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Tēnā koe

Waikato Regional Council staff feedback to the 'From the Ground Up, a draft strategy to unlock New Zealand's geothermal potential consultation

Thank you for the opportunity to provide feedback on the draft strategy to unlock New Zealand's geothermal potential consultation. Please find attached the Waikato Regional Council's staff feedback on the consultation document, signed under delegation.

Should you have any queries regarding the content of this document please contact Dawn Pritchard, Senior Policy Advisor, Policy Implementation directly on (07) 949 5143 or by email Dawn.Pritchard@waikatoregion.govt.nz.

Ngā mihi,

Tracey May
Director, Science, Policy and Information

Staff feedback from Waikato Regional Council on the draft strategy to unlock New Zealand's geothermal potential consultation

Introduction

1. Waikato Regional Council staff appreciate the opportunity to provide feedback on the From the Ground Up - A draft strategy to unlock New Zealand's geothermal potential consultation. The feedback reflects staff expertise in geothermal science, resource management and regional planning and aims to support the development of a balanced, sustainable and inclusive strategy.

2. We acknowledge the government's commitment to unlocking geothermal potential as part of New Zealand's energy transition and regional development goals. Overall, staff support the strategy's direction and recommend a number of improvements to ensure it better reflects the full range of geothermal values, strengthens alignment with existing policy frameworks and enables equitable participation across sectors and communities.

3. Our feedback includes general comments, followed by specific responses to the consultation questions in Table A below. These responses draw on staff experience managing 70% (more or less) of the country's geothermal resource and our longstanding partnerships with tāngata whenua, industry and research institutions.

4. We welcome the opportunity to contribute to future consultation processes and would be pleased to provide further input as the strategy is refined.

Submitter details

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General comments

Sustainable management

We recommend that the strategy identify and exclude sensitive and protected geothermal systems from future development to safeguard vulnerable ecosystems and cultural sites.

5. We support the intention to increase geothermal energy production in the region and reduce reliance on fossil fuels where possible. However, we note that there is no discussion on sustainable management of geothermal resources and there is no explicit exclusion of protected geothermal areas. To safeguard vulnerable and nationally or internationally recognised geothermal systems, we recommend identifying and excluding sensitive and protected areas from future development. We also recommend that a plan be developed to ensure that geothermal resources are not depleted as a result of the proposed exploration and use. In making these recommendations, we refer to the Waikato Regional Policy Statement (WRPS), specifically policies GEO-P1, GEO-O1, and EIT-O1.

Regulatory Framework

We seek clarification on which specific aspects of the regulatory environment, including geothermal field classification are considered insufficient to support the strategy's objective and request a clear rationale for any proposed amendments.

6. We seek clarification on which aspects of the regulatory environment, particularly field classifications, require modification or replacement to enable this strategy, and why the current regulatory frameworks are considered inadequate. As outlined in WRC's February 2025 submission on the Resource Management (Consenting and Other System Changes) Amendment Bill, geothermal power development consents have historically been processed efficiently, typically within six months and none declined over the past 25 years. This evidences the effectiveness of the current consenting framework in managing geothermal resources and supports the view that aspects of the existing regulatory environment remain fit for purpose.

7. We also request further clarification on the need to review field classifications, given that the current classifications in the WRPS already provide for the development of several Development Geothermal Systems, two Limited Development Geothermal Systems and the potential development of a Research Geothermal System. The current classifications are well understood and have consistently provided certainty to industry and iwi partners, who have praised the clarity and spatial definition of the framework. To support implementation, we recommend the strategy reference instruments like the WRPS that guide council work programmes, and ensure any proposed changes are clearly justified and integrated into planning.

8. We agree in part that the regulatory framework must be fit for purpose. However, we highlight that the WRPS already includes a comprehensive set of objectives, policies and methods in the Geothermal (GEO) chapter that enable and encourage the use and growth of geothermal resources for energy production. Policies GEO-P3 and GEO-P4 support the development and efficient use of geothermal energy and recognise the controlled depletion of geothermal resources to meet the energy needs of current and future generations. Additionally, the Energy, Infrastructure and Transport (EIT) chapter contains provisions that support electricity generation, including a transition away from fossil fuels as prescribed in EIT-01(6) and ensuring security of supply EIT-01(9).

