

Consultation submission form

From the Ground Up – A draft strategy to unlock New Zealand’s geothermal potential

How to submit using this form

This form is used to provide feedback on the document *From the Ground Up – A draft strategy to unlock New Zealand’s geothermal potential*.

When completing this submission form, please provide reasons explaining your answers. Your feedback provides valuable information and will inform decisions about the final geothermal strategy.

You can submit this form by 5pm, 12 September 2025 by:

- Emailing to resourcesfeedback@mbie.govt.nz with the subject line ‘**Submission on a draft geothermal strategy**’ or
- Posting to:
Submission on a draft geothermal strategy
Resource Policy
Ministry of Business, Innovation and Employment
PO Box 1473
Wellington 6140

Your feedback will contribute to further development of a geothermal strategy for New Zealand. It will also become official information, which means it may be requested under the Official Information Act 1982 (OIA).

The OIA specifies that information is to be made available upon request unless there are sufficient grounds for withholding it. If we receive a request, we cannot guarantee that feedback you provide us will not be made public. Any decision to withhold information requested under the OIA is reviewable by the Ombudsman.

Submitter information

The Ministry of Business, Innovation and Employment (MBIE) would appreciate if you would provide some information about yourself. If you choose to provide information in the section below, it will be used to help MBIE understand how different groups view the draft geothermal strategy. Any information you provide will be stored securely.

A. About you

Name: Greg Ussher

Email address: gregory.ussher@gmail.com

B. Are you happy for MBIE to contact you if we have questions about your submission?

Yes

No

C. Are you making this submission on behalf of a business or organisation?

Yes

No

If yes, please tell us the title of your company/organisation:

I am making this personal submission to complement that provided by my company Jacobs which has made a fuller formal submission from the perspective of private consulting and services sector. I helped draft and fully endorse the points made by Jacobs.

Privacy information

The Privacy Act 2020 applies to submissions. Please check the box if you do not wish your name or other personal information to be included in any information about submissions that MBIE may publish.

MBIE may upload submissions, or a summary of submissions, received to MBIE's website at www.mbie.govt.nz. If you do not want your submission or a summary of your submission to be placed on our website, please check the box and type an explanation below:

I do not want my submission placed on MBIE's website because... [insert reasoning here]

D. Confidential information

I would like my submission (or identifiable parts of my submission) to be kept confidential and have stated my reasons and ground under section 9 of the Official Information Act that I believe apply, for consideration by MBIE.

If you have checked this box, please tell us what parts of your submission are to be kept confidential.

From the Ground Up – A draft strategy to unlock New Zealand’s geothermal potential

The Government is developing a geothermal strategy for New Zealand to provide a focused pathway to geothermal leadership and growth and unlock the potential of our geothermal resources across a broad range of applications.

New Zealand’s geographical location has given us a unique geothermal advantage, and New Zealand has been a global leader in geothermal development since the late 1950s. Geothermal contributes nearly one-fifth of our annual electricity generation, is a strong tourism attraction, and geothermal heat and steam are utilised both directly and indirectly in industrial, commercial and residential applications.

However, despite our world-class resource, geothermal development faces some barriers, including high upfront drilling costs, fragmented access to data, complex and dated regulatory settings and the scale of the sector. New technologies, such as supercritical geothermal, are also on the horizon. In order to drive the energy resilience, regional development, economic growth and climate leadership, deliberate and coordinated action is required.

The draft strategy sets out a vision for New Zealand to be a global leader in sustainable geothermal development. Three interconnected strategic outcomes, centred around being a world-leader in geothermal innovation, accelerating energy resilience, and strengthening regional economies and te Ōhanga Māori, have been identified to guide action and focus. Five action plan goals have been identified to guide the Government’s approach, underpinned by a draft action plan. The draft strategy also includes an energy-focused goal to double the use of geothermal energy by 2040.

We are seeking feedback on the draft strategy, particularly whether the proposed direction, ambition and outcomes, and accompanying action plan, capture the necessary government intervention and priorities. We are also interested in views about how the wider geothermal sector can contribute to unlocking our geothermal potential.

Please see the draft geothermal strategy for more information, available on our website:

<https://www.mbie.govt.nz/have-your-say/consultation-on-a-draft-geothermal-strategy-for-new-zealand>

Questions for the consultation

1. Are the three strategic outcomes of the strategy, centred 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?

I am in general agreement with these. The first strategic outcome is however not really an outcome : it is a standard or status. As such it is stranded and has no purpose unless it is manifested in tangible results for New Zealand. As detailed in Jacobs’ submission, the export sector for technology / services is not specifically addressed in the draft strategy. This sector which has always been led by private industry (as much as the government research agencies try to compete with private sector), is a key element of the NZ industry which is essentially ignored in the draft strategy.

2. Do the five overarching action plan goals capture the areas that are most important for achieving the vision, strategic outcomes and energy goal?

The private geothermal services sector is a huge part of the NZ geothermal industry which has been exporting services for over 50 years. While this initially leveraged the government funded work to establish the industry in NZ, this sector has continued to develop applied technology globally and regularly brought those skills and knowledge back to NZ when the local industry has stagnated or needed resources and knowledge to scale up.

