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A Supercritical Journey Into Te Ao Māori



GEOHERMAL
**THE NEXT
GENERATION**

presented by

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*Champagne Pools, Rotorua,
Photo credit: Greame Murray*



To replace all greenhouse gas emitting energy requires **more than 3x total current generation**

WHY 'THE NEXT GENERATION?'



Geothermal: The Next Generation

THE PROJECTS



EXPLORE

for future geothermal
resources

UNDERSTAND

the thermochemistry of
supercritical resources

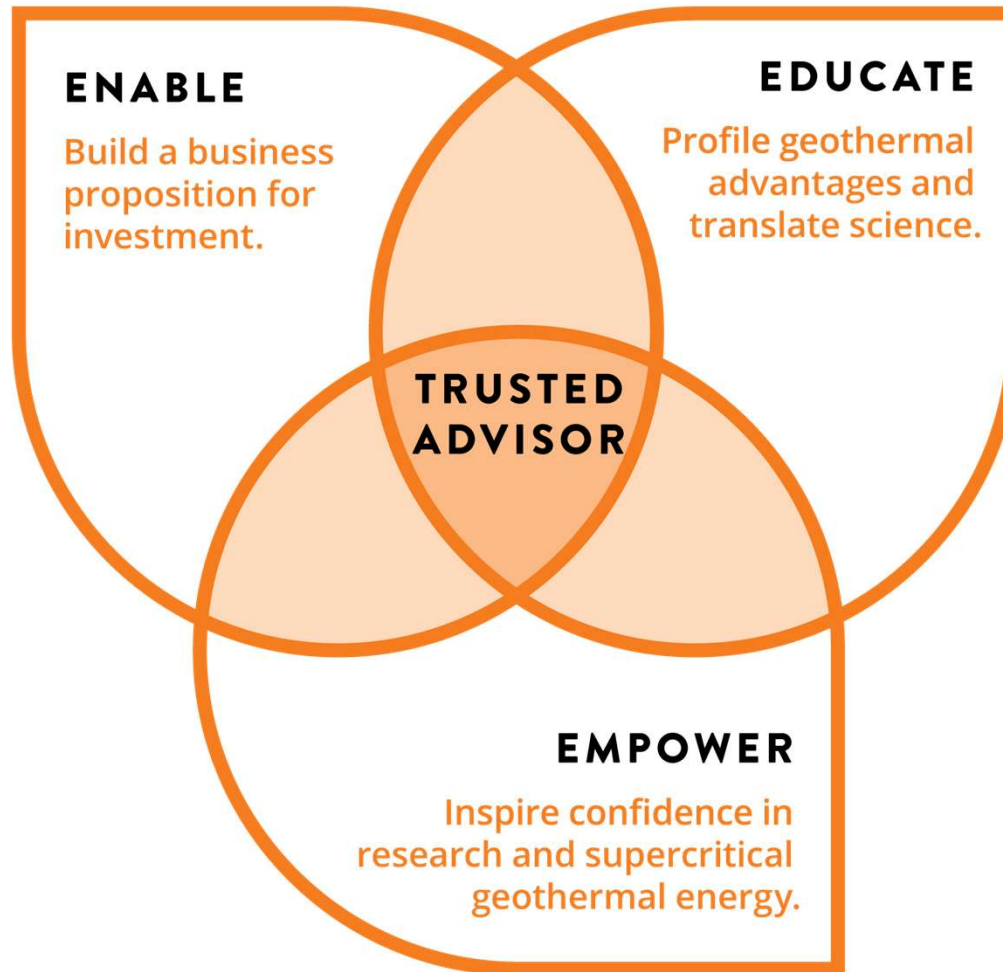
INTEGRATE

And translate
knowledge



A precious taonga:

TRUST



Sharing

KNOWLEDGE

TYPES OF UPDATES

INSPIRE

Profiling projects and ideas that challenge the status quo.

CONNECT

Promoting events and opportunities to participate.

SCIENCE

Sharing research results and publications.

TEAM

Introducing people and equipment.

LEARN

Explaining key concepts.



