



Traverse
Environmental

Geothermal energy and resource management

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My background in geothermal



- Geothermal was part of the landscape of my childhood in Reporoa
- Geothermal: the Next Generation (GNG) research programme with GNS on – which has led to the GeoShot NZ project
- Presented independent planning evidence at the Wai 2358 Waitangi Tribunal enquiry in relation to geothermal resources
- Alongside GNS & Bay of Plenty Regional Council, presented workshop to Japanese geothermal professionals
- Contributing author of the EECA/NZGA Geoheat Business Guide & alongside EECA and NZGA, presenting at workshops around the motu on Geoheat opportunities
- Contributed feedback on the draft Geothermal Strategy
- Development of a Geothermal inventory for Ngāti Tahu-Ngāti Whaoa

Today



- The future role of geothermal in Aotearoa New Zealand
- How geothermal resources are managed under the Resource Management Act
- What a standard pathway from opportunity to resource consent approval looks like
- What resource management reform could mean for geothermal resource management
- Why early involvement matters

Aotearoa New Zealand's energy future



Net Zero carbon by
2050



Increased demand
for electricity:
19% by 2037
50% in 2050



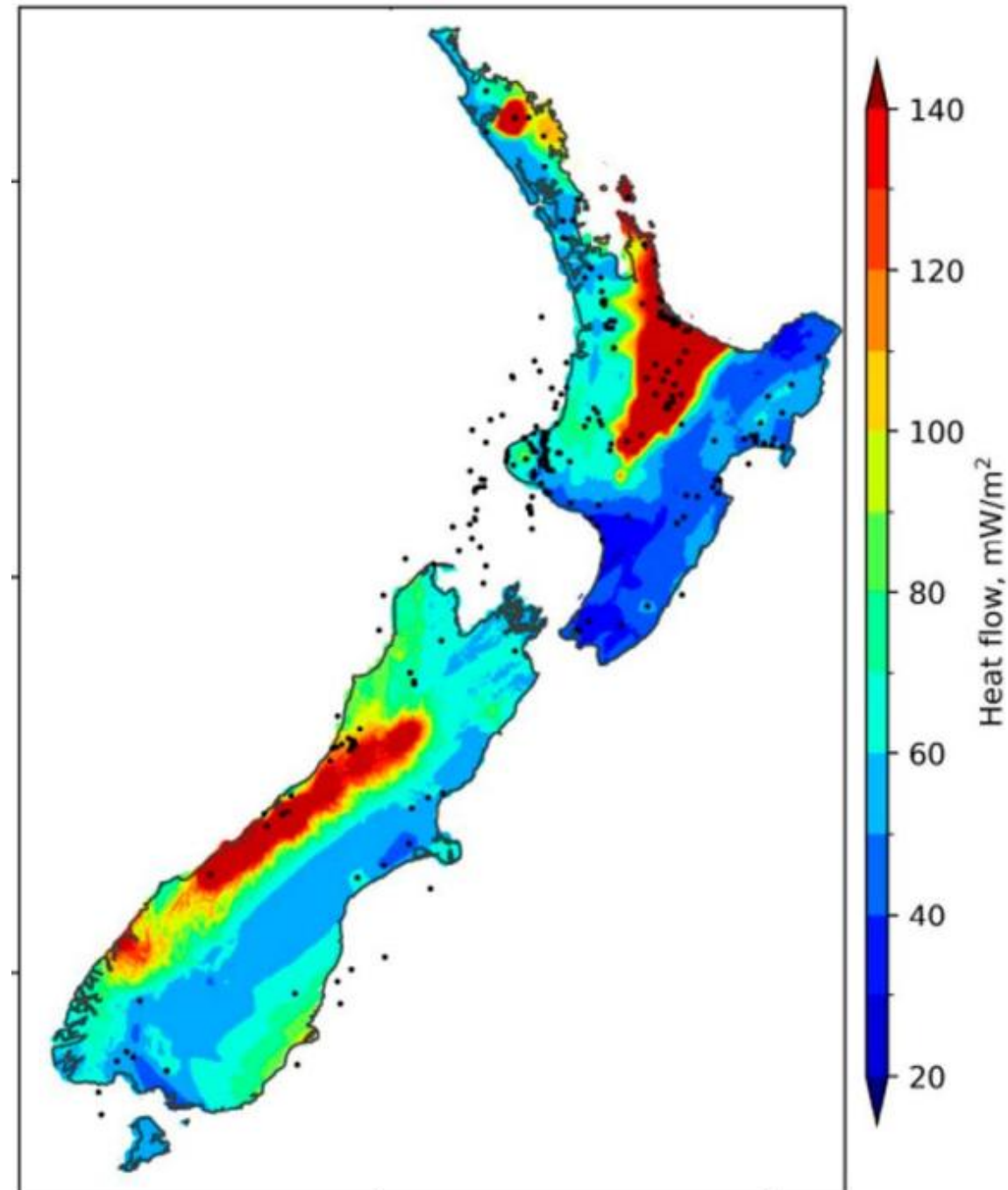
Double geothermal
energy use by 2040

Making way for new energy technologies

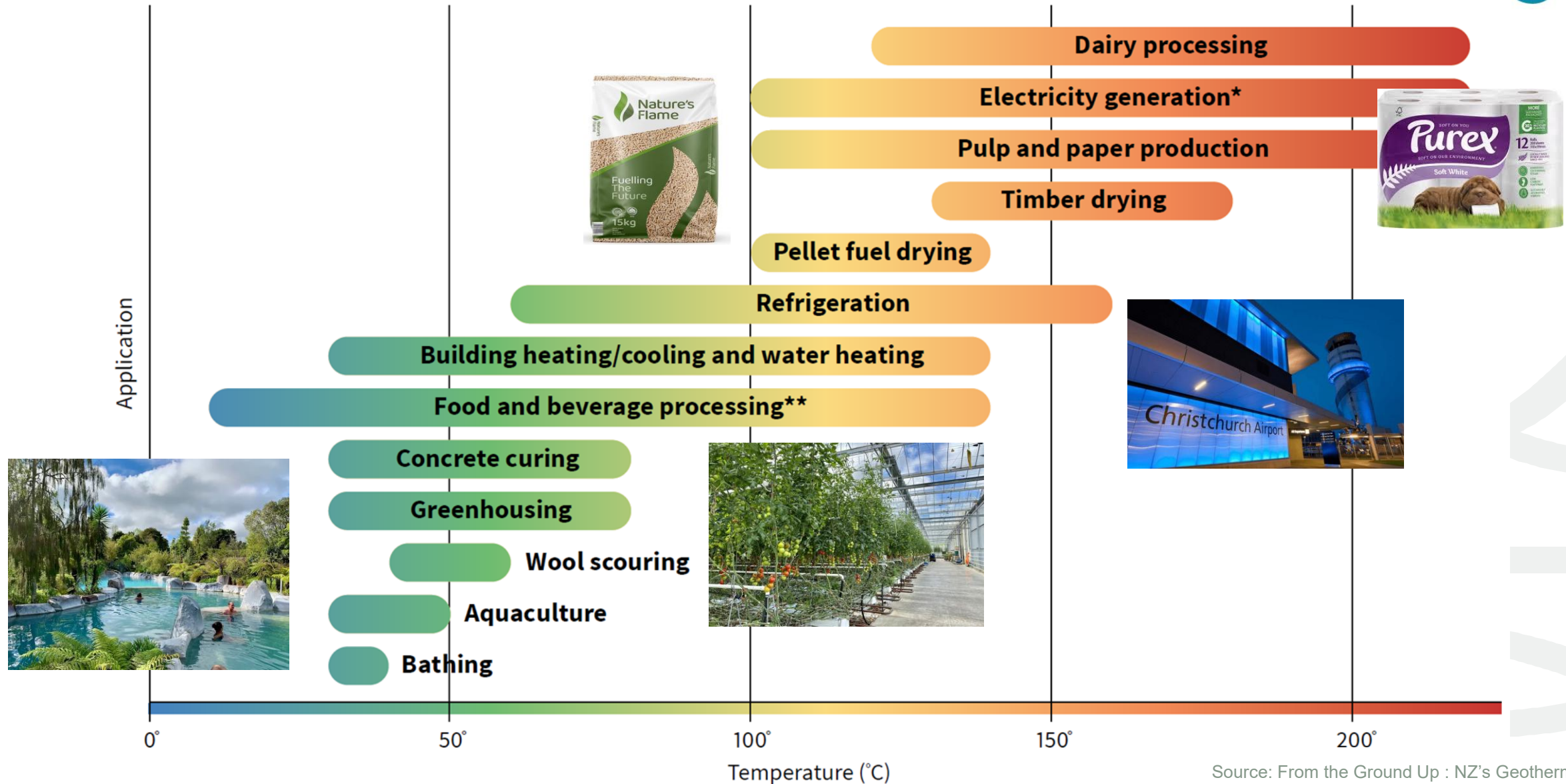


The heat beneath our feet

- RMA defines “geothermal water” when it is 30°C and over
- But water at temperatures below 30°C can still be useful
- ‘Geoheat’ is widely available



Electricity generation and beyond...