These providers have been working continuously in a vast number of different project types and situations which has driven a lot of innovation, while often in NZ the industry has gone stale with long cycles of development inactivity and no incentive for government funding. Having been involved in bringing new exploration methods back to NZ from my work internationally, I know how hard it can be to change entrenched thinking, but also how important it is to draw on the wider industry globally to make our local industry more robust. The locally based private sector providers can be a key part of this current phase of industry stimulation, and they should not be bypassed completely by outreach to the large commercial service providers who are promoting advanced technologies. Companies like Jacobs (and their NZ staff) are already deeply involved in EGS in the USA and can bring very useful support to what is being proposed in this strategy.

Making NZ once again a leading centre of geothermal innovation is a great opportunity for giving the export industry another few decades of opportunity, as the rest of developing world has already largely caught up with conventional technology delivery. This edge also can be a strong basis for ongoing development assistance such as the NZ MFAT programmes in the Caribbean, Indonesia and Africa.

I support expanding the Action Plan Goals to including support for the export of NZ grown services through being a recognized global geothermal leader, and the local growth of our educational base for sustaining growth of human capability here and globally.

3. Does the proposed action plan correctly capture the necessary government interventions and priorities?

NZ government funded research has typically taken the approach of just publishing high level academic papers, but in future we need actual data to be made available so that others can make full use of the funded research. This is the approach typically taken in other peer countries.

I have struggled to obtain basic gravity data from GNS Science (now Earth Science NZ) when this data was collected decades ago as part of the fundamental surveys of NZ. More recently a lot of MT resistivity survey work has been government funded but to my knowledge this is reported only as papers with small images that are not useful for accumulating and growing new knowledge by adding other data sets or remodeling in different ways.

If government will fund supercritical or other basic exploration and research then this fundamental data and learnings should be made more openly and quickly available. Legacy data sets (particularly the geophysics data of gravity, MT resistivity, magnetics) should also be made available

Cross-cutting the Action Plan Goals of improving data access, regulatory settings and advancing knowledge, is a need to improve our visibility of the pipeline of geothermal opportunities and projects.

Whilst various agencies will inevitably compile a geothermal resource this is typically science based with only a cursory lens of technical, financial and enviro-social feasibility.

However, a much more realistic and useful approach for planning in 5-10 year timeframes is to consider a more project based assessment considering **project maturity** which is what we helped the Waikato Regional Council achieve with a UNFC based assessment of geothermal in their region.

I have been involved in developing the international geothermal specifications for UNFC over the past decade and would be keen to help present how this may add value for NZ. Our assessment for Waikato highlighted for example that nearly all the prospects that had been proven by drilling were already developed or in progress to be built, and that there is a huge gap with very little that could be converted into new development without a massive exploration drilling phase : something that NZ has not done for decades.

I remember Ministers being asked during the 2024 power pricing crisis about the real pipeline of power generation project and were unable to answer that question of what the credible near-term new generation projects could be expected. A UNFC-type inventory for NZ would address this.

Having personally been looking at what makes EGS projects “tick” in the USA and considering the types of subsurface conditions needed, I have reflected on many surveys I have done in NZ in the last 20 years and realise we may have a lot of EGS opportunity that could be considered alongside the aspirational pursuit of supercritical. So, this is an opportunity that needs to be considered.

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)?

MBIE really needs to talk to the private sector, and not just local vested interest parties in Taupō region. This sector will play a pivotal role and at the same time continue to build export markets and global development activity as a geopolitical goal for NZ.

There should also be support for the Auckland “hub” of geothermal which has already played a significant role in supporting post graduate courses in particular at Auckland University which needs great support for growing local capability and sustaining NZ as a centre of excellence in training globally.

These sectors are largely self supporting and will deliver on their own roles, but some coordination and joining of skills from private, education and public sector skills can always be better for NZ or deliver on aspirations for innovation.

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?

Having personally assisted several Māori groups in recent years, I see a huge gap in that their young people are not seeing or finding key roles in geothermal developments. Engaging young Māori in the industry and particularly in skilled areas such as geothermal resource exploration, evaluation and sustainability is at present a missed opportunity. This could help much better mutual understanding between Māori and Pakeha world views of geothermal sustainability and use and thereby find ways for acceptable use of these natural resources.

6. Are there **opportunities** for our geothermal sector that we haven't considered?

Low temperature (pumped) geothermal which is globally 100% proven but not at all used in NZ, and newer EGS technology are both overlooked in the draft strategy as more immediate technology opportunities for new projects and new power generation that can come on line in a few years rather than the decades likely for supercritical.

Please talk to the NZ global private sector actors who are dealing with this now for how NZ can benefit.

7. Are there **challenges** for our geothermal sector that we haven't considered?

Building local capability, especially some fundamentals like lack of geology and geophysics courses at Universities where these have been rapidly cut back as "non commercial" for universities, is a big issue if we are to have the human capital to deliver on the strategy.

8. Are there **any other things** that the strategy should include or exclude?

Thank you

Thanks for your feedback, we really appreciate your insight. It helps us establish a long-term strategic approach to unlock the potential of our geothermal resources in a sustainable manner.

To help us continue to develop a geothermal strategy for New Zealand, we would appreciate any additional suggestions or comments you may have.

Please leave your feedback here:

After 45 years in the industry, I really appreciate and welcome the new government interest in geothermal. It's a first in my career, but better late than never!!

I note that there could be more engagement with the private sector in future when developing the strategy. We can bring additional perspectives, global knowledge, and additional resources for assisting the growth of geothermal development in NZ.

Thank You for the opportunity for this engagement !!