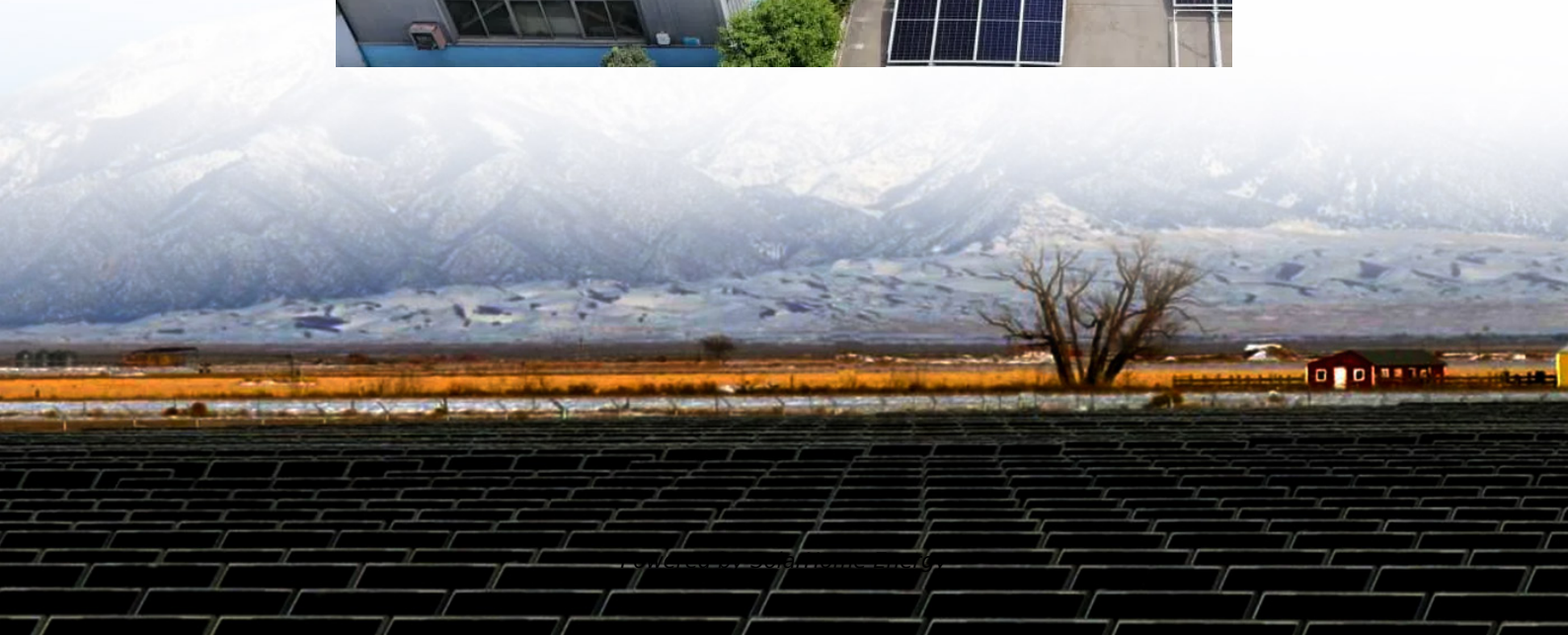


Energy storage power supply costs in Northwest New Zealand





Overview

Will Rankine power supply increase wholesale electricity prices in New Zealand?

Concept Consulting's modelling shows that without thermal generation from the Rankine units as part of New Zealand's energy storage solution, wholesale electricity prices would likely be 60% higher in the short-term (the next two-to-three years) and 11% higher in the long-term (ten+ years).

Why is fuel storage important in New Zealand?

The choice of fuel used for storage is critical for security, price stability and environmental impact. There is value in New Zealand having diversity for its storage solutions, as seen by the impact of the lack of gas in Winter 2024. Working with every facet of the energy industry, to help clients respond to business issues and trends.

How does a retailer buy electricity in New Zealand?

Instead, they buy power from an electricity retailer. Retailers buy at the spot price or through contracts with generators and offer electricity to consumers using their pricing plans. In this way, retailers absorb risk from New Zealand's volatile electricity market, in a similar way to companies providing house or car insurance.

How many electricity trading companies are there in New Zealand?

As of June 2024, there are 47 electricity trading companies in the New Zealand market. Most of these only supply residential customers or are extremely niche players supplying few electricity connections. Big Four's Influence: Market Control and Pricing.

How much does battery storage cost in a supply chain?

Supply chain peak energy costs
An alternative way to consider the value of battery storage is to compare the traditional supply chain costs of providing



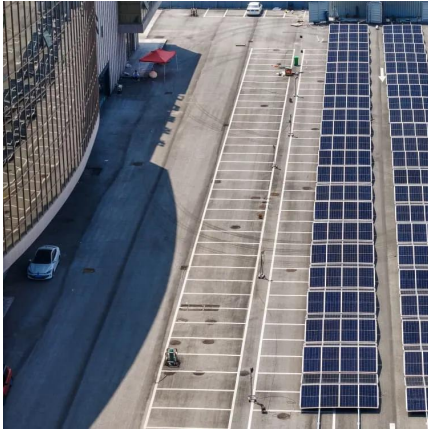
power during demand peaks with ff structures are ignored and normal hydrology applies. This indicates that the fundamental value of peak capacity is in a range of \$180-\$450+ kW/year, depe.

How much electricity does a New Zealand household use a year?

Using the average annual electricity consumption of a typical New Zealand household of 7,261 kWh per annum it is possible to estimate the annual costs (black) and savings (red) for an average residential consumer. These are shown in Table 12 for Auckland and Table 13 for Christchurch.



Energy storage power supply costs in Northwest New Zealand

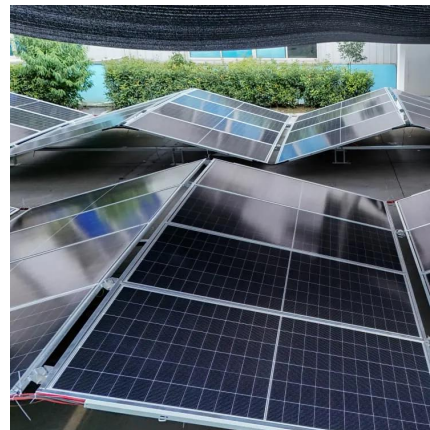


BATTERY STORAGE IN NEW ZEALAND

An alternative way to consider the value of battery storage is to compare the traditional supply chain costs of providing power during demand peaks with consumer-provided alternatives.

NZ Energy Prices Surge Amid Declining Hydro and Gas Production

With hydro storage at historic lows and natural gas production declining, energy prices are surging. As we turn to costly imported coal, the impact on electricity costs is significant.



The need for energy storage: Firming New Zealand's ...

Concept Consulting's modelling shows that without thermal generation from the Rankine units as part of New Zealand's energy storage solution, wholesale electricity prices would likely be 60% ...

Battery energy storage systems offering instantaneous reserve

This consultation paper takes the next step and focuses on battery technology's ability to provide



short-term, instantaneous reserve to support power system stability. This is particularly timely ...



New Zealand's Energy Outlook , Ministry of Business, Innovation

New Zealand's Energy Outlook presents projections of future energy supply, demand, prices and greenhouse gas emissions, aimed at informing the energy debate.

AECOM , AECOM

Lost in transition? How to navigate the energy transition with practical, profitable, predictable and people-centric strategies to achieve net zero
Explore further



Energy in New Zealand 2025 , Ministry of Business, Innovation

Energy in New Zealand 2025 Comprehensive information on and analysis of New Zealand's energy supply, demand and prices.



The economics of four future electricity system pathways for ...

When undertaking a more comprehensive social cost-benefit analysis it is recommended that the costs associated with security of supply and electricity outages needs to be considered when ...



Auckland Power Prices Guide: Costs, Trends & Solar ...

Discover Auckland's rising electricity costs, pricing trends, and how solar power can help reduce your bills. Learn about savings, policy updates, and solar ...

NZ's proposed pumped storage hydropower project ...

If the proposed pumped hydro scheme at Onslow goes ahead and is managed well, it could be a major asset to diversify a low-carbon, self ...



Mysolarquotes charts costs of solar and batteries in New ...

After surveying almost 100 New Zealanders about their solar and battery installs, Mysolarquotes recently released 'The Hidden Costs of Solar and Battery Systems in New Zealand: 2024 ...



New Zealand's Power Crisis: Why Solar Energy ...

In this challenging environment, deploying solar energy storage systems is the best option for New Zealand businesses and households to ...



Meridian completes 200MWh Ruakō BESS in New Zealand

Meridian Energy, a New Zealand state-owned energy company, has completed the development of its 100MW/200MWh 2-hour duration Ruakō BESS.

2022 Grid Energy Storage Technology Cost and Performance

...

Recycling and decommissioning are included as additional costs for Li-ion, redox flow, and lead-acid technologies. The 2020 Cost and Performance Assessment analyzed energy storage ...



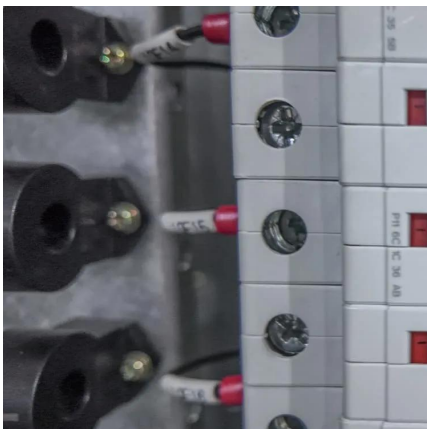


There is potential for pumped hydro energy storage in New ...

Even though New Zealand has an extensive portfolio of hydro and geothermal power plants it is unlikely there will be sufficient generation available during demand peaks to maintain power ...

[Executive summary - New Zealand 2023 - Analysis](#)

New Zealand should weigh its aspiration to achieve 100% renewable electricity by 2030 against the potentially considerable costs associated with achieving the ...



Power Supply

Existing and new/proposed power plants Charts below are based on the Council's generating resources project database (see Excel, April 2024) of projects under construction, permitted ...

The Hidden Costs of Solar and Battery Systems in New Zealand: ...

Discover the true costs of solar and battery systems in New Zealand for 2024. Explore pricing trends, key insights, and what to expect for solar and battery prices in 2025.



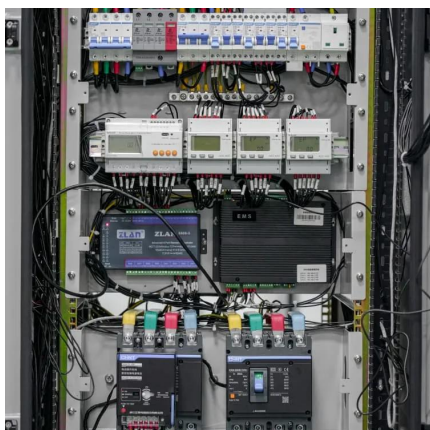
New Zealand's Power Crisis: Why Solar Energy Storage is the ...

In this challenging environment, deploying solar energy storage systems is the best option for New Zealand businesses and households to quickly reduce electricity costs.



Electricity sector in New Zealand

The electricity sector in New Zealand uses mainly renewable energy, such as hydropower, geothermal power and increasingly wind energy. As of 2021, the ...



Solar power in New Zealand

Solar potential of New Zealand Solar panels on a home in Auckland Solar power in New Zealand is increasing in capacity, in part due to price supports created ...



The need for energy storage

Key takeaways from this report: Having a high degree of renewable energy generation means New Zealand needs the capacity to store energy for the times when nature does not align with ...



NZ Energy Prices Surge Amid Declining Hydro and ...

With hydro storage at historic lows and natural gas production declining, energy prices are surging. As we turn to costly imported coal, the ...

Retail power prices and power supply security , Electricity Authority

As retail prices increase, storage in our power system is declining because of historically low rainfall (needed for our hydro-power lakes) and low wind generation. This ...



New Zealand welcomes first big battery to national grid

New Zealand's transition to a renewable energy future has taken a significant step forward with the nation's first grid-scale battery energy storage ...



Staff analyzes Ninth Power Plan's resource costs, ...

The Northwest Power Act prioritizes acquiring cost-effective energy efficiency to meet growing demand for electricity on the Northwest's ...



[Retail power prices and power supply security](#)

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