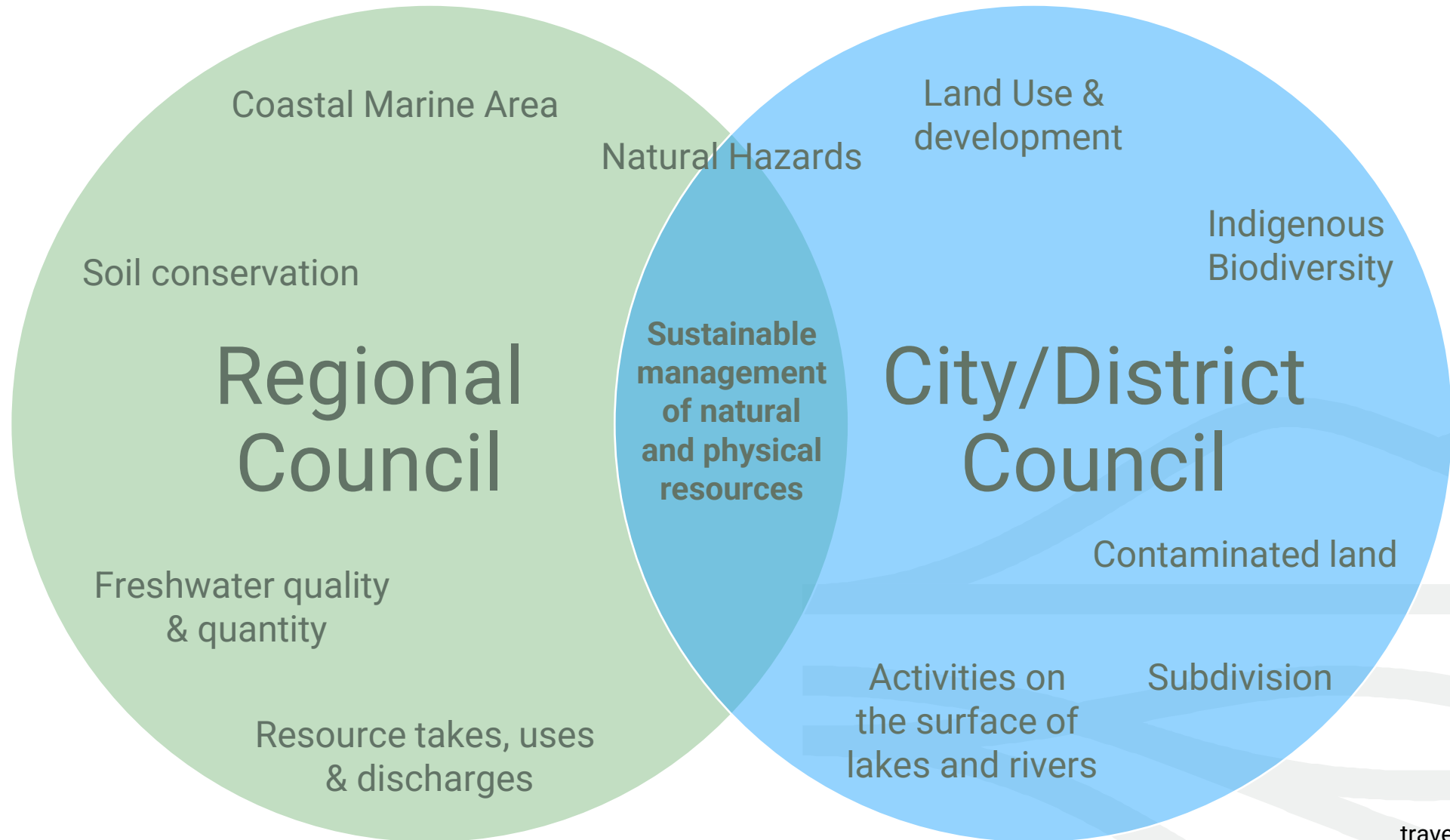


Geoheat Business Guide

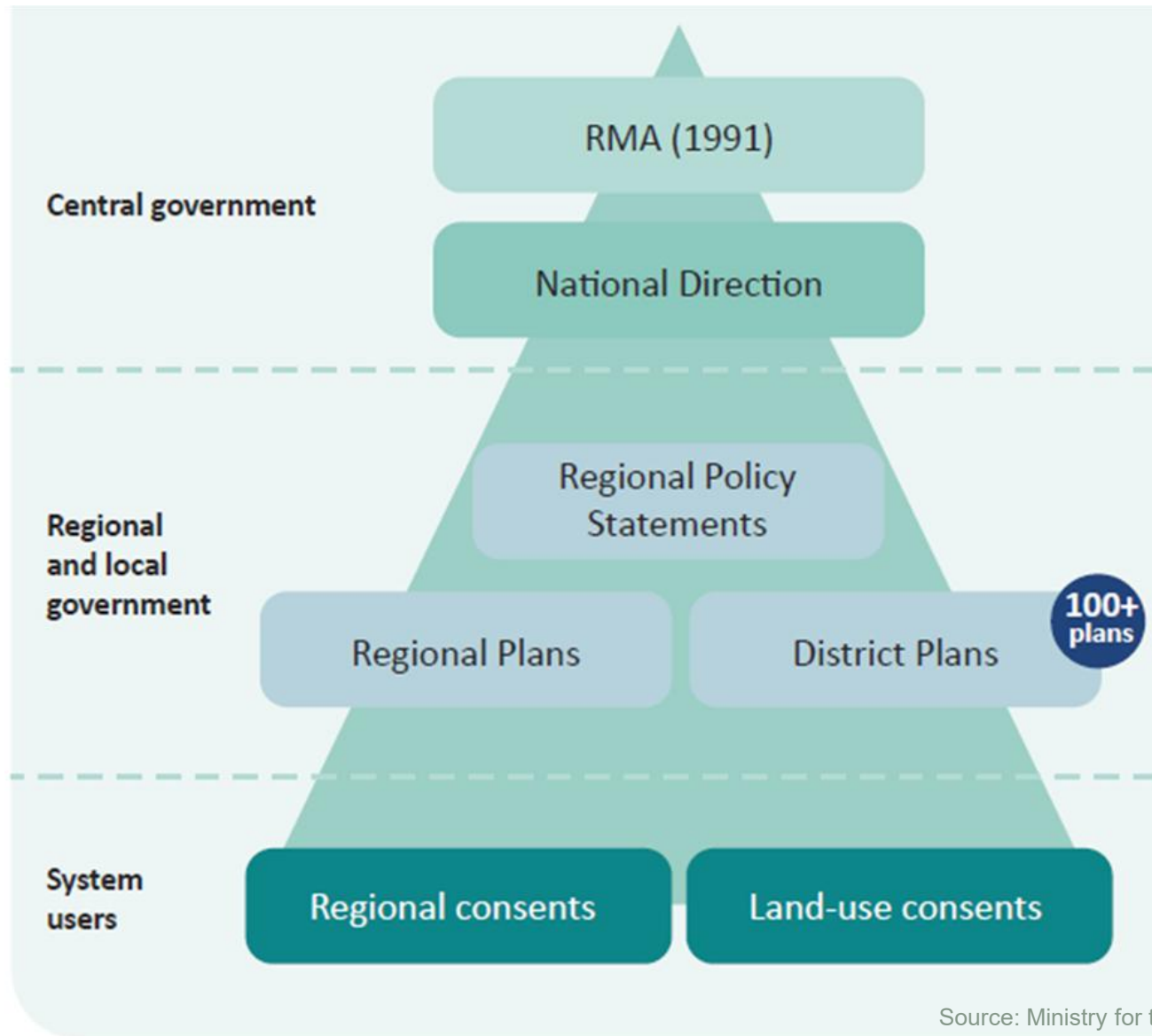
Useful geothermal heat is available beyond
the high temperature geothermal fields



Responsibilities for managing natural resources



How geothermal is managed under the Resource Management Act

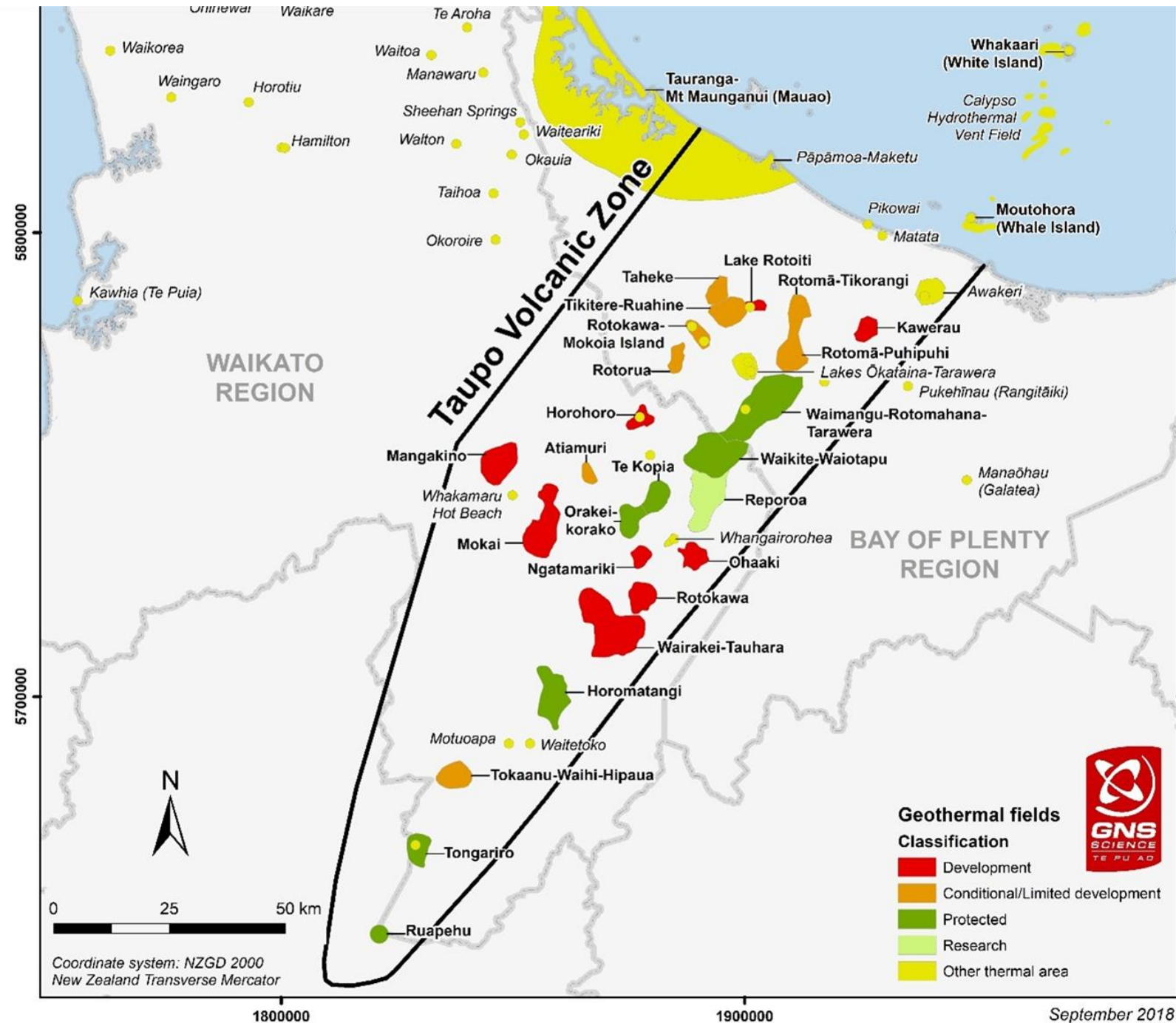


*Regional Councils
manage geothermal
resource use*

*City/District Councils
manage land use*

Location Matters

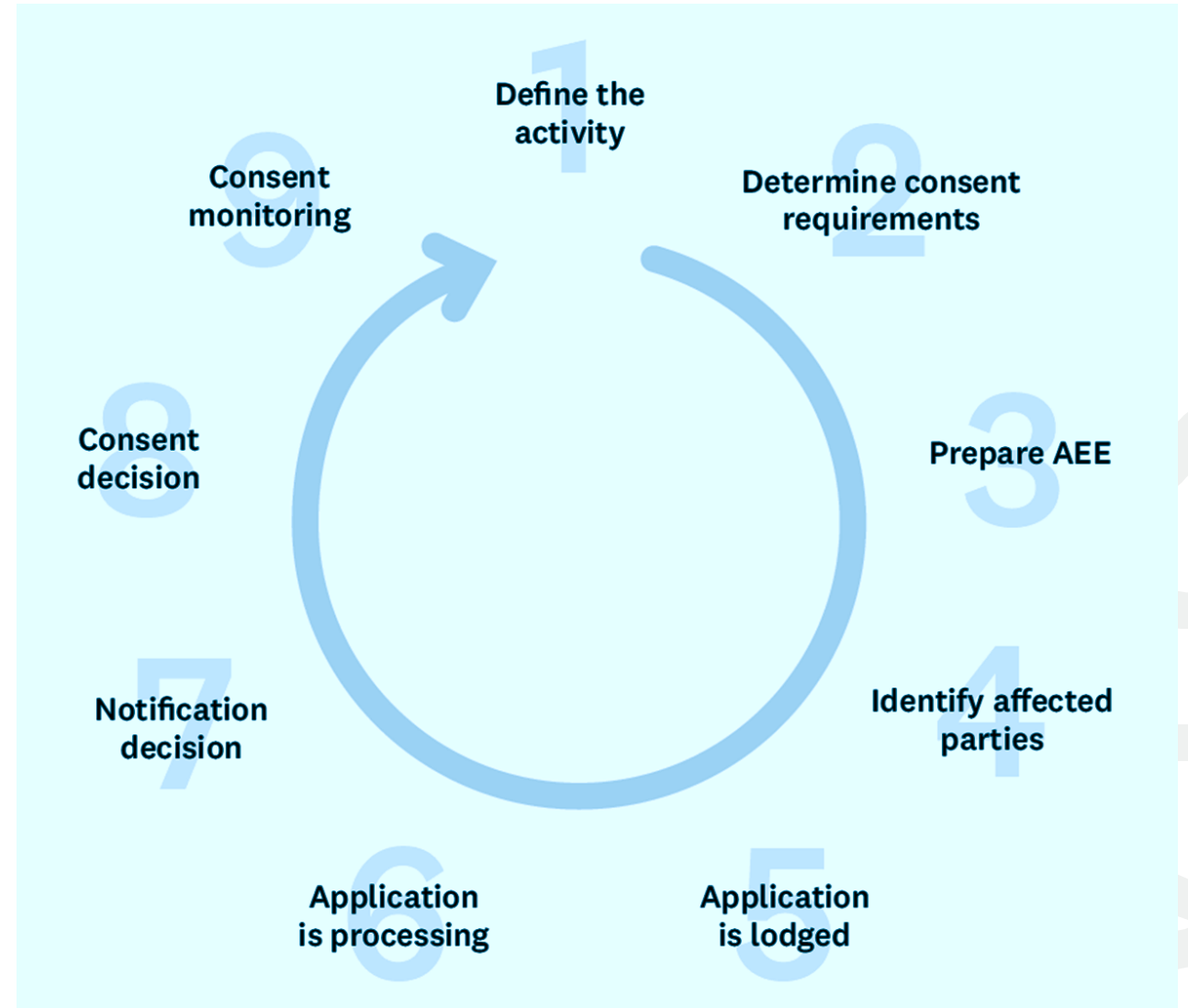
- In Waikato and Bay of Plenty - the Regional Plan identifies geothermal system boundaries
- Systems are classified
 - Protected
 - Low temperature
 - Research
 - Limited Development
 - Development
- Classification determines how geothermal resources are managed
- In other regions, geothermal is managed differently, often as groundwater



Resource Consent process



- Site characteristics, activity type and nature of effects all influence in the consent approval pathway
- The clearer the activity is at the start, the clearer the likely approval pathway will be.