Effects Management

We recommend the strategy identify potential adverse environmental effects of geothermal development and outline practical methods to avoid or minimise those risks.

9. We recommend developing clear mitigation strategies to avoid, remedy, or mitigate significant adverse effects in alignment with the WRPS objective GEO-P3 on geothermal resource management. Currently, the strategy does not fully address the potential adverse effects associated with harnessing geothermal resources, including impacts on significant geothermal features, ecosystems, surrounding land uses and other natural resources.

Table A: Waikato Regional Council staff feedback on 'From the Ground Up – A draft strategy to unlock New Zealand's geothermal potential'

Questions for the consultation	Response
Q.1. Are the three strategic outcomes of the strategy, centered around world-leading geothermal innovation, accelerating energy resilience and strengthening regional economies and te Ōhanga Māori, suitable, or is there more we need to consider?	For this outcome, we recommend adding 'sustainably' to the phrase *"strengthening regional economies"* to reflect a commitment to long-term environmental and social responsibility. The systems map (page 11) references *"Protected Systems"* without explanation. We recommend adding context to highlight their ecological uniqueness, cultural significance to iwi and hapū, contribution to mātauranga Māori and support for the Waikato region's geothermal tourism industry, which was valued at $200 million in 2011[1] and is expected to have a much higher value currently. We note that the strategy focuses heavily on supply-side expansion. We recommend amending the strategy to demonstrate how it aligns with the demand-side initiatives, including the New Zealand Energy Strategy and the Energy Efficiency and Conservation Authority (EECA) Regional Energy Transition Accelerator programme, to support a balanced energy transition.
Q.2. Do the five overarching action plan goals capture the areas that are most important for achieving the vision, strategic outcomes and energy goal?	<u>Broaden focus areas</u> We recommend broadening the five focus areas to include non-energy geothermal values such as cultural heritage and tourism. These values contribute significantly to regional economies and cultural identity. <u>Improving access to geothermal data and insights</u> We recommend making geothermal resource data publicly available, consistent with oil and gas data practices. Open access to geophysical surveys, well data and core samples would support informed decision-making, research and industry innovation as well as encourage wider participation and investment confidence in geothermal development. We could support a confidentiality period of up to five years for commercially sensitive geothermal data. This would protect proprietary interests while ensuring eventual transparency and knowledge sharing. <u>Driving science, research and innovation, including supercritical geothermal technology</u> We recommend expanding the research and innovation focus beyond the supercritical geothermal to include technologies that improve extraction from existing reservoirs. For example, enhancing permeability in hot rock zones could boost productivity and reduce the need for new developments in sensitive areas.

[1] Geothermal tourism | Waikato Regional Council

Q.3. Does the proposed action plan correctly capture the necessary government interventions and priorities?	We support the Horizon 1 and 2 goals to improve geothermal data access and recommend this be prioritised. Limited access to commercially held data restricts effective planning and investment. A central repository and Crown-led exploration would support transparency and better decision making. Horizon 1's intent to enable sustainable geothermal use should also support timely, more responsive decision-making. Consenting processes under new environmental legislation must be more agile. We support Horizon 2's proposal to explore national policy for geothermal resource management. Our proven experience is that, to be effective, it must prioritise sustainable management and balance development with protection. The Waikato Regional Policy Statement (WRPS) demonstrates this approach, using system classification to tailor management, protecting significant geothermal features and integrating development with environmental and cultural values. Refer to policies GEO-P1, P2 and P3 in the WRPS. We recommend national standardisation of geothermal regulation, including the use of geothermal bonds under Section 108A of the RMA. Standardised bond requirements would ensure adequate financial provisions for well closure and abandonment. The WRPS method GEO-M6 provides for the use of bonds, however a National Environmental Standard (NES) could provide consistency across regions, supporting responsible development and long-term environmental projection. We recommend the strategy include a clear framework for co-ordinated and targeted investment to support its proposed activities, alongside a prioritised implementation plan. We look forward to contributing to further discussion on implementation of the strategy, including detail on funding. Effective delivery will require investment, particularly for resource-constrained delivery partners such as tāngata whenua, local government and public research organisations. Previous experience with the development of aquaculture demonstrates that the availability of funding to support planning for geothermal growth and development (see discussion of Aquaculture Planning Fund in response to question 4 below) is essential to de-risk outcomes and enable equitable participation. A shared, long term funding commitment from multiple parties would give delivery partners the confidence and resources to plan, participate and deliver over time. We recommend establishing a government-led Geothermal Development Initiator (GDI) to facilitate access to geothermal resources for uses beyond electricity generation. Current models focus narrowly on energy. A GDI could unlock broader applications such as mineral extraction, tourism and research by proving resource viability, unitising access rights and enabling a "fluid-as-a-service" market. This would support innovation and maximise geothermal value.

