8 February 2022

Tauhara project update: increased renewable electricity output and improved market conditions, but costs expected to increase

Contact Energy says the development of the new Tauhara geothermal power station near Taupō is progressing well and is now expected to generate 168 megawatts, up from 152 megawatts when the investment was announced a year ago.[1]

Contact CEO Mike Fuge said Tauhara would generate more renewable electricity than was initially forecast. “The way the power station has been designed means there is flexibility to deliver a higher generation capacity. Given that the reservoir of geothermal fluid is more productive than initially anticipated, we now expect to be able to deliver to the full design potential.”

He said the “excellent news” about the increased capacity was tempered by an increase in the overall costs of the Tauhara development, with project costs now expected to total $818m, up $140m from the initial estimate of $678m.

“Obviously there are increased costs associated with the expansion in capacity and some of the complexities associated with delivering this increased capacity, but like every project across New Zealand we have some serious headwinds from the Covid19 pandemic to navigate which have impacted project costs.

“The pandemic’s tentacles reach far and wide and affect everything from increasing commodity prices, to finding the right people in an ever-tightening labour market, to the ongoing constraints impacting global supply chains.”

Mr Fuge said the Tauhara project was initially expected to be completed by the middle of 2023, but is now expected to be on-stream in the second half of 2023. “It is a small delay to accommodate the increased capacity – and we’re just being realistic and pragmatic about our timelines as we continue to navigate the pandemic-driven uncertainty.”

He said market demand for renewable energy had “markedly improved” in the past year.

“We’ve seen the emergence of multiple datacentre projects, process heat conversions ramping up, and strong appetite from industrial users for long-term electricity supply deals. The overall economics for a renewable development like Tauhara will be increasingly compelling.”

[1] The Tauhara power station is expected to replace 1.4 terawatt hours of thermal generation per annum from New Zealand’s electricity system, displacing over 500,000 tonnes per year of carbon emissions.

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1/ MORE INFORMATION:

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2/ PRESENTATION:

Contact CEO Mike Fuge and CFO Dorian Devers are updating analysts, investors, and media on the Tauhara Project via a short presentation on Tue 8 Feb 2022 at 1.30pm. The webcast details are set out below.

Live webcast

- To attend the live presentation, please enter the webcast here: **LIVE EVENT LINK**
- The live presentation will start at 1.30pm NZST.
- We recommend all attendees install the Microsoft Teams application on their device as this offers seamless interaction, including superior sound and image quality
- If you would like to use your phone or tablet, you must have pre-installed the Microsoft Teams application (available on all platforms).
- You may ask a question following the conclusion of the formal presentation by using the 'Q&A' function at the top-right hand side of the screen when prompted. Your written questions will be moderated, read out and addressed on the call as appropriate.
- Microsoft Teams offers the ability to 'Watch on web instead' for laptops and desktop computers should you choose not to download the application (i.e. by clicking cancel when prompted to download the application). We recommend using the Chrome browser.

Replay

- An archived replay will be available on our website once the presentation has concluded.

Tauhara project update

8 February 2022

Executive summary

of the progress over the first year of the project

1

Market conditions have materially improved. Decarbonisation demand is expected to accelerate.

2

Resource is world-class. The expected station output has been upgraded 11% to 168MW. (previously 152MW)

3

Execution

Uncontracted costs at the final investment decision (FID) are higher than expected, predominantly because of COVID impacts and the station capacity expansion. Project costs are estimated to be around 21% or $140m higher than anticipated.

Implications

Contact will continue to invest in strengthening renewable development construction capability to deliver on our capital investment ambitions.

Geothermal project rates of return (IRRs) remain attractive relative to renewable alternatives.