CONNECT

Website: www.geothermalnextgeneration.com

Facebook: [geothermalnextgeneration](https://www.facebook.com/geothermalnextgeneration)

Linked In: [Geothermal: The Next Generation](https://www.linkedin.com/company/geothermal-the-next-generation)

Email: geothermalnextgeneration@gns.cri.nz



Engagement

MĀORI FOCUSED APPROACH



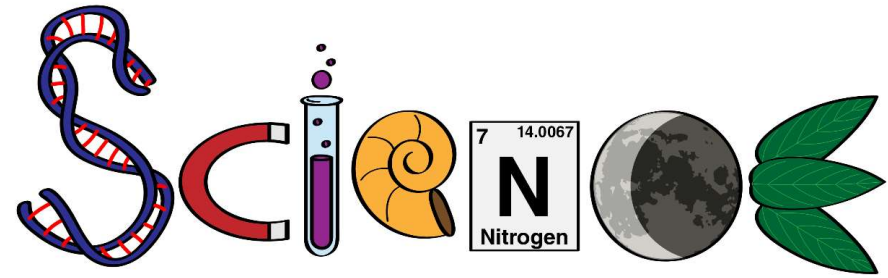
DESTINATION ROTORUA



KNOWLEDGE SYSTEMS



Mātauranga



TREATY OF WAITANGI WORKSHOP



Te Tiriti o Waitangi

- Impact on Māori and how this impacts decision making today – including changing power i.e. mana whenua settlement process
- Participants have large gaps in their knowledge base around crucial events in NZ history that have had a lasting impact upon Māori economically, politically and socially
- The Crown had failed to meet Māori educational aspirations/needs
- What is my culture, ethnicity, race and nationality? Who am I and how do I know what I know? What are my biases and why do I hold them?
- Everybody has a culture and that most of us are not consciously aware of the ‘deeper’ aspects of our own culture
- Define the concepts of decolonization & Institutional racism
- Significant traditional Māori cultural concepts & application into practice when engaging with Māori communities/stakeholders
- As scientists we are required to fulfil a series of ethical, legal and moral obligations to honour the provisions of Te Tiriti o Waitangi and that this does require them to deal with contentious or ‘slippery stuff’ in a proactive manner
- Though we are scientists, who value objectivity and technical excellence; we are still subjective beings, on a learning journey that will involve a lot of cross-cultural interactions.





KO TŌ AOTEAROA WHAKATUPURANGA HOU O TE PŪNGAO Ā-NUKU
WHAKAMŌHOUHOU

NGĀWHĀ TUAWHITIWHITI

Ka **TOROTORO** ka **MŌHIO** mātou i ngā rawa tuawhitiwhiti o Aotearoa, ā, hei reira whakauruuru ai aua mātauranga hei tauwehe i te waro ahumahi, hei ā hoki i te tupuranga o ngā whāinga ohaoha.

THE WAIWHATU PROJECT

TE HINONGA

Te rangahau pūtaketake me te auahatanga hangarau

He maha atu i te 20 ngā pūnaha ngāwhā rongonui ā-ao i te puku o Te Ika-a-Māui. Nō reira he wāhi ongeonge e wātea ai, e tatū ai hoki te whakawhanake i ngā rawa ngāwhā.

He rahi atu te pūngao e ratorato ana i ngā wai tuawhitiwhiti o aua ngāwhā nei (>5 km, >400°C) i ērā atu e kitea ai i te hōhonutanga onāianeī (~3.5 km) me te wera o ngā mātāwai (<350°C).

Ka ngaki atu a 'Ngāwhā: Te Whakatapuranga Hou' ki ngā wero – ā-nuku, ā-matū, ā-hangarau – kāore anō kia kitea i ngā mahi ngāwhā nōnāianeī. Ka torotoro te ohu tohunga – ahupūngao ā-nuku nei, aronuku nei, whakamātautau matū ā-nuku nei, hoahoa tauira nei, tohutohu rautaki nei – i ngā hanga tuawhitiwhiti o Aotearoa, ā, ka ako hoki i ngā kitenga o tāwāhi.



PHOTO CREDIT: BRUCE MOUNTAIN





FUTURE WORKSTREAMS

- Marae Workshop for our science team
- Geothermal Hikoi
- Māori geothermal model
- Māori research leads/students/interns – science comms
- World Geothermal Congress 2023 Beijing paper

United Nations Climate Change



Yvonne Denise Aki-Sawyer
Mayor of Freetown,
Sierra Leone



José Donoso
Chairman, Global
Solar Council



Elbia Gannoum
CEO, Abeolica

Scan for speaker bios



United Nations
Climate Change



UN CLIMATE CHANGE
CONFERENCE UK 2021
IN PARTNERSHIP WITH ITALY

#TogetherForOurPlanet



'We're not starting from the same place'

Yvonne Denise Aki-Sawyer, Mayor of Freetown, Sierra Leone



KIA ORA



**MINISTRY OF BUSINESS,
INNOVATION & EMPLOYMENT**
HĪKINA WHAKATUTUKI



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