

Wednesday 3 July 2024

# focus

## Tiwai Point: 20 More Years



In late May 2024, three electricity deals to keep the lights on at the Tiwai Point aluminium smelter beyond 2024 were completed, after almost two years of negotiation. The smelter is New Zealand's largest electricity consumer, using 5TWh a year, or around 12% of New Zealand's electricity, so it is a big deal. The supply contracts are important not only for the Southland community, but the wider electricity sector. The contracts come at a time when electricity demand is growing for the first time in 15 years.

**...It is a low-emitting smelter because NZAS sources electricity from zero-emission hydro and wind generation...**



**What's in the deals**

**The three separate electricity supply contracts between New Zealand Aluminium Smelters (NZAS) and NZX-listed generators Meridian Energy, Contact Energy and Mercury break the mould from previous deals in several ways.**

First, the deals are for 20 years, longer than previous contracts. Long-term contracts provide more certainty for all parties involved, enabling long-term investments to be made by both the smelter and the electricity sector.

Second, it is harder for NZAS to close. The closure notice period has increased from one year to two years, and for the first time there are substantial penalty payments of at least \$180m, payable if NZAS does give notice. This will make it much harder for NZAS owner, Rio Tinto, to play games and threaten closure.

Third, NZAS has agreed to reduce electricity consumption during periods when the electricity system is under stress. Most commonly this is when water storage levels needed to run New Zealand's hydro-electric power stations are low. The amount of electricity consumption NZAS is prepared to drop is a material step up on previous contracts, and will help lower carbon emissions from the electricity system. NZAS reducing electricity consumption will lower the need for Genesis Energy to run its coal-fired power station at Huntly.

**Why the supply contracts are important for the electricity sector, NZ Inc., and arguably the world**

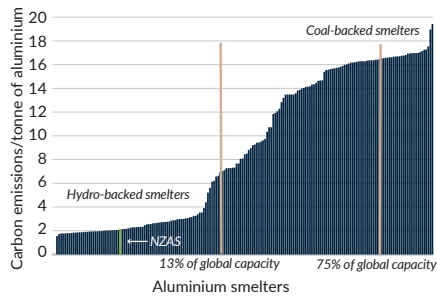
Keeping NZAS open has several positives for the electricity sector and NZ Inc. It is not just a positive story for Southland.

The biggest positive is the certainty the electricity deals provide the electricity sector. 12% of demand is a large chunk of electricity to potentially lose. The lack of a supply contract beyond 2024 created uncertainty. This resulted in generation developers holding back on new developments until they knew the outcome of negotiations. Now that the sector has certainty, we expect new generation developments to proceed apace. Particularly with electricity demand starting to increase.

NZAS remaining open is also important from a global emissions perspective. It is one of the lowest emission smelters in the world, producing two tonnes of CO<sub>2</sub> for every tonne of aluminium. This compares to the global average of 13 tonnes. It is a low-emitting smelter because NZAS sources electricity from zero-emission hydro and wind generation, not coal or gas like much of the world's aluminium production. Not only does NZAS produce some of the highest purity aluminium in the world, it is also some of the greenest aluminium. In a world that is trying to decarbonise, keeping renewable electricity-backed smelters open is critical.

**ALUMINIUM SMELTER CARBON EMISSIONS**

- NZAS STACKS UP WELL



Source: NZAS

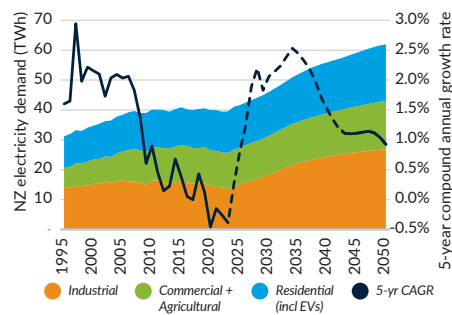
**New electricity contract comes at a time when electricity demand growth is showing signs of life**

For the first time in 15 years, there are strong signs of electricity demand growth. Ever since the global financial crisis in 2008, electricity demand in New Zealand has been flat. In the past six months, however, electricity demand is up +6% on the five year average. While much of that growth is due to weather conditions, we are seeing underlying electricity growth. With electrification slowly but steadily replacing some fossil fuels (whether it be in transport or industrial processes), the long-term outlook is for strong electricity demand growth. Most industry estimates are for electricity demand to lift between +50% and +70% from now until 2050.