	We suggest prioritising GDI-led development in underutilised systems such as Mangakino, Horohoro, Atiamuri and Tokaanu and supporting research to classify the Reporoa system. These areas offer strategic opportunities for development and further scientific understanding, which has downstream benefits for innovation and commercialisation. Lastly, a hub of geothermal research, geothermal expertise, innovation and commercialisation should be established in Taupō, as a focal part of a distributed national network of geothermal expertise (including, for example, University of Auckland's Geothermal Institute). This district hosts major geothermal generation sites, Earth Sciences New Zealand, significant geothermal industry and is in proximity to direct heat applications and tourism assets. A dedicated hub would support commercialisation, innovation, export of geothermal services, workforce development and cross-sector collaboration. This would be similar to government support for the New Zealand Food Innovation Network and New Zealand Health Ventures. It could incorporate or complement a potential future Centre of Research Excellence.
Q.4. Is the role for the sector clear? How can the wider geothermal sector play a role (e.g. are there specific actions that the sector could own)?	We recommend the strategy clearly identify lead agencies or delivery partners for each action. We wish to highlight that WRC is well placed to support renewable energy development and should be explicitly recognised as a key implementation partner. Specifically, we suggest WRC be identified as a contributor for the following actions: <u>Horizon 1:</u> 1. Geothermal sector data insights report 2. Promoting geothermal's role in the energy transition (across the heat spectrum) 3. Collaborating with geothermal stakeholders and partners, including iwi, hapū, Māori landowners, developers and investors 4. Exploring zoning and spatial planning provisions to support geothermal investment 5. Investigating the development of a Geothermal Centre of Excellence. <u>Horizon 2:</u> 6. Considering Crown involvement in further exploration or modelling. 7. Investigating the need for low-heat geothermal mapping. 8. Planning legislation for sustainable geothermal use, including carbon capture and storage. 9. Regulatory clarity for well construction and abandonment. 10. National policy direction for geothermal resource management. 11. Piloting low-grade heat technologies. 12. Exploring incentives for industry and tourism sector clustering or relocation. <u>Horizon 3:</u> 13. Reviewing geothermal field classifications. 14. Considering system-wide funding mechanisms. 15. Transitioning government users to geothermal technologies.

