domestic energy storage cost breakdown in New Zealand 2030

Will electricity storage capacity grow by ?With growing demand for electricity storage from stationary and mobile applications, the total stock of electricity storage capacity in energy terms will need to grow from an estimated 4.67 terawatt-hours (TWh) in to 11.89-15.72 TWh (155-227% higher than in) if the share of renewable energy in the energy system is to be doubled by . Will batteries be a big part of New Zealand's energy ecosystem in ?Battery technology advancements will also likely be playing a bigger part of our energy ecosystem in . The fact that batteries are lower cost, greater energy density, more recyclable, and part of a circular economy, is a big factor in underpinning their wider use around New Zealand by . Can New Zealand achieve 100% renewable electricity by ?New Zealand should weigh its aspiration to achieve 100% renewable electricity by against the potentially considerable costs associated with achieving the last 2-5% of the target. New Zealand does not yet have a long-term energy strategy in place. While work is underway on a strategy, it is not due for release until the end of . Will solar power supply 6% of New Zealand's electricity by ?Modelling indicates that Solar PV (including grid scale and rooftop) could supply 6% of New Zealand's electricity by , and the cost of solar - which has dramatically fallen in recent years - will continue to decrease. It has been estimated that there is sufficient geothermal resource to double what we currently use for electricity generation. Will New Zealand lose confidence in the energy system in ?In , we have more diverse renewable power generation and more New Zealanders owning electric vehicles. If the consumer is subject to rolling blackouts because of the intermittency of wind and solar, we will start to lose confidence in the energy system. Will non-pumped hydro electricity storage grow in ?The result of this is that non-pumped hydro electricity storage will grow from an estimated 162 GWh in to 5 821-8 426 GWh in (Figure ES3). energy mix. This boom in storage will be driven by the rapid growth of utility-scale and behind-the-meter applications. Many of our Voices expressed the view that parts of the industry work in silos and we need a more joined up approach - including the regulators. We heard comments like Most Voices were worried about supply chain issues with equipment. They warn that global suppliers have the choice of many markets, most of which are much larger The fact that batteries are lower cost, greater energy density, more recyclable, and part of a circular economy, is a big factor in underpinning their wider use around New Zealand by . In the weeks leading up to New Zealand's general election, we interviewed 30 energy leaders and innovators for this report - 30 Voices on : The future of energy in Aotearoa. The Voices provide a fascinating picture of how our energy sector might look in . They told us that despite our New Zealand is a world leader in renewable electricity - currently 4th in the OECD for renewable penetration, with 80% of our electricity coming from hydro, geothermal, wind, and biomass. However, we should not rest on our laurels. As a country, we have the opportunity to maintain and enhance our New Zealand should weigh its aspiration to achieve 100% renewable electricity by against the potentially considerable costs associated with achieving the last 2-5% of the target. New Zealand does not yet have a long-term energy strategy in place. While work is underway on a strategy, it is not Modelling indicates that Solar PV (including grid scale and rooftop) could supply 6% of New

Zealand's electricity by , and the cost of solar - which has dramatically fallen in recent years - will continue to decrease. It has been estimated that there is sufficient geothermal resource to double The residential electricity cost per unit is derived by dividing the dollar value of residential electricity sales by the number of kilowatt-hours (kWh) sold to residential customers. The survey also reports the 'lines' component of the residential costs. This covers both the distribution and Despite the building of more renewable generation plants, future prices 1 for winter , and remain high (see figure 1). However, more renewable generation should act to depress spot prices in the long run, as it is generally cheaper to produce. So why are near-term winter future prices BEC : A deep dive into energy targets for New Beyond , however, Kayak exhausts the cost-efective renewables, with gas, solar and coal (with carbon capture and storage) being the next most cost-efective options. Executive summary - New Zealand - AnalysisNew Zealand has a diversified energy mix, with significant production of both hydropower and geothermal. As the country embarks on an ambitious energy transition, it has many natural advantages, including an enviable renewable The future of energy in New Zealand This video imagines what the future could look like, based on outcomes modelled from our TIMES-NZ New Zealand Energy Scenarios data. This modelling was developed by EECA in Electricity cost and price monitoring View data for household sales-based electricity cost and publicly advertised retail electricity tariffs (Quarterly Survey of Domestic Electricity Prices). New Zealand's electricity future: generation and future Using its dashboard, you can see what regions have high volumes of enquiries, and filter between different types of network connections, including generation, energy storage and network upgrades. Electricity storage and renewables: Costs and markets to Along with high system flexibility, this calls for storage technologies with low energy costs and discharge rates, like pumped hydro systems, or new innovations to store electricity Electricity storage and renewables: Costs and markets to Although pumped hydro storage dominates total electricity storage capacity today, battery electricity storage systems are developing fast, with falling costs and improving performance. 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% Key takeaways from New Zealand's second 14 Mar 25 New Zealand's recently released second "Emissions Reduction Plan" outlines how the Government intends to achieve New Zealand's emissions reduction targets for the - period. Following a period of consultation

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