

# HOW CAN GEOTHERMAL SUPPORT MĀORI WELLBEING ON PAPA KĀINGA?

Ground source heat pumps and alternative geothermal use holds immense potential to support Māori wellbeing aspirations on papakāinga (Māori housing developments) and sustainable energy futures for Aotearoa.



## OBJECTIVE

To explore the potential of geothermal technologies to support Māori wellbeing and energy wellbeing on papakāinga (Māori housing developments on ancestral land).

## METHOD

- Analyse government wellbeing frameworks and geothermal trends and usage in Aotearoa
- Mapping iwi and Māori Trust aspirations for papakāinga development
- Identifying opportunities and barriers for geothermal uptake on papakāinga

## Māori Papakāinga Aspirations



**Environmental sustainability, kaitiakitanga**



**Energy sovereignty**



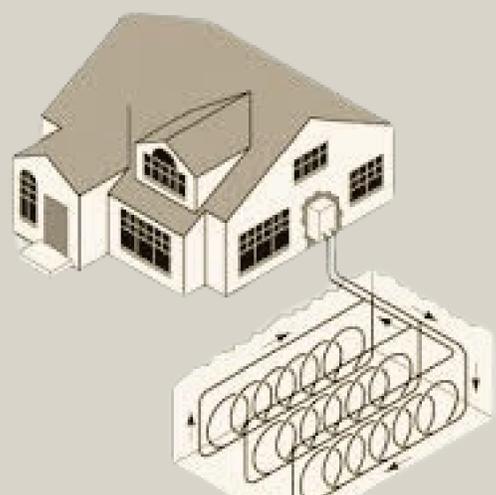
**Food sovereignty**



**Economic opportunities**



**Increase cultural wellbeing**



## THE POWER OF GEOTHERMAL

Ground source heat pumps (GSHPs) are a technology that harness the heat of the earth (geothermal) using pipes filled with fluid or antifreeze. Uses of GSHPs include:

- Space heating and cooling in homes
- Providing constant, reliable energy
- Space heating for glass houses
- 'Greener' energy source

## BARRIERS TO GSHP EXPANSION

- Social License
- Lack of small-scale case studies
- High installation cost
- Lack of whanaungatanga and dialogue between scientists and Māori groups

## GSHPs: AN OPPORTUNITY FOR PAPA KĀINGA

 Provides opportunities to exercise kaitiakitanga by offering a renewable, long-lasting energy supply, ensuring the vitality of Papatūānuku for future generations.

 GSHPs can support aspirations for energy sovereignty and take away total reliance on Aotearoa's power grid.

 GSHPs support the quality of dwellings on papakāinga increasing energy wellbeing, ensuring the physical living environment is one that can support whānau to thrive. Fostering geothermal uptake for bathing, recreation, and traditional healing and cooking practices, supports the retention and reteaching of Mātauranga.

 GSHPs can be used for greenhouse heating year round, grow food for the community.

 Heat greenhouses, supporting small economic enterprises. eg. Kiwi fruit growing

## CONCLUSION

Fostering geothermal expansion on papakāinga holds immense potential to support Māori wellbeing and encourage sustainable energy futures. Adopting case studies would serve to further this project's scope.

*Want to Learn More?*

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Research Summary Paper

