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# Project Whāngai – Strengthening Māori Participation in STEM and Geothermal

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**ABSTRACT**

*Ka whangaia, ka tupu, ka puawai*

That which is nurtured, will blossom then grow.

Māori are the Indigenous people of Aotearoa (New Zealand), making up just under 20% of the population and growing at three times the rate of non-Māori. However, Māori remain significantly under-represented in Science, Technology, Engineering and Mathematics (STEM) fields, accounting for less than 5% of participants.

Project Whāngai aims to change this narrative by identifying barriers to equity and whāngai (nurture) an environment where STEM education institutions and workplaces reflect te mata o Aotearoa (the face of New Zealand). To provide a proof of concept, Project Whāngai will focus on geothermal STEM careers in the Taupō Volcanic Zone (TVZ), where a considerable proportion of our Māori population and geothermal operators are located.

A pincer approach is proposed ("Rautaki Kōpani") to leverage the power of two complimentary methods, creating a combined effect greater than either could achieve independently. The two methods are:

1. Growing the number of rangatahi Māori (young people) studying STEM relevant to geothermal (Chemistry, Computer Science, Earth Science, Engineering, Environmental Science).

2. Creating culturally inclusive work environments for Māori in geothermal workplaces.

## 1 GEOTHERMAL IN AN AOTEAROA CONTEXT

Māori are the Indigenous people of Aotearoa (New Zealand), comprising 19.6% of the nation's population. The population is relatively young, with 70% under 40 years, compared to 50% for non-Māori, and is growing at approximately three times the rate of non-Māori (Statistics New Zealand, 2024a).

Geothermal resources have a rich and enduring history in Aotearoa, playing an important role from pre-colonial times through to the present day. Geothermal development and use occur throughout the country, from remote hot springs to large geothermal power stations, with activity extending from the far North to the South Island. There have been geothermal developments in Aotearoa by Crown entities, Māori ventures, and tourism operators, and it remains a key economic resource in regions fortunate to have geothermal systems.

Currently, there are no national statistics identifying how many Māori are employed in geothermal in Science, Technology, Engineering and Mathematics (STEM) roles. However, using adjacent data gives a useful indication of the current state. Across two of Aotearoa's largest geothermal operators, Māori make up 9.9% (Contact Energy Ltd, 2025b) and 7% (Mercury NZ Ltd, 2025) of total employees.

These figures reflect entire workforces including hydro, wind, and retail operations. Anecdotal evidence from the authors suggests Māori representation in geothermal STEM roles is lower, aligning with national research showing fewer than 5% of scientific researchers are Māori (MBIE, 2021).

Alongside these demographic shifts, Māori investment capacity is expanding. Te Ōhanga Māori (2023) reports Māori entities' contribution to GDP rose from $17 billion in 2018 to $32 billion in 2023, with several forecasts suggesting the Māori economy could approach $200 billion by 2030. This strengthens the case for collaborative geothermal development and iwi–industry co-investment models. The direction was underscored at Koroneihana 2025, where the Māori Queen Te Arikinui Kuini Nga wai hono i te po emphasised collective economic strength and signalled an economic summit and an iwi investment fund, reinforcing appetite for partnership.

### 1.1 Geothermal areas

Geothermal developments are concentrated in two key regions, the Taupō Volcanic Zone (TVZ) in the Central North Island and Ngāwhā in Northland (Figure 1). Approximately 17 high temperature geothermal systems lie beneath Māori land across various regional councils (Eru and Lovell, 2021).

Project Whāngai will initially focus on the TVZ. Most of this zone lies within the Waikato and Bay of Plenty regions, where approximately 25% of the Māori population live (Statistics New Zealand, 2024b). All geothermal operators but one (Ngāwhā) are located here.

### 1.2 Māori, geothermal and legislation

The two key pieces of legislation relevant to Project Whāngai are the Treaty of Waitangi Act 1975 and the Resource Management Act 1991. For a detailed description of New Zealand's regulatory framework relating to geothermal resources, see Kissisk et al., 2020. For more information about Māori and geothermal developments, refer to Eru and Lovell, 2021 and Blair et al., 2024. And for insights into the Waitangi tribunal and Geothermal Resource Management refer to Lovell et al., 2025.