While the quantity of electricity generation required to be built is significant, New Zealand generation developers are investigating plenty of projects. New generation required to meet the expected electricity demand growth in the coming 25 years is +20TWh to +30TWh. Current known onshore wind, solar and geothermal projects being investigated total 41TWh. In addition, offshore wind projects being

investigated total a further 42TWh. Not all of these projects will be developed. There is limited capacity in certain parts of the transmission grid that will prevent all of the projects being developed. This is particularly the case for offshore wind, and some of the projects will be uneconomic to build. Nevertheless, there is plenty of generation potential in New Zealand, sufficient to meet expected electricity demand growth in the years ahead, with some to spare. This is critical if New Zealand wants to attract new electricity-intensive industries.

**ELECTRICITY DEMAND IS EXPECTED TO RISE AFTER A PERIOD OF NO GROWTH**

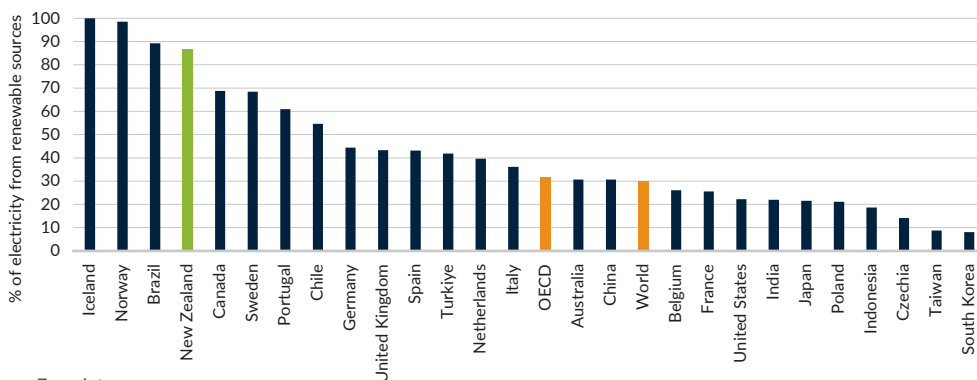


Source: MBIE, Forsyth Barr analysis

**Potential for more large electricity consuming industries**

New Zealand has few global competitive advantages. Amazing scenery and growing grass are two of them. Another is a highly renewable electricity system. NZAS was originally built in conjunction with the Manapouri hydro power station. Renewable electricity is becoming increasingly sought after by industries and corporates conscious of their carbon footprint. While New Zealand is not unique in terms of renewable electricity potential, our starting point is very strong compared to most other developed

**NEW ZEALAND SOURCES MORE ELECTRICITY FROM RENEWABLE GENERATION THAN MOST COUNTRIES**



Source: Enerdata

**...renewable electricity  
is an increasingly  
valuable commodity...**



nations. In 2022 87% of New Zealand's electricity came from renewable sources, and by 2030 that figure should be close to 95%. That means New Zealand is attractive to electricity intensive industries seeking renewable electricity.

The strongest opportunities lie in data centres, local-use hydrogen, and expanding NZAS. Data centres are already growing and the advent of artificial intelligence applications is expected to further increase demand, along with their high electricity consumption. Local-use hydrogen is a long-term opportunity, with the industry still in its infancy. The attraction of hydrogen is its myriad of use cases, from green fertiliser, to transport fuel, and process heat replacement. Producing green hydrogen requires significant amounts of electricity. To provide some sense of the potential scale, Channel Infrastructure and

Fortescue are investigating the production of green synthetic jet fuel at Marsden Point, using hydrogen as a base. To produce 10% of Auckland Airport's jet fuel needs would consume the same amount of electricity as NZAS does now. Another opportunity is the expansion of NZAS itself. NZAS currently operates three potlines, but has a smaller fourth potline sitting idle that could be switched on, or possibly expanded if sufficient electricity is found.

In a world that is seeking to decarbonise, renewable electricity is an increasingly valuable commodity, something that NZAS has recognised in its new electricity contract. With the long-term electricity supply deal now complete, the outlook for the sector is clearer and growing. It's been a long time since the electricity industry has been so well positioned.

**If at any time you want to discuss investment options and opportunities, your Forsyth Barr Investment Adviser is available to provide you advice and assistance.**

**0800 367 227**

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