

New Zealand's Supercritical Opportunity: Moving from Potential Resource to Deployed Technology

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Tapping into deeper supercritical resources to access significant reserves of higher temperature (400 – 600°C), sustainable, renewable energy is not a new idea. Yet, present levels of understanding are insufficient to offer industry-ready solutions for New Zealand.

We are working to develop a New Zealand supercritical heat strategy (2020-2050), looking to accelerate from today's understanding through to early deployment of applicable technologies by 2040. Sector-wide rollout aims to align with New Zealand's aspirations to be "Carbon Zero" by 2050. The strategy will build on current scientific and applied understanding of New Zealand's supercritical resources, account for international experiences, and propose work streams to address the technological, legal, regulatory, economic and other barriers to utilisation of supercritical resources.

This paper will present the current state of knowledge on New Zealand's supercritical opportunity and outline the intended strategic review of barriers and opportunities, working with stakeholders across the New Zealand industry, researchers, business, Māori, and Government.

The critical challenge is to go beyond conventional geothermal systems, in search of the scientific, technological, regulatory, market and societal solutions that together, will de-risk and accelerate New Zealand's supercritical exploration and development.

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