Te Tiriti o Waitangi (the Treaty of Waitangi) is Aotearoa's founding document, signed between Rangitira Māori (Māori chiefs) and the British Crown in 1840. The intention of the treaty was to establish a partnership between Māori and the Crown. However, differences between Te Tiriti (the Māori version of the treaty which most Rangitira Māori signed) and the English version, along with subsequent breaches by the Crown, have caused enduring conflict.

The Treaty of Waitangi Act 1975 gives legal force to the treaty and established the Waitangi Tribunal, which makes *'recommendations on claims relating to the practical application of the Treaty and to determine whether certain matters are inconsistent with the principles of the Treaty'* (New Zealand Government, 1975). More than $2.6 billion in settlements have been paid to date to address historic breaches.

Of relevance for Project Whāngai, the Waitangi Tribunal recognises kaitiakitanga (guardianship, stewardship and reciprocity of the environment) and confirms that the Crown has an obligation to recognise and protect the kaitiaki (guardian) relationship that Māori have with their environment and taonga (treasures), including geothermal resources (Waitangi Tribunal, 1993).

The Tribunal has consistently highlighted the need to recognise Māori rights and interests in geothermal resources, uphold rangatiratanga, and enable meaningful Māori participation in decision-making processes as can be seen in its claims relating to geothermal resources i.e. WAI304 Ngawha Geothermal Resource Report (1993), Wai 153: Preliminary Report on The Te Arawa Representative Geothermal Resource Claims (1993), Wai 2358 National Fresh Water and Geothermal Resources Inquiry (ongoing, started in 2012)(Lovell et al., 2025). However, these recommendations have yet to be embedded into statutory or regional planning frameworks.

