) **Green Energy Future** – Ngāi Tahu ki Murihiku at the centre of large scale clean energy capability focused around green hydrogen that protects te taiao and supports growth and wellbeing for our region and country.
 - c) **Clean Energy Murihiku** – Co-ordinating work with Crown agencies around the Just Transitions programme. This work includes a focus on a renewable energy zone, net zero Rakiura, infrastructure development and associated policy work.
- 3.4 Hokonui Rūnanga is leading green energy development as a key anchor programme within this kaupapa on behalf of Murihiku Hapū and Te Rūnanga o Ngāi Tahu. Any opportunities developed through this kaupapa will also be considered by its tribal authority Te Rūnanga o Ngāi Tahu and its investment arm - Ngāi Tahu Holdings Corporation Limited (Ngāi Tahu). Other Murihiku Rūnaka and Papatipu Rūnanga are also party to this regional kaupapa, and we have prepared our response on the basis that any of them might benefit from our observations and recommendations made.

4. TE RŪNANGA O NGĀI TAHU

- 4.1 The Murihiku Hapū are constituent members of Te Rūnanga o Ngāi Tahu, which is the statutory representative tribal body of Ngāi Tahu whānui (established as a body corporate on 24 April 1996 under section 6 of the Te Rūnanga o Ngāi Tahu Act 1996). Te Rūnanga o Ngāi Tahu, which consists of 18 Papatipu Rūnanga in total, is an iwi authority under the RMA, a mandated iwi organisation under the Māori Fisheries Act 2004, and an iwi aquaculture organisation under the Māori Commercial Aquaculture Claims Settlement Act 2004.
- 4.2 The Te Rūnanga o Ngāi Tahu Act 1996, Ngāi Tahu Deed of Settlement 1997 and Ngāi Tahu Claims Settlement Act 1998 all confirmed the rangatiratanga (authority) of Ngāi Tahu within its takiwā (tribal area), which extends from Te Parinui o Whiti (White Bluffs, southeast of Blenheim), Mount Mahanga and Kahurangi Point in the north to Rakiura (Stewart Island) and subantarctic islands in the south.

5. MURIHIKU HAPŪ

- 5.1 Murihiku ki te Rūnanga o Ngāi Tahu (**Murihiku Hapū**) are strongly committed to the Murihiku-Southland regional energy transition, and also acting in the national interest to support Aotearoa New Zealand to be a carbon neutral economy that is regenerative and provides intergeneration prosperity for all New Zealanders.
- 5.2 The Murihiku takiwā is a region with significant onshore and offshore renewable energy development potential - see Figure 1 and Figure 2.



Figure 1: Current and Future Supply Projects; Source: Murihiku Regeneration Energy Transition Plan, 2023



Figure 2: Current and Future Demand Projects; Source: Murihiku Regeneration Energy Transition Plan, 2023

6. HIGH LEVEL THEMES

Importance of Regional Energy Transition Response

- 6.1 **Infrastructure and Energy.** The development of infrastructure and energy are of critical importance for Murihiku-Southland because they are essential for the region's economic growth and development; helping to connect people with opportunities, promoting economic growth and improve livelihoods. It should be acknowledged that significant progress has already been made around decarbonisation of the Southland economy; this can now be accelerated through forward planning and action. As such, the region is already progressing on its energy transition and faces considerable uncertainty, and a lack of forward planning; these will become drags on the economy and will impact on the trajectory of growth.
- 6.2 **High Impact - Productive Region.** Murihiku-Southland is a regional high net GNP contributor relative to GDP, and the success of Southland's energy transition, and its potential positive impact on the productive economy for New Zealand, makes it a key priority for the region.
- 6.3 **Relevance of Tiwai Smelter.** The region's energy system has developed, been shaped by, and been curtailed by the Manapouri-Tiwai Smelter inter relationship. MBIE is well aware of this inter dependence and the impact it has had on both the regional and national energy system - acting as a handbrake for growth and diversification. Given the lack of certainty over the future operation of the Tiwai Smelter, this is limiting future growth and is the single largest factor on the energy transition for the region. The position of Murihiku Regeneration is that Tiwai Smelter should remain, if possible, on a long term PPA, on the basis that it is contributing more effectively to decarbonisation efforts, has undertaken a world class remediation of its industrial site, and enables other developers to also enter the market before 2030.

- 6.4 *Supply Availability and Demand Growth.* Murihiku-Southland has abundant renewable energy resources and substantial energy demand from current and new industrial users, as identified at Figure 1 and 2. Despite uncertainty around the future of the Tiwai Smelter, the region's energy demand is expected to increase in the future, and it is necessary to ensure that the energy supply is reliable, affordable, sustainable and can keep pace with the projected opportunities for growth. Transpower has identified a potential 4,400 MW of new renewable energy projects already signalled in the pipeline and developed a short-term tactical response plan¹. We see the value and need for a 'regional deal' for Murihiku-Southland, with the development of a 30-year infrastructure plan, underpinned by new energy projects, that may include projects of national significance, to support this growth. This plan is also crucial for the region's growth to connect investment, with a clear regional plan that will improve funding, procurement, and delivery.
- 6.5 *Renewable Energy Engine Room.* The Murihiku takiwā has some of the best renewable energy producing areas across Aotearoa New Zealand. Murihiku Regeneration is looking to have a leadership role in supporting, enabling and benefiting in the energy transition. It is essential that we are an integral part of conversations about how renewable energy is produced in this county and how our resources are used to contribute to the transition that needs to happen.
- 6.6 *The Need for a Regional Infrastructure Plan.* Murihiku Regeneration is strongly supportive of measures to decarbonise the economy of Aotearoa New Zealand at a national level; Southland is already leading in many areas of decarbonisation efforts². The challenges that we are all facing with climate change are now here. It is imperative that we reduce our emissions to reduce the future climate change effects and ensure that we have a resilient, reliable energy system for the future. We support an 'and-and' approach, with strong regional response as part of an integrated long term infrastructure plan.
- 6.7 *The Criticality of Workforce Planning.* A critical enabler for any energy transition, particularly one which requires growth, is the access to a pipeline of capable and available workforce. We know this is already a critical issue, that is well known within the energy sector and also by MBIE. From a Murihiku Regeneration perspective, we have developed our Te Ara Aukati Kore workstream³, and will be looking to develop a regional workforce planning that provides a pathway for the development of a skilled workforce to support the energy transition priority. We strongly support a national level focus by the sector, relevant government agencies, an immigration pipeline, and the education and training sector to provide this critical enabler.

1 Transpower and PowerNet Regional Development Plan – July 2023, and subsequent draft tactical plan – September 2023; see www.transpower.govt.nz

2 Murihiku-Southland Regional Energy Strategy – Great South and Murihiku Regeneration – May 2023.

3 See www.murhikuregen.org.nz/

Leadership

- 6.8 *Regional Leadership.* While the energy transition is essential, it needs both leadership and to be integrated into a long-term system thinking approach. The transition must be managed well to ensure that the opportunities to build a strong, more resilience energy system and economy are realised. Leadership and direction are also required to ensure that the many challenges and potential negative social, environmental, and economic impacts are addressed as efficiently as possible. The current discussion documents are mostly silent on the need for both regional and national leadership - that is aligned and co-ordinated. We support the intent for a National Infrastructure Agency and better co-ordination of the Infrastructure Pipeline⁴.
- 6.9 *Crown Leadership.* In addition to regional leadership, it is essential that the Crown also provides leadership and uses all the tools available to it to make this transition successful. We are looking for more ambition and decisive action to support the transition. The Crown should be looking at all the tools available to it to provide certainty and support the energy transition; many of these are mentioned in the discussion documents. This includes not only the Crown's regulatory and fiscal tools, but also the direct activity undertaken by the Crown through its own procurement and energy uses (e.g., energy used by schools, hospitals, Crown vehicles etc) and providing direction and information to the market.
- 6.10 *Social Regeneration.* A key driver for any regional energy transition is locate any economic/industry development within a framing context of our medium to long term interests as people. The four Ngāi Tahu pou (capturing Murihiku Hapū values and principles) interface with the needs of our wider community. A focus on social regeneration in the energy transition will ensure that our community, people and our environment (physical and built) are not externalities to economic activity, but rather are the core driver of how economic development is integrated into our context and way that our region develops.

