Feedback on Draft Geothermal Strategy, 2025

Responsible Department: MBIE

From: Neville Smith

Submitter

I am an explorer and a New Zealand citizen. I am retired, with in excess of 40 years' experience in petroleum geoscience working in New Zealand and Australia for BHP Petroleum, BHP Billiton, Todd Energy, OMV New Zealand and BP Oil NZ Ltd (Minerals Division). In additional to petroleum exploration geoscience and well-data analysis, I have particular expertise in New Zealand's regulatory and environmental consenting frameworks for petroleum exploration. With OMV New Zealand, I was involved in geological investigations of New Zealand's geothermal resources, engaging with GNS Science on supercritical geothermal technologies, and with industry participants and regulators at geothermal conferences. With BP Oil (Minerals Division) I explored epithermal gold deposits associated with relict geothermal systems in various parts of New Zealand.

Submission

I submit to MBIE the following comments regarding the draft Geothermal Strategy 2025.

Response to Questions in Consultation Document

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?
    a. The Vision and Strategic Outcomes are supported in principle. It is very helpful to see the addition of a concrete GOAL that has direct relevance, visibility and comprehension for New Zealanders, as well as measurability.
2. Do the five overarching action plan goals capture the areas that are most important for achieving the vision, strategic outcomes and energy goal?
    a. Yes. I think this covers the main areas where Government should be involved.
    b. Improving access to geothermal data and insights: It is beyond comprehension why the geothermal sector is effectively unregulated with respect to data. New Zealand has a comprehensive programme for data retention and access for the petroleum sector, but in the geothermal sector the major industry players are able to keep data and information secret, thereby diminishing its value and locking out appropriate discussion of alternative insights. I support a similar system for provision of data (including physical and remote sensing data), analyses and interpretations, and access to data and insights, as regulated for the petroleum sector. This will need extensive and urgent collaboration between MBIE and Earth Sciences New Zealand.
    c. Ensuring regulatory and system settings are fit for purpose: Supported.
    d. Advancing knowledge and uptake of geothermal technologies: Successive Governments over many decades have allowed New Zealand's pioneering geothermal heritage and capability to be diminished and minimised. While a great many geothermally-capable regions of the world have pushed ahead with the full range of high- to low-temperature geothermal technologies, New Zealand has been mindlessly stuck in conventional mid-temperature geothermal generation for electricity, primarily. The existing geothermal generators must take the blame,

alongside governments. Now is the time for the existing players to throw open the doors of the industry to collaboration and co-operation, because geothermal energy is New Zealand's superpower if ever there was one.

e. Enabling place-based geothermal clusters: Supported absolutely.
f. Driving science, research and innovation, including supercritical geothermal technology: Supported absolutely.

3. Does the proposed action plan correctly capture the necessary government interventions and priorities?
    a. Beyond getting the New Zealand public and businesses engaged with the value of geothermal energy, Government additionally needs to take a firm hand in integrating the geothermal and petroleum sectors in New Zealand. Many of the existing petroleum participants have for many years being engaged with industry and research sectors as part of the transition process from oil and gas to renewable energies. Their efforts have too often been flatly rejected by existing geothermal players, and deflected by researchers, who operate in an "oil&gas=BAD" world-view driven by anti-resources political systems including Government, the Public Service and Universities. In fact, the petroleum sector has distinct technical knowledge and capabilities that are directly aligned with the geothermal sector, including data acquisition and analysis, geological subsurface interpretation, drilling technologies and drilling rigs with proven deep-drilling capability, subsurface and surface fluid flow and geochemistry, project management and financial strength.
4. Is the role of the sector clear? How can the wider geothermal sector play a role (e.g. are there specific actions that the sector could own)?
    a. As above.
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?
    a. It is not clear what are the specific actions with respect to Māori interests. Nor is it clear, in the "What's holding us back" section, whether or not Māori interests have been a significant factor contributing to the underwhelming development of geothermal resources in New Zealand to date. I feel there should at least be honest discussion in this strategy document of land access issues and sensitivities that will need to be considered in future.
6. Are there opportunities for our geothermal sector that we haven't considered?
    a.
7. Are there challenges for our geothermal sector that we haven't considered?
    a.
8. Are there any other things that the strategy should include or exclude?
    a. The strategy document needs to expand its presentation vision, if I can put it that way. Surface heat flow is only one representation of New Zealand's geothermal resource potential. It is relevant for tourism and low-temperature (shallow subsurface) geothermal production systems, but it does not reflect mid-temperature and high-temperature resource potential. It is important for the New Zealand public to have a better understanding of how little of the existing conventional geothermal resources are used, and the potential for deeper geothermal systems. Suggest adding temperature maps at 2km and 5km below surface to align with discussion of conventional and supercritical geothermal potential.