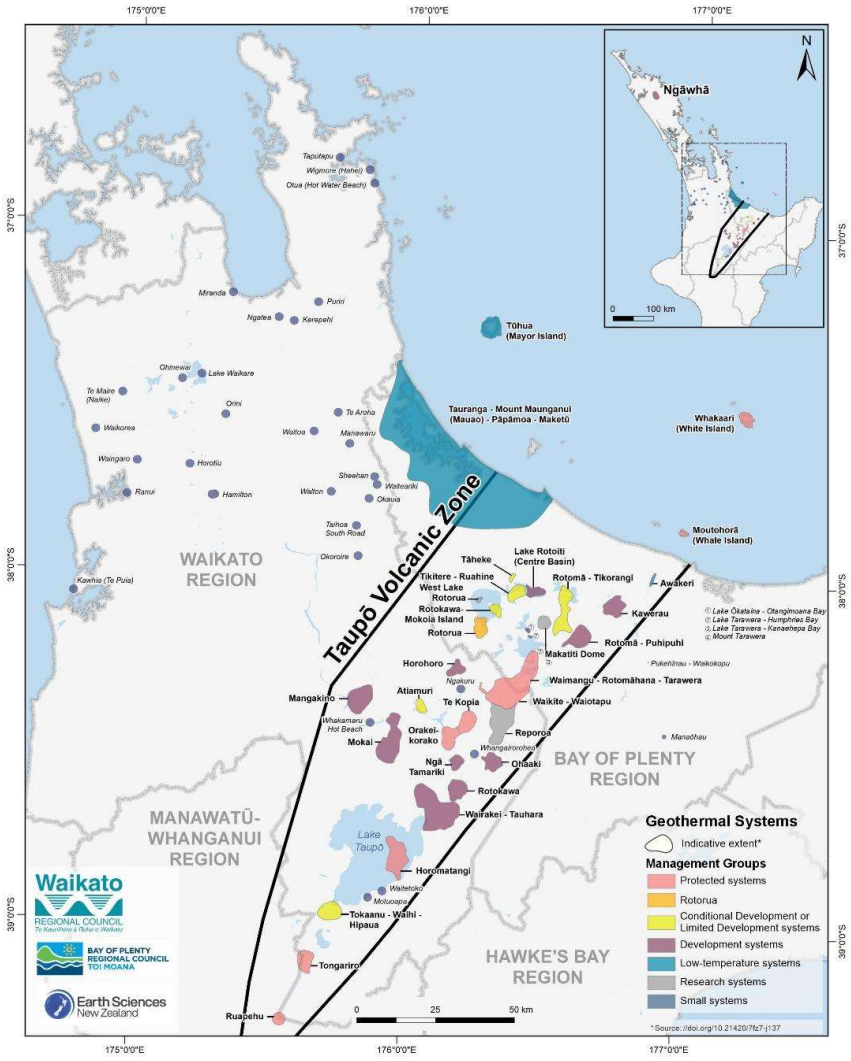


**Figure 1: Geothermal Systems in the North Island of New Zealand, and the Taupō Volcanic Zone (GNS, 2025)**

As of 2025, geothermal resources in Aotearoa are not privately owned and are instead managed regionally under the Resource Management Act 1991 (Kissick et al., 2021). The Act sets out how Aotearoa manages its natural and physical environment, based on the principle of sustainable management for present and future generations. Its purpose is to ensure that human activity does not harm people, communities, or ecosystems (air, water, soil, and biodiversity) on which we depend (Ministry for the Environment, 2021). The Resource Management Act also requires that the Treaty of Waitangi be considered in decision-making:

*'In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development and protection of natural and physical resources, shall take into account the principles of the Treaty of Waitangi (Te Tiriti o Waitangi)'* (New Zealand Government, 1991).

Together, these two pieces of legislation affirm that Māori must be central to decision-making processes. It is essential for geothermal operators to maintain strong relationships with hapū and iwi as most operate on land owned by Māori or where Māori have mana whenua (authority over land and resources). Māori also seek collaboration and employment as practical expressions of partnerships.

Alongside domestic law, Māori rights in relation to geothermal resources are also affirmed in international instruments. The United Nations Declaration on the Rights of Indigenous Peoples, which Aotearoa endorsed in 2010, confirms the rights of Indigenous peoples to their lands, territories and resources and to participate fully in decisions that affect them (United Nations General Assembly, 2007). It also sets an expectation that states consult and cooperate in good faith to obtain the free, prior and informed consent of Indigenous peoples before approving projects that affect their lands or resources (OHCHR, 2024a; OHCHR, 2024b). These standards reinforce that Māori relationships with geothermal taonga (treasures) are inherent and enduring and should be upheld in policy and practice even as domestic regulatory frameworks evolve.

### 1.3 What is Project Whāngai

Project Whāngai is a rōpū (group) of kaimahi Māori (Māori employees) and kaitautoko (supporters) from across our geothermal operators, who recognised a disparity between our work, education, community, and home environments. The overarching goal of Project Whāngai is to increase the Māori representation across STEM education institutions and workplaces to reflect the Māori population of Aotearoa.

Our members come from diverse backgrounds and are well placed to provide insight and advice, drawing on their experiences overcoming barriers to reach their current roles. Kaupapa Māori underpins all that we do – a project run by Māori for Māori.

### 1.4 Our vision

Our vision is to whāngai (nurture) an environment where STEM education institutions and workplaces represent te mata o Aotearoa (the face of New Zealand) which will result in a significant increase in Māori working in geothermal technical roles - the target being 20% by 2045. This vision would:

- Enable Māori to develop competencies in STEM areas to help inform decision making aligned with mātauranga Māori (Māori science).
- Increase Māori representation in the STEM workforce, including technical and leadership roles.
- Embed mātauranga Māori in sustainability, community, and environmental decision making.
- Achieve representative Māori participation across the geothermal workforce, including technical, frontline and leadership roles.
- Provide geothermal, and adjacent companies access to increased diverse thinking for more robust technical decision-making.
- Increase connection and understanding of Te Ao Māori in the geothermal industry.

### 1.5 Rautaki Kōpani (pincer approach)

Rautaki Kōpani is the proposed approach to leverage the power of two different methods and create synergy, where the overall effect is greater than what either could achieve independently. Our vision for STEM education institutions and workplaces to represent te mata o Aotearoa, naturally highlights two methods that Project Whāngai can work on:

1. Growing the number of rangatahi Māori (young people) studying STEM.
2. Creating belonging and inclusion in the workplace.

The essence of Rautaki Kōpani is that focusing solely on education, such as increasing the number of Māori achieving STEM qualifications, will not succeed if work environments are not inclusive. Both aspects must progress together for the vision of Project Whāngai to be realised.

To provide a proof of concept, the project scope will initially be limited to geothermal-related STEM fields (chemistry, computer science, earth science, engineering, and environmental science) within the TVZ.