Consenting and Regulatory Framework

- 6.11 With the long lag times required to consent and build renewable energy infrastructure, it is essential that action is taken now to ensure that we are prepared for the future. While there might be uncertainty around the exact amount of energy that we will need into the future, we know we need to significantly increase our renewable energy generation to meet the demands of our future, decarbonised economy. For the Murihiku and Te Waipounamu economy, this is both important and now urgent.
- 6.12 Murihiku Regeneration has proposed the need for a Renewable Energy and Industrial Zone (REIZ) as a regional focal point for infrastructure and energy planning and to enable developers, councils, funders, and the community to have clear visibility of projects, opportunities and for barriers to be identified and removed in a timely manner.

- 6.13 Any energy infrastructure planning needs to acknowledge the specific opportunities, constraints, risks and needs of different regions across Aotearoa. Working with local communities and Ngāi Tahu will assist the Crown in making plans for our takiwā which are most appropriate and enable the best outcome for the local regions and all of Aotearoa.
- 6.14 As noted earlier, within our takiwā there are lots of opportunities for renewable energy production and there is commercial interest in using this additional energy, such as a potential hydrogen production facility. It is essential that these opportunities are not hindered by nationwide policies that do not consider regional opportunities and aspirations. Similarly, the transition should not be slowed down in regions that are ready to go, as we need to get the transition moving as quickly as possible, for the benefit of all of Aotearoa.

Green Hydrogen

- 6.15 *Importance of Hydrogen.* Murihiku Regeneration is a firm supporter of the development of a more ambitious and focused hydrogen roadmap. The current roadmap is tentative and does not support the natural advantages that the takiwā holds for the development of a scaled green hydrogen economy to support both decarbonisation and economic growth - particularly in heavy transport and industrial abatement.
- 6.16 *Smelter Remaining and New Industries Entering.* Our focus since 2021 has gone on an energy transition plan that positions the potential future of a cleaner Tiwai Smelter remaining in the long term, and the development of green hydrogen production in Murihiku-Southland at scale. We see this as a critical enabler for the energy transition for that region requires certainty of intention and action from both the Crown and to provide certainty to developers and funders, for the introduction of hydrogen projects such as refuelling networks around heavy transport (marine and land). The recently announced MBIE regional hydrogen initiative is a positive first step, however the funding and focus for that initiative is insufficient and does not address the high cost of capital investment and the uncertainty around future demand, including potential green premiums.
- 6.17 *The Need for Government Enablement.* There is a clear case for more government support around the introduction of hydrogen as a fuel to support the energy transition. The high capital cost of new hydrogen production, storage, distribution, and fuelling infrastructure is a significant barrier to the adoption and uptake of hydrogen, which has a clear use case in the abatement of heavy transport fleets across New Zealand. Murihiku-Southland is an ideal regional candidate for forward investment that will provide a catalyst for scaled production and infrastructure for both domestic use and export. Commitment by government to long term offtake to support government heavy transport fleets would be a useful action in this space.
- 6.18 *Community Distributed Energy.* Murihiku Regeneration has included a community innovation and action focus area in its planning. The Murihiku-Southland region is well positioned to take advantage of community and distributed energy solutions. This includes the initial Rakiura net zero project, which has already been signalled to MBIE as a regional priority. A key focus for Murihiku Regeneration is to look at the opportunities around the regional energy transition to create *energy wellbeing* and

counter *energy hardship*.⁵ MBIE has already identified issues, barriers and opportunities to lift communities out of energy poverty and energy hardship and the proposed MBIE *Community Renewable Energy Fund*⁶ starts to address these matters. We are strongly supportive of these initiatives and encourage more focus in these areas.

