NEW ZEALAND EQUITY RESEARCH
2 JULY 2020

Power Points
Regulation Matters — July 2020

ANDREW HARVEY-GREEN
andrew.harvey-green@forsythbarr.co.nz
+64 4 495 8185

SCOTT ANDERSON
scott.anderson@forsythbarr.co.nz
+64 4 914 2219

June 2020 was dominated by the Electricity Authority's (EA) transmