Hello Shane Jones and others involved with this submission,

I would like to investigate the idea to drill down 3 to 5 kms all over NZ with an oil / thermal rig that you get (according to AI) for about a million dollars from China.

What if amongst all the talk, and investigation the Government just purchased a thermal drilling rig (much the same as an oil rig) for both the North and South Islands?

Once you have the drilling rig, thermal drilling wells can be replicated everywhere providing 24/7 stable energy up and down NZ.

Some people over complicate drilling rigs in their minds. I am no expert, however I have worked on 3 drilling rigs in Kalgoorlie, Australia many years ago doing drill soil samples for the open pit Gold mining industry at Mount Percy. One of them went down to around 200 metres. Maybe I am oversimplifying drill rigs, however essentially they are just big powerful drills with lots of pipes that get put into the ground. The rest is just detail.

Reaching out to water drilling contractors (not to mention Gold mine soil sample drillers) that many times drill down 40 to 100 plus metres is the way to go forward in this area to seek tenders to do the job of drilling. Learning to operate a specific drill is really not that hard with a good instruction manual, and / or a good teacher. I found 12 water drilling contractors in the South Island with a quick search on the internet.

Weirdly just today through a friend of mine, I now have contact with someone who has done both oil and thermal well drilling in North America. Very synchronistically he is wanting to do thermal drilling around Canterbury however the problem is the Christchurch City Council has no framework to proceed with it.

For a 4 to 5 km deep thermal vent according to AI:

· In a typical continental setting: **140–200°C**.

· In geothermal hotspots: **200–400°C**, potentially up to 500°C in extreme cases.

We then put Earth's oldest most reliable steam engine technology (most likely purchased from China) over the vent to create endless electricity into our grid.

In the South Island, as far as geothermal thermal hot springs go, straight off the top of my head go. There are places like; Hanmer Springs hot pools, Maruia Hot Springs Pool, an area off the Lewis pass Road by the river, Cass Bay beach in Lyttelton Harbour, and an area on the walkway to Lake Sumner. AI says there are 60 geothermal springs throughout the south Island ranging from 16.7C to 66C. The common thread with most of these springs is they are at the foothills of our Southern Alps, or in the Case of Cass Bay, inside the Caldera of the extinct Lyttelton volcano.

Imagine if the Government that also just happens to own huge amounts of underutilised DOC land, and underutilised Defence land (massive area between Mount Cook and Tekapo) could have a few hectares rezoned for thermal drilling. The extra humidity in the air would actually help trees grow in the surrounding area for all the greenies out there that want to blow their whistle.

I have seen in my imagination for some time, hundreds of wells drilled around the South Island, not to mention hundreds also drilled in the North Island. I reached out to several multi million dollar investor friends of mine which went nowhere, and then I reached out to yourselves via

Shane Jones. It is basically too dangerous for investors on their own to buy a drilling rig, and face endless debate with Government, Councils, and Iwi around red tape. You lead, and so many NZ investors, and contractors will follow.

The thermal crust around 3 to 5 kms below is energy 24/7. The golden goose, once portable drilling rigs are established, will keep laying golden eggs in the form of hundreds of Mega watt units of energy, forever!

I eventually see investors lining up to be a part of every thermal well established as a business unit, making the Government millions as shares are sold off to New Zealand companies - hopefully not overseas investors.

That way, once the business operating model is established, investor imagination, and opportunity of leveraging assets to make money, drives this idea into every corner of NZ it can. All that has to happen is for the drilling rigs to be leased out by the Government, and contractors through local companies brought in as needed.

Maybe the Government could retain 25% to 50% ownership of every well (with a free lease drill rig, and land) to help pay for our taxes like the Norway Government does with their oil wells.

I can also see more thermal pools set up to attract tourism into areas of vast beauty that also have many attractive walks. Imagine many thermal resorts in our South Island West Coast or places like Arthurs Pass of the South. It doesn't take a lot of imagination to see the pulp, vast horticulture setups, and the dairy industry would also hugely benefit from hot steam coming out of the ground.

Money spent by the Government starting this industry off will see NZ through many dark years in energy demand, as our current electric cars in NZ increases in numbers by leaps and bounds every year.

Below is a list of the many countries that are taking advantage of the thermal activity around the world. Many of these countries and companies including within NZ, will be using specialised contracted advisors. I am sure many advisors around the world could be accessed with little effort.

I have spare land 10 minutes west of the Christchurch airport road to temporarily store mining equipment if need be. I would like to be involved as a spare parts facilitator, a Director, or some other appropriate capacity. However I still have a business to run that I started from scratch 25 years ago leasing machinery into around 200 commercial / industrial workshops around Canterbury.

Thanks for being open to my proposal.

Alastair Pasley

Privacy of natural persons

[redacted]

[redacted]

[redacted]

Information of interest.

Countries Drilling 3-5 km for Geothermal Electricity

Country	Notable Projects/Examples	Drilling Depths	Details/Status
Iceland	Iceland Deep Drilling Project (IDDP), Reykjanes; Hellisheidi, Krafla	3-5 km (e.g., 4.6 km at IDDP)	Produces supercritical steam; ~30% of Iceland's power from geothermal. Experimental wells for enhanced output.
United States	Utah FORGE; Fervo Energy's Cape Station (Nevada); Desert Peak EGS	3-4 km+ (e.g., ~3.5 km at FORGE)	Leading producer (>3,700 MW); EGS demos for scalable power. Fervo powers data centers.
United Kingdom	United Downs Deep Geothermal (Cornwall); Eden Geothermal	3-5.3 km (e.g., 5.275 km at United Downs)	First UK deep geothermal; targets 3 MW electricity plus heat using Cornwall granites.
France	Soultz-sous-Forêts EGS	~5 km	Europe's first EGS plant (1.5 MW); operational since 2008 in non-volcanic area.
Germany	Landau Geothermal Plant; Insheim; Groß Schönebeck	3-4 km (e.g., 3.3 km at Landau)	Produces ~3 MW at Landau; EGS in Rhine Graben for baseload power.

Italy	Larderello Geothermal Complex	Up to 4 km	World's oldest field; ~769 MW capacity from deep wells for steam turbines.
Australia	Cooper Basin (Habanero EGS); Paralana	4-4.5 km	Demo for 25 MW; hot dry rock systems with potential for national expansion.
Japan	Hijiori, Ogachi EGS; Quaise Energy deep tech	3-4 km+	Early EGS tests; new ultra-deep drilling for zero-carbon power in volcanic areas.
China	Qiabuqia EGS; Hainan research well	3.7-5.2 km	Pilot and research; deepest well (5.2 km) supports scaling in sedimentary basins.
New Zealand	Ngatamariki, Taupo Volcanic Zone fields	Up to 3.5 km	~10% of electricity from geothermal; deeper wells for efficient generation.

Notes

- **Emerging Efforts**: Norway (research to 10 km), Poland (planned 7 km well), and Switzerland (Basel EGS at 5 km, paused) are exploring deep drilling but not yet at commercial scale.
- **Global Context**: Deep drilling enables enhanced geothermal systems (EGS) in non-traditional areas, potentially viable for ~40 countries. Challenges include high costs and seismic risks.