Marine Energy

- 6.19 The opportunities presented in the Murihiku takiwā for marine energy supply projects (offshore wind, tidal and wave) projects and marine demand projects (Marine fuels, Aquaculture, Rakiura and remote community schemes, and eventually support to green hydrogen production) are significant.
- 6.20 We see a clear pathway for the development of marine energy projects in the medium term (post 2030), as onshore projects (wind, solar and hydro) provide the short term increase in available power to meet demand projects. As an exception, the development of a low emissions/net zero for Rakiura-Stewart Island, the Chathams and support for our South Pacific neighbours to achieve energy resilience is important, and should be prioritised in operational policy development.

Regionally Led Energy Storage

- 6.21 Murihiku Regeneration is concerned around the primary focus of using chemical energy storage (*lithium batteries*) in supporting electrification *and community storage*. *We view these at best* as a short-term stepping stone to more environmentally friendly alternatives.⁷ It is our view that the government should be looking at simpler, non-technical and non-pollution options that have much longer lifespans for energy storage of 50 years or greater and enabling community participation. There are a number of viable options available⁸, and while not all totally efficient, we do not believe that is the only metric that should be used to measure a good community and localised energy storage solution.
- 6.22 Large lithium batteries are going to get super expensive for the New Zealand economy to replace every 10 years. They are also very complex. This means the community cannot participate in the cost of energy storage. Our view is that we should be able to use a locally trained society to build, repair and manage our energy systems to a high degree of self-sustainability. Simpler energy storage systems should be explored and that is where we think Govt / MBIE should be spending a larger portion of its resources in testing new/old energy storage options and enabling regulation and policy. We don't have a deficiency in being able to create energy from the sun, wind, and water. We have a deficiency in storing intermittent energy in localised regions (simply and efficiently) without destroying the environment.

5 MBIE Report "Defining Energy Hardship" 2021, which identified at least 130,000 households experiencing energy hardship - see <https://www.mbie.govt.nz/building-and-energy/building-and-energy/defining-energy-hardship/>

6 As part of Budget 2022 and 2023, the Government committed \$46 million through MBIE, to support community-based renewable energy projects to help households afford and secure the energy they need.

7 Lithium-based batteries have many guises and seem to be very detrimental to the environment and use.

8 Options include - Compressed air storage, Gravity solutions (weights and height), hydrogen metal hydride batteries, spinning mass, and sea water.

6.23 We believe a simpler systems approach⁹ as a part of an energy systems research programme could easily be projects that Ngāi Tahu, Murihiku Regeneration and the wider New Zealand engineering community easily could build as smaller resilience projects. Once the first few had been installed and trialed with support from MBIE to maximise efficiency, we could easily repeat at the right scale in the right regions. We see this as an area for applied research and innovation, and Murihiku Regeneration will be making application to the Government around energy storage projects in Murihiku-Southland to progress and support the energy transition.

7. ENERGY TRANSITION PLANNING PRIORITIES

7.1 The Murihiku-Southland Regional Energy Strategy 2050 identifies a forward pathway for an effective regional energy transition. The Murihiku Regeneration Energy Transition Plan will aim to activate enablers, then establish networks and then grow supply and demand. The key areas of focus have been identified as:

- a) Getting certainty around the future of the Tiwai Smelter and the potential for the staged introduction of new high value industries by 2030.
- b) Enabling necessary policy and regulation, including a fast-track consents process for high value infrastructure projects to bring on new energy supply to match demand.
- c) Supporting innovation and the introduction of hydrogen and other low emissions projects that speed up the move to a low emissions economy. This includes a renewable energy hub and hydrogen refuelling network.
- d) Enable Rakiura-Stewart Island to have a low emissions pathway to net zero by 2030.
- e) Support targeted community and distributed energy projects.
- f) Focus a workforce plan to support future development.

⁹ Concept ideas when designing any simple system: Keep it simple, 70% efficiency (+), environmentally friendly, long-lived technology once set up, Easy to build and be managed by the local community with minimal training or technology, and scaled correctly for the local region based on the resources available and energy needs.