## 2 GROWING THE NUMBER OF RANGATAHI MĀORI IN STEM EDUCATION

Māori students make up approximately 25% of the national student population. However, their participation in STEM pathways, particularly at tertiary and professional levels, remains comparatively low (Pūhoro STEMM Academy, 2016). This is significant given that Māori (and Pacific Islanders) are projected to comprise 40% of the under-40 workforce by 2041 (COMET Auckland, 2023), highlighting the importance of closing participation gaps in STEM education. In 2023, Māori students represented only 8% of tertiary STEM enrolments (Ministry of Education, 2025), a figure that has changed little over the past decade. The Māori population in Aotearoa has been increasing in size, and in future, will form an increasing share of the workforce. However, a 2018 study by BERL on the education outcomes for Māori in Aotearoa identified that for every 100 Māori school leavers, 19 have no qualification compared to 9 of every non-Māori school leaver.

These statistics highlight the challenges facing the geothermal sector in increasing Māori representation in technical roles that reflect the population of Aotearoa, and the necessity to remove barriers to education and employment for Māori.

### 2.1 Historical and Systemic Barriers

The underrepresentation of Māori in STEM education is embedded in the historical development of science education in Aotearoa. Stewart (2011) identifies science as the subject being the most severe in terms of enduring disparities for Māori students, describing it as the “worst case scenario” with regards to academic inequity. One barrier is the framing of science as culturally neutral and universally true. This perspective (often embedded in curriculum policies and teaching practices) assumes that all students, regardless of their background, must obtain the knowledge of science to succeed. While there may be good intentions, it can be perceived by Māori as culturally arrogant and lacking in awareness of Indigenous worldviews (Stewart, 2011). Existing curriculums often overlook the need to engage with Māori knowledge systems leading to a disconnect between students and the subject matter. Initiatives that look at increasing resources can sometimes miss the mark by failing to address the deeper societal issues where the aim is to help Māori students conform to existing systems rather than transforming those systems to reflect Māori values and aspirations (Smith, 1995). The curriculum which limits space for Māori perspectives has control over what counts as legitimate knowledge leading to the potential disengagement or exclusion of Māori interests and reinforces those perspectives of their inferior position in the education system (Smith, 1995). Socioeconomic factors such as unemployment, poor health and housing further compound these challenges and impact rangatahi Māori’s ability to engage meaningfully with STEM education.

### 2.2 Current challenges in STEM participation

Despite the growing awareness regarding the need to improve Māori representation in STEM fields, significant challenges remain across the education pipeline. Underrepresentation of Māori in tertiary STEM programmes persists across universities and technical institutions (Vallayil & Stewart, 2025). One of those challenges is the representation of Māori in STEM professions and academia. Vallayil & Stewart (2025) note that Māori are significantly underrepresented among STEM faculty and researchers which limit the presence of Indigenous role models and mentors. The absence of these role models can further lead to feelings of isolation and reinforce perceptions that STEM is not a space where Māori belong. Experiences and methods for support have been documented by a collection of Māori and Pacific Island postgraduates in STEM (McAllister et al., 2025) that recognise the lack of representation. While there is an acknowledgement of educational institutes aiming to improve representation and participation, McAllister et al., 2025 notes that the advice provided in the article is “necessary to ensure that we survive while institutions prepare themselves to ensure that we thrive”.

Bias and stereotypes also play a role in how Māori experiences are shaped in STEM education. These appear through lowered expectations from educators, curriculum that excludes Māori perspectives and institutions that prioritise Western scientific norms over Indigenous knowledge systems (Vallayil & Stewart, 2025). In a letter published in the New Zealand Listener magazine in 2021, Clements et al., 2021

argued that Indigenous knowledge "falls far short of what can be defined as science itself". This narrative risks alienating students who might otherwise thrive in more culturally responsive environments. The structure of STEM programmes may fail to accommodate Māori ways of knowing and learning where the emphasis on individual achievement and competitive assessment conflicts with Māori values such as collaboration, relational learning and holistic understanding (Harmsworth, 2011).

The cumulative effect of these challenges is the STEM pathway remains largely inaccessible and unwelcoming to Māori. Addressing these issues requires a multi-pronged approach that targets support for rangatahi Māori, a transformation of institutional cultures, consideration to redesign the curriculum and teaching practices to ensure that Māori knowledge and values are both respected and embedded.

### 2.3 Kaupapa Māori initiatives

In response to the challenges facing Māori in STEM pathways, several initiatives have emerged with the aim to transform the traditional science curriculum through culturally grounded and inclusive approaches. These initiatives reflect a growing recognition that systemic change is needed to improve participation and achievement.