	WRC has the mandate, expertise and relationships to support these actions, but scaling up will require additional investment. We also consider geothermal systems – not individual fields – remain the primary unit for resource management and classification. Development in one field can affect the wider system, as seen in the Taupō subsidence linked to Wairakei extraction. The Waikato Regional Plan appropriately manages resources at the system level. Classification decisions should therefore remain with regional councils, based on sound science and sustainable management principles, rather than directed by industry bodes or others lacking local expertise. As mentioned in our response to question 3, we suggest that central government dedicate funding to support regional councils in delivering geothermal planning and development. The strategy's goal to double geothermal energy use by 2040 is comparable to aquaculture's $3 billion target, which was supported by a $2 million Aquaculture Planning Fund. A similar model is needed to enable councils (particularly in the Taupō Volcanic Zone) to provide the regulatory and planning foundations needed for sector growth. Regional Councils would use these funds to ensure that policy is based on the latest and most up to date information and is set with accuracy to enable development in a sustainable manner. Contributions to research needed to support the regional policy cycle could be seeded and mechanisms to share and manage data put in place. While central government funding will be essential, we also encourage exploration of sustainable funding mechanisms. WRC suggests that the use of royalties or levies be investigated as a method for funding geothermal-related work. Revenue could be hypothecated to reinvest directly into the territorial authority or region specifically to support geothermal-related local planning and infrastructure.
Q.5. Does the strategy and proposed action plan create the right settings to enable tāngata whenua to realise their aspirations for geothermal resources in their rohe?	We acknowledge that tāngata whenua are best placed to determine whether this reflects their aspirations, which will vary by location and geothermal system. We strongly support Māori participation and encourage locally responsive, place-based engagement. To enable meaningful and enduring partnerships, iwi and hapū must feel supported, resourced and empowered to contribute. Working effectively alongside tāngata whenua, councils and other partners will lead to more inclusive decision-making and better outcomes for geothermal development.
Q.6. Are there opportunities for our geothermal sector that we haven't considered?	Yes – The strategy sets a broad direction, and we suggest the following additions to enhance its impact: That the strategy includes opportunities for public-private partnerships to support geothermal development. Collaborative investment between government and industry can help de-risk early-stage projects, encourage innovation and unlock complex infrastructure. Including this model would strengthen the strategy's delivery potential.

	That the strategy supports the use of the United Nations Framework Classification for Resources (UNFC) to assess geothermal project maturity. The framework provides transparency and consistency, helping investors and planners assess project viability. Since 2016, the geothermal sector has had a dedicated UNFC specification, and its use is gaining international momentum across renewable energy projects. WRC has successfully applied the UNFC methodology to assess 22 geothermal projects across 10 systems in collaboration with major developers. This approach has been well received. Government support would enable consistent national application, improve transparency and strengthen strategic planning and investment decisions. There is a potential opportunity to recognise geothermal heating, especially ground source heat pumps, as a scalable, low-emission solution to decarbonise buildings, reduce peak electricity demand and improve energy resilience.
Q.7. Are there challenges for our geothermal sector that we haven't considered?	Yes – We suggest the following considerations: <u>Support early-stage innovation:</u> We recommend the strategy acknowledge the high-risk nature of geothermal innovation and include mechanisms to support early-stage research and development by industry. This could be implemented as part of the geothermal hub and network referred to in our response to Q3. Transformative technologies often involve long timeframes and significant financial risk, which may deter private investment without government support. In addition to regulatory and data improvements, public-private partnerships and targeted incentives are essential to de-risk innovation and encourage uptake. <u>Enable integrated access rights:</u> We recommend bundling access rights with take and discharge consents to streamline approvals and ensure consistent effects management. Geothermal resources are located deep underground and often span multiple land parcels. Fragmented access rights can hinder development and complicate consent processes. <u>Plan for water requirements:</u> That the strategy acknowledges and plans for the significant water needs of geothermal development, especially for supercritical drilling. Geothermal operations require large volumes of cool water for well construction and control. In regions like the Taupō Volcanic Zone, water is already over-allocated. Early consideration of water availability and engagement with relevant experts would be essential for effective consenting.

	Standardise geothermal bonds: We reiterate our recommendation in Q.3. for a nationally consistent approach to geothermal bonds, ideally though an NES.
Q.8. Are there any other things that the strategy should include or exclude?	Yes - We make the following suggestions for inclusion: Balancing tourism and development: We recommend the strategy acknowledge the various values of geothermal areas, particularly their importance to tourism. Industrial development can impact these sites, so it is important for geothermal use to complement the economic and cultural benefits tourism provides. Protecting geothermal features: It is crucial to protect unique geothermal features with high environmental, cultural or recreational value. These features are irreplaceable and essential for biodiversity, heritage and tourism. The strategy should include planning and regulatory tools to safeguard them. Support site-specific representation: Given the diversity of geothermal systems, site specific governance and engagement is essential. Local communities, including tāngata whenua, must be meaningfully involved in decisions affecting their geothermal resources.