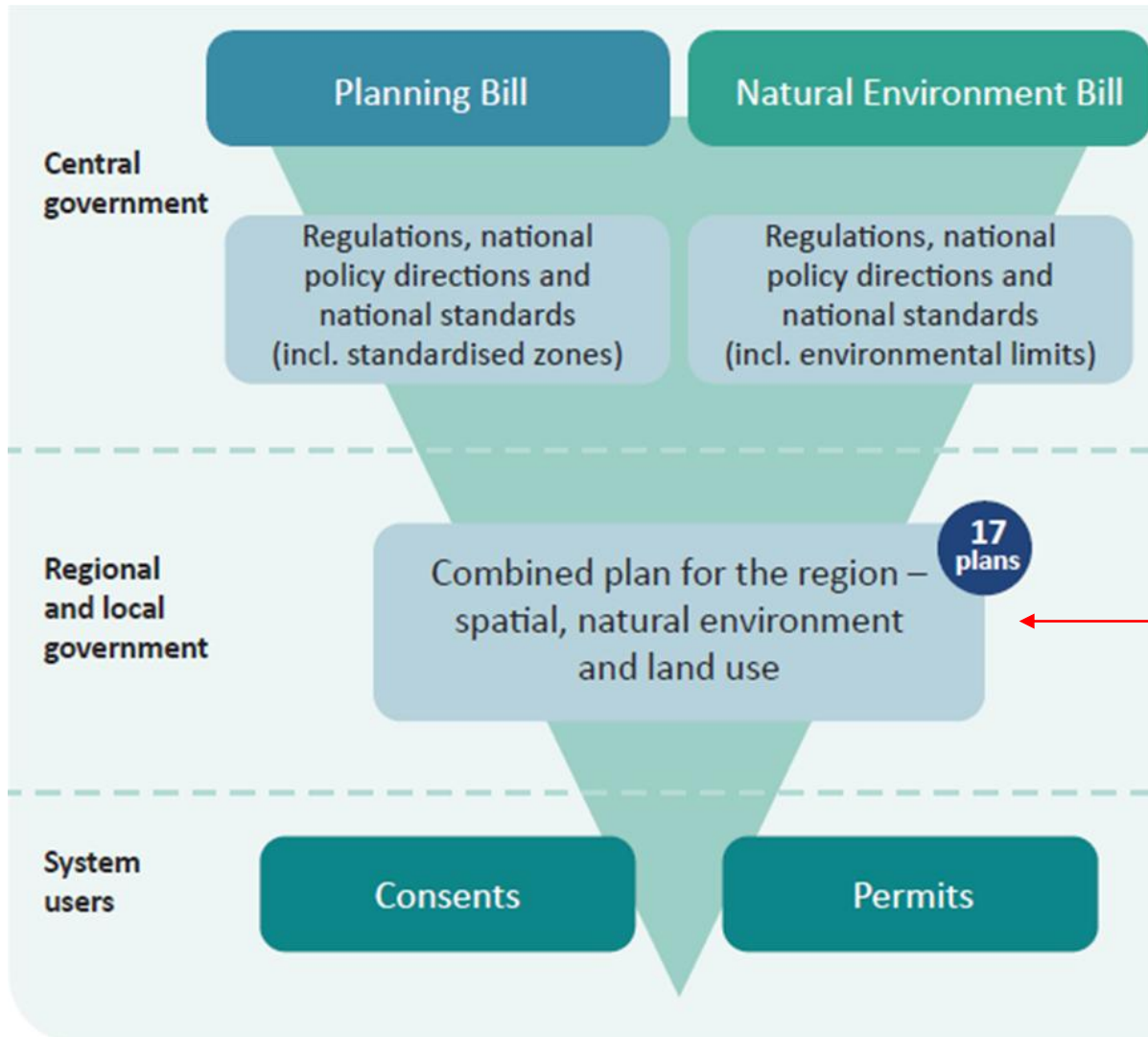
Early clarity is important



- Defining the resource opportunity
- Understanding the potential resource uses
- Engaging with councils and technical specialists – cultural, science, planning



RMA Reform – what is changing?



At a glance:

- *Greater Ministerial influence*
- *Increased national direction*
- *Greater standardisation*
- *Fewer plans*
- *Fewer resource consents*

Opportunity to influence strategic direction; initially through Regional Spatial Plans

Timing of reform



Key messages



**Aotearoa NZ's
Geothermal
opportunities are
diverse**



**Resource, location
and use shape the
approval pathway**



**Early clarity helps
define the approval
pathway**



**Reform may create
new opportunities
for influence**



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Ngā mihi