An example is the Pūhoro STEMM Academy that launched in 2016 to address the participation gaps in STEM pathways. Through integrating Mātauranga Māori with STEM disciplines, Pūhoro has supported over 3,500 rangatahi Māori from secondary school through tertiary education and employment. The programme appears to have considered those factors that limit Māori participation and aims to counteract them through providing mentorship and academic support while fostering cultural identity and leadership (Pūhoro STEMM Academy, 2016). Their initiative is grounded in the belief that STEMM (Science, Technology, Engineering, Math and Mātauranga Māori) is not foreign to Māori, it is embedded in their whakapapa and worldview. Another example is a leadership programme Taiao Aronui which is an iwi education programme led by a collective of Ngāti Whakaue kura. This was initiated for kaiako (teachers) and Te Arawa kura (schools in the Te Arawa region) to embed Te Arawa identity and its environment in education. Objectives of the Royal Society Te Apārangi (2019) are to "realise mātauranga ā-iwi in the science curriculum, reignite mātauranga ā iwi within their kaiako and recognise mātauranga ā-iwi within their tamariki mokopuna".

A government-led initiative PŪRAU (NZQA) is also playing a role in promoting Māori participation in STEM. PŪRAU is a Māori conceptualisation of STEM, Pūtaiao (Science), Hangarau (Technology), Pūkaha (Engineering) and Pāngarau (Math) which promotes STEM through a Te Ao Māori lens. The programme supports and acknowledges the Te Ao Māori perspective through resources such as PŪRAU with Māui Pōtiki and recognising the need to surround rangatahi Māori with additional support by hosting workshops for whānau to support them through secondary school.

These initiatives emphasise the need for change, including reframing STEM education to incorporate mātauranga Māori, developing culturally relevant study programmes as well as fostering inclusive learning environments. Strategies such as highlighting the need for representation, engaging iwi, hapū and whānau in support of rangatahi Māori throughout their educational pathways and implementing place-based learning have shown promise in making STEM more accessible and meaningful for Māori learners (Vallayil & Stewart, 2025). Together, these initiatives represent a shift towards a more equitable and culturally inclusive STEM pathway that supports and encourages Māori participation.

## 3 CREATING BELONGING AND INCLUSION IN THE WORKPLACE

Representation alone does not ensure inclusion. Meaningful participation in any workplace relies on people feeling a genuine sense of belonging while knowing their unique identities and perspectives are recognised and valued, as identified by Stewart (2023) as the dual elements of inclusive workplaces combining belongingness and uniqueness.

Belonging shows up day to day as psychological safety. Evidence in Aotearoa links psychological safety to higher engagement and retention for Māori staff and to earlier surfacing of local knowledge, which improves quality and safety outcomes (MBIE, 2023; Brougham & Haar, 2013).

Fostering these conditions has become essential for building a capable, engaged, and sustainable workforce. For Māori, belonging in the workplace extends beyond representation or opportunity. It involves being able to bring one's identity, values, and perspectives into daily work. While investment in education and collaboration through partnerships can open pathways for Māori to enter the geothermal sector, those efforts lose impact if the workplaces they arrive in do not feel welcoming or familiar. When people feel out of place or unable to bring their full selves with them, the opportunity for genuine participation, and long-term retention, is lost (MBIE, 2023; Brougham & Haar, 2013).

National research with Māori workers found that while many kaimahi Māori value inclusion and report positive experiences in their current workplaces, they often contrasted these with past experiences of exclusion, noting that they had left or become disengaged in previous roles because of a lack of inclusion. As one participant explained, *"My current workplace is a great place to work – very culturally supportive. I came from another company, yeah, terrible place to work for management, like absolutely terrible. Like they make their staff cry. They were just like cutthroat at us and it's all about the money"* (MBIE, 2023).

### 3.1 Organisational Benefits of Inclusion

Increasing Māori participation in corporate environments directly strengthens organisational performance and external relationships. When Māori are part of the organisation, they bring perspectives and relationships that help corporates connect more authentically with the communities and Māori they work alongside. This makes the company's intent to partner visible and credible.

Inside the organisation, belonging drives stronger engagement, retention, and safety. People who feel respected and valued speak up earlier, share local knowledge, and stay longer, reducing turnover and improving team continuity. A more diverse workforce also challenges groupthink, improving decision quality and innovation, critical in complex operational settings like geothermal development.

These same qualities create advantages outside the organisation. Having Māori represented and empowered within corporate team's signals respect, builds trust, and strengthens iwi relationships. It shows that the company understands the importance of Māori perspectives in how it operates, not just in who it consults. Over time, this translates to smoother engagement, stronger social licence, and more predictable consenting and delivery processes.

Māori also value the intent and effort shown by companies that partner in good faith. Being transparent, listening early, and following through on commitments builds credibility even when commercial realities shape decisions. Research in Aotearoa supports this: organisations that invest in genuine relationships with Māori report higher community trust and improved performance outcomes (MBIE, 2023; Te Puni Kōkiri, 2022). For organisations in the geothermal sector, inclusion is not a cost, it is an investment in stability, reputation, and long-term success.

### 3.2 Creating Culturally Inclusive Workplaces

Culturally inclusive workplaces are built by design, not by chance. They recognise that identity and connection are central to how people engage with their work, colleagues, and purpose. Research across Aotearoa has shown that Māori employees thrive in environments that affirm Te Ao Māori values, provide genuine opportunities for voice and influence, and foster relationships grounded in trust and reciprocity (MBIE 2023; Brougham & Haar 2013). Within the geothermal sector, inclusion means Māori participation is not simply welcomed but embedded in the culture, leadership, and everyday operations of the organisation.

Cultural inclusion operates at multiple levels, through leadership intent, organisational systems, and daily interactions. Each layer reinforces the others: leaders signal what inclusion looks like; policies and practices make it real; and everyday behaviours sustain it over time. The following areas represent practical steps organisations can take to embed inclusion and belonging in meaningful ways.

- **Leadership and Intent:** Inclusive workplaces begin with leadership that shows clear intent and accountability. Visible commitment from leaders is a key driver of lasting cultural change (WING 2021; Brotheridge et al., 2018). For Indigenous staff, leaders who respect cultural values and integrate tikanga or shared decision-making practices signal genuine inclusion. Leadership that demonstrates inclusion also acknowledges the past. For Māori, trust in an organisation is built not only on present intent but on how it recognises and learns from its history, including both positive and challenging experiences. Demonstrating that these lessons have shaped current practice is central to authentic leadership and accountability. In doing so, leaders reinforce that belonging is grounded in trust, transparency, and a commitment to continual learning.
- **Cultural Competence and Learning:** Cultural competence is developed through continuous learning and reflection, not one-off training. Programmes that combine cultural awareness with mentoring and practical engagement improve Indigenous retention and belonging (World Bank, 2019; MBIE, 2023). Within geothermal workplaces, this can mean connecting Te Ao Māori concepts such as kaitiakitanga with technical practice, helping teams link cultural values to daily work.
- **Representation with voice:** Representation only creates inclusion when paired with real voice and influence. Involving Māori and Indigenous staff in decision-making and recognising Indigenous knowledge in project planning leads to stronger, values-based outcomes (Stewart, 2023; Eru and Lovell, 2021). Examples from Taheke 8C and WING show how Indigenous leadership broadens thinking and embeds cultural perspectives in operational decisions.
- **Everyday Practice and Accountability:** Inclusion is sustained through everyday systems and behaviours. Transparent recruitment, equitable pay, and culturally safe practices create consistent signals of respect. Initiatives such as WING's mentoring programme show that small, regular actions, inclusive language, recognition, and feedback, build lasting change when backed by clear accountability (Brotheridge et al., 2018; WING, 2021).

Commercial partnerships between Māori and industry have become a defining strength of Aotearoa's geothermal sector, showing how collaboration and shared investment can create enduring value. Looking ahead, we aim to build on this foundation by advancing two interconnected priorities: growing Māori representation and fostering workplaces where belonging is lived every day. When developed together, these reinforce long-term retention, innovation, and relationships built on trust.

Geothermal operators across Aotearoa are already identifying ways to enhance diversity of thought within their organisations and employing Māori is one pathway to achieving this. Part of Contact Energy's strategy is to become Aotearoa's most sought-after workplace that reflects who we (Aotearoa) are (Contact Energy Limited, 2025a). The company has established several Networks including the Māori and Pasifika Network that helps Contact understand Māori and Pasifika cultures to help become the employer of choice for tāngata Māori and Pasifika. Mercury likewise is embedding Māori customs and perspectives into its workplace culture. New staff are welcomed through mihi whakatau (formal Māori welcome) as part of the induction process, and all staff have access to a cultural capability uplift programme that builds understanding of *te ao Māori* and encourages inclusive ways of working. One ongoing challenge, however, is that many technical roles require STEM qualifications, creating a barrier to increasing Māori representation.

These efforts strengthen not only Māori participation but the geothermal sector, preparing organisations and communities to thrive in a future that values diverse thinking, shared learning, and collective stewardship. Belonging, however, is also about time and continuity. Māori worldviews are inherently intergenerational, grounded in relationships and the wellbeing of future generations, while corporate

horizons are often shorter. Bridging these perspectives through enduring partnerships and leadership that values sustained outcomes ensures the sector's growth is both inclusive and enduring.

## 4 OUR PATH FORWARD

We are setting an ambitious course and moving quickly. Our focus is to build a coherent, Māori-centred system across the Aotearoa geothermal sector that carries Rangatahi Māori from education into long-term STEM careers. The intention is sector wide, with early effort concentrated in the TVZ to prove the model and scale what works. Māori will lead the future of geothermal in Aotearoa, and Māori representation in STEM will grow to match their share of the population (~20%).

The current NZ government is also developing a national geothermal strategy for Aotearoa. For that strategy to succeed over the long term, it will need to draw on the full range of Māori knowledge, capability and leadership in the sector. The approach outlined in this paper supports that direction of travel by focusing on Māori representation, participation and belonging across both STEM education and geothermal workplaces.

In the next phase, our job is coordination and momentum. We will bring together the high performing providers already doing excellent work and align them into a coherent network rather than a set of disconnected programmes. The aim is a joined pathway that feels like a slipstream: supportive, predictable, and empowering at every step, so people are not forced to push against barriers on their own. The system should treat being Māori as a strength, not something to tone down. At work, that means daily practice shows belonging and voice, and decisions are shaped with Māori principles at the table.

We will keep the architecture simple: clear goals, common tracking, and funding that backs what works and scales it. To accelerate the work, partners can back this kaupapa with visible leadership, shared measures, open pathways, and culturally grounded decision making. This aligns directly with Te Mahere Whai Mahi Māori, which focuses action across People, Workplaces and Futures and uses an outcomes framework to drive accountability, providing a ready frame for sector action (MBIE, 2023).

The approach outlined through Project Whāngai is readily adaptable as a sector wide action plan under a national geothermal strategy, creating a pathway that carries rangatahi Māori from education into enduring geothermal careers.

Our intent is steady and practical: build a joined pathway that treats Māori identity as a strength at every step, lift representation toward parity, and embed shared decision making so the sector's future is Māori led and built to last.

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**GLOSSARY**

| Māori word/phrase | English Translation |
|---|---|
| Aotearoa | New Zealand |
| Hapū | Sub-tribe |
| Hangarau | Technology |
| Iwi | Tribe |
| Kaimahi | Worker |
| Kaitautoko | Supporter, advocate |
| Kaitiaki | Custodian, steward, caregiver, minder |
| Kaitiakitanga | Guardianship, stewardship, trusteeship |
| Kaupapa | Topic, policy, matter for discussion |
| Kura | School |
| Mātauranga ā-iwi | Iwi knowledge |
| Mātauranga Māori | Māori knowledge, Māori science |
| Mana whenua | Iwi or hapū with authority over, and relationship to, a particular area of land |
| Mokopuna | Grandchildren, descendants |
| Ngāti Whakaue | Iwi from the Rotorua area (Te Arawa confederation) |
| Pāngarau | Maths |
| Pūkaha | Engineering |
| Pūtaiao | Science |
| Rangatahi | Young people |
| Rangatahi Māori | Young Māori |
| Rangatiratanga | Authority, self-determination, chiefly leadership |
| Roopu | Group |
| Tāngata | People |
| Taiao | The natural world, environment |
| Tamariki | Children |
| Te Ao Māori | The Māori world |
| Te Arawa | Tribal confederation from the Rotorua–Maketū area |
| Te Mata o Aotearoa | The Face of New Zealand |
| Te reo Māori | The Māori language |
| Te Tiriti o Waitangi | New Zealand's founding document – meant to be a partnership between Māori and the British Crown |
| Tikanga | Customs, correct ways of doing things, protocols |
| Whakapapa | Genealogy, layers of relationship and descent |
| Whānau | Family |
| Whāngai | Nurture |
| Whenua | Land |