1 Market

- Datacentres
- Energy intensive industries
- Thermal substitution
- Process heat

2 Resource

- Station capacity
- Tauhara field capacity
- Geothermal potential

3 Execution

- Schedule
- Cost
- Capability
- Geothermal development

Key: Change over the last 12 months

Improvement Neutral / no-change Deterioration

1 Market update

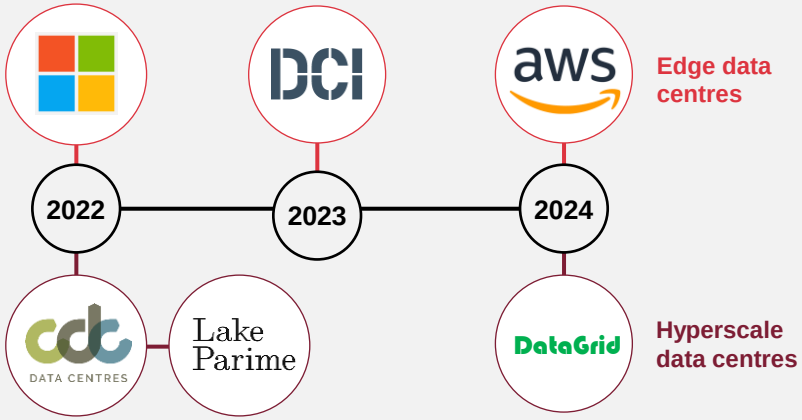
Demand growth outlook markedly improving

New data centre build

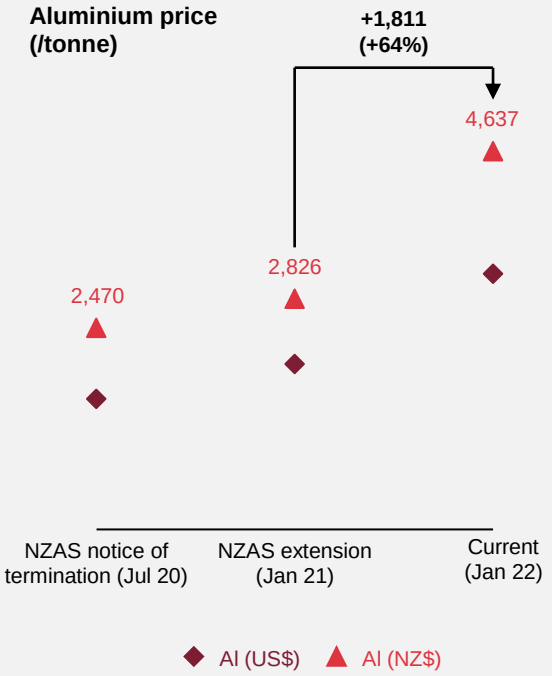
Several credible data centre owners have publicly announced they are planning to invest in New Zealand.

The baseload characteristics of data centres make them attractive.

Data centres proposed by the following companies



Energy intensive industries



A Tiwai smelter (NZAS) extension beyond 2024 appears likely:
- Aluminium economics materially improved.
- Rio Tinto carbon reduction targets aligned with extension of the renewably powered NZAS smelter, without renewable energy investment.
- Reduced international aluminium smelting capacity.

B Two major electricity users signed to long-term Tauhara backed electricity signed (PPA). **Contracts beginning April 2024:**

Oji Fibre Solutions	15MW / 10 years
PAN PAC FOREST PRODUCTS LTD	10MW / 10 years

C SOUTHERN GREEN HYDROGEN
- Request for information completed
- Request for proposals with preferred bidders underway – targeting April 2022

1 Market update

Demand growth outlook markedly improving

Process heat conversion

Since 2020, there has been $56m in confirmed GIDI funding for process heat conversion projects.

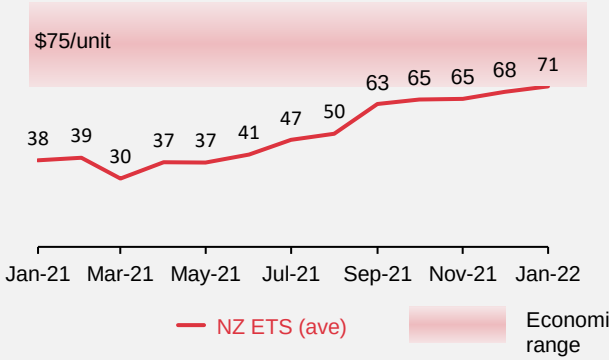
Application of funding will drive conversions to new electric boilers (~50MW). These projects are expected online by 2023.

mataura VALLEY MILK Part of The a2 Milk Company

ALLIANCE FARMERS' PRODUCE

13MW boilers

NZ carbon price ($/unit)

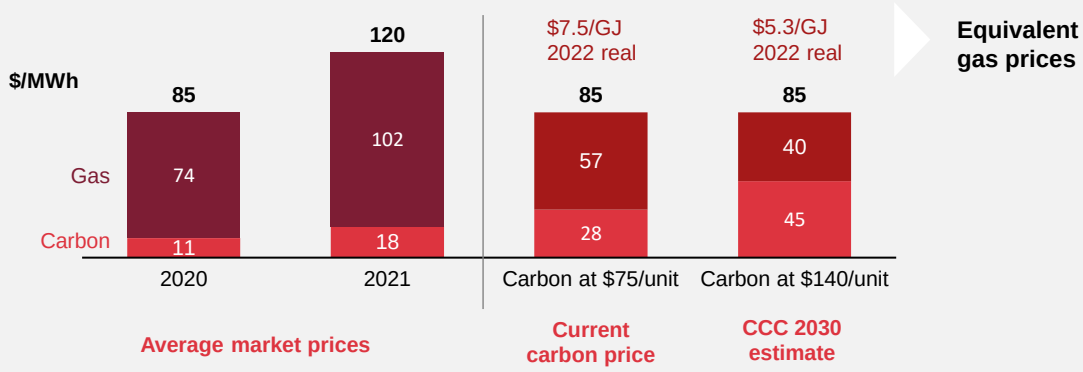


Rising carbon costs (+85% on Jan 2021) are nearing thermal / electricity switching points for new boiler investments if electricity supplied long-term through PPA.

Baseload thermal substitution

Baseload thermal generation fuel costs are expected to continue to remain above estimated baseload renewable PPA pricing[1].

Thermal fuel costs at average market prices



This issue is more acute when fixed operating costs and return on capital requirements are considered.

PPA to support thermal substitution signed in August 2021:

- Long-term PPA signed with Genesis Energy (62.5MW) commencing January 2025.
- Commercial risk positions and agreement on key terms should accelerate future PPA negotiations.

[1] Ultimate pricing for renewable PPAs will include consideration of the offtake credit rating and credit support, the location of take, firming commitments and outage cover and term.

2 Resource update

Tauhara will deliver more renewable generation than expected

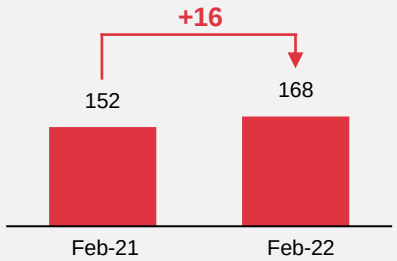
Station capacity

Flexible station design allowed for higher production if the reservoir was more productive than expected.

The triple-flash separation plant design was key delivering the efficient use of geothermal fluid.

The additional capacity was achieved at an incremental capital cost of ~$2.7m/MW (this is 45% below the all-in capital cost)

Tauhara station capacity upgrade (MW)

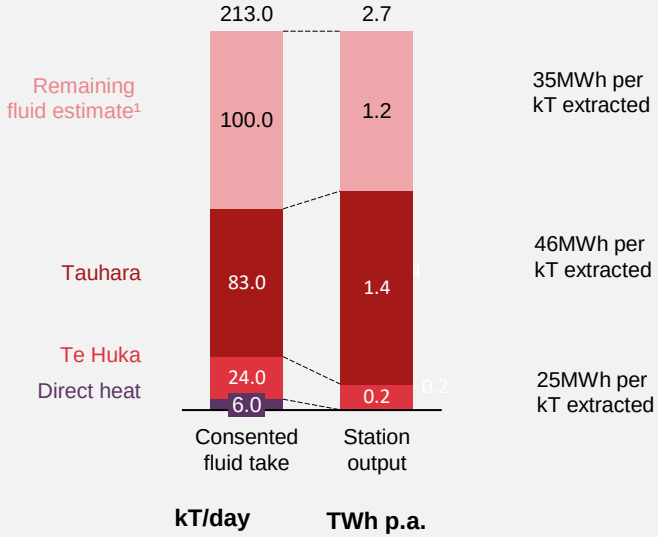


Expectations as at:

Tauhara field capacity upgrade

Higher field productivity means the expected Tauhara field output, using all the fluid under current consents, will be ~8% higher (200GWh p.a.) than was expected at FID.

Consented Tauhara geothermal field fluid take generation metrics



¹ Includes an allowance for make-up drilling at Tauhara over time

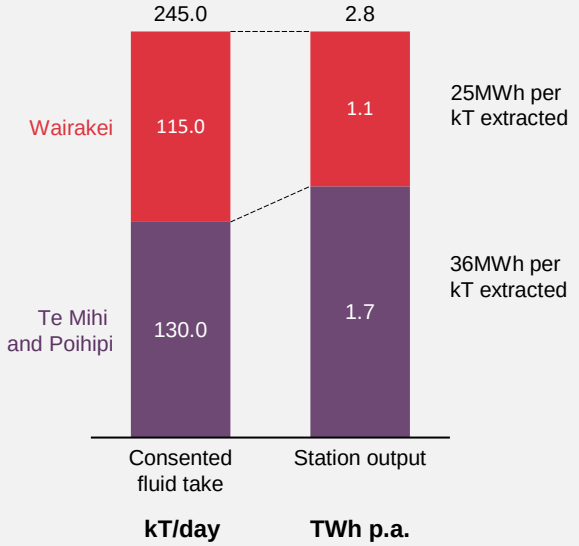
❷ Resource update

Tauhara resource has been confirmed as world class

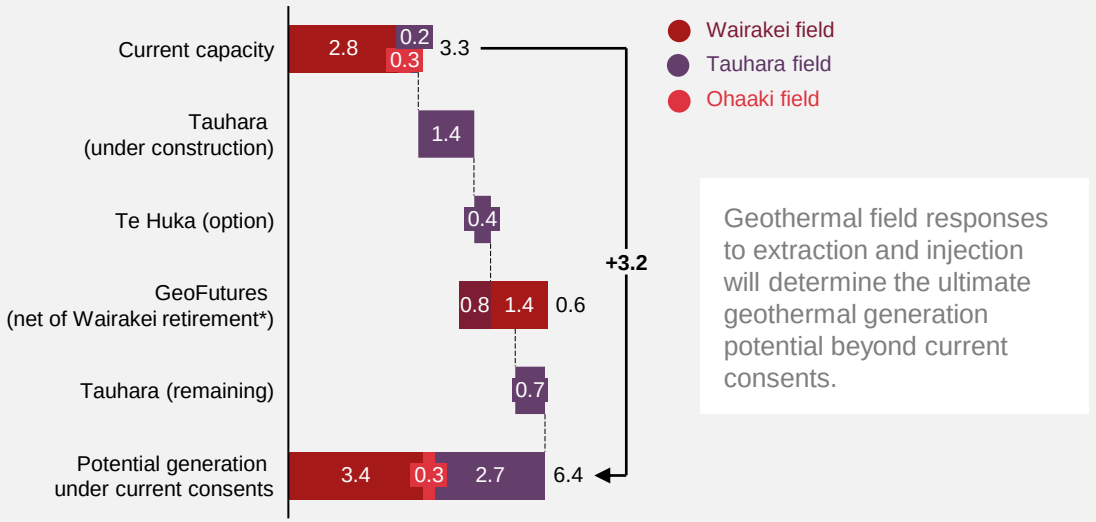
Geothermal pipeline

Future development on the Wairakei field will most likely focus on the higher enthalpy Te Mihi production zones.

Wairakei geothermal field fluid take generation metrics



Geothermal generation potential (TWh p.a.)



Geothermal field responses to extraction and injection will determine the ultimate geothermal generation potential beyond current consents.

*Expected enthalpy decline at Wairakei is expected to be offset through continuous improvement projects

3 Execution update

Costs expected to be higher than anticipated

Schedule

Strong mitigation plans in place for COVID, Omicron variant has increased the risks.

Supply chains remain under pressure on the back of COVID.

Tauhara EPC contractor has had a COVID schedule extension approved.

Adapted construction strategies to overcome current constraints and align with contractor capability.

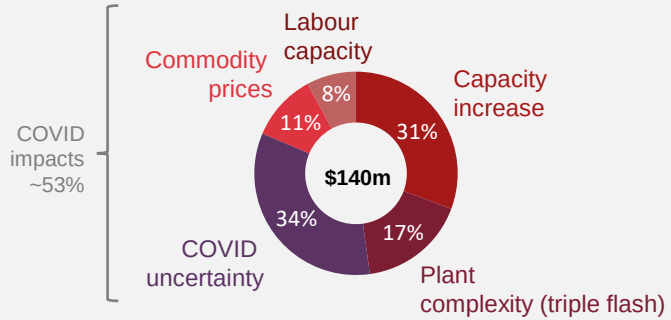
Targeting second half of calendar year 2023 for station on-stream date

Cost

Expected project costs are up by ~$140m to ($818m[1])
The cost increase relates to:

1. Marginal capacity expansion in drilling and the steam field separation system to deliver the higher output.
2. Separation plant complexity beyond expectations.
3. Costs associated with COVID:
   a. Commodity price changes.
   b. Tight New Zealand construction labour market.
   c. Global supply chain constraints.

Estimated sources of cost increase



Capability

Additional major project capability added to the existing, experienced geothermal delivery team.

Flexible owners works delivery model to make allowances for consideration of the capacity of the contractor market and supply chain dynamics:

- Aligning contractor capability with scope vs. blanket outsourced EPC risk avoidance model.

Capability added for Tauhara construction will be invaluable in delivering future geothermal developments.

Focused, major project delivery group setup. *Led by Jack Ariel.*

Geothermal development

Standalone geothermal developments are expected to continue to be executed between $4.5-5.0m/MW[2].

This is dependent on resource quality and the technology choices.

Increases in construction costs will be recovered through updated PPA or market pricing.

[1] Total estimated construction costs related to this phase of development (2008 – 2024). Excludes capitalised interest.

[2] The GeoFutures project (170MW) is expected to leverage existing assets and could therefore be lower than the range once the project is assessed and appraised.

Key project metrics

Project economics remain compelling

	February 2021	February 2022	Impact and commentary	
Tauhara generation capacity and expected annual output	152MW / 1.25TWh p.a.	168MW / 1.4TWh p.a.	●	11% increase in renewable generation capacity.
Cash project cost[1]	$678m / $4.4m per MW	$818m / $4.9m per MW	●	Capital cost up $140m (21%). Project holds contingency that reflects the uncertain environment. Independent assurance underway to test the appropriateness of the estimates in the new COVID impacted environment.
Contracted or spent (%)	60% of the $678m	~86% of the $818m	●	EPC contracted at FID. Progress on contracting the remaining power station and steam field components in line contracting strategy. Remaining cash capital spend from 31 December 2021 ~$550m.
Expected operation date	Mid-2023	Second half of 2023	●	
Tauhara back PPAs contracted PPAs	0MW	87.5MW	●	10 year + PPAs with creditworthy counterparties. Offtake linked to station production and performance. Inflation protected.
Merchant strip pricing – Calendar 2024[2]	$122/MWh	$126/MWh	●	Futures prices for calendar 2024 continues to remain significantly above long-run pricing expectations. Market-based pricing for merchant strip remains favourable.

[1] Total estimated construction costs related to this phase of development (2008 – 2024). Excludes capitalised interest.
[2] Average settlement of the 2024 Otahuhu baseload futures contract for the two weeks prior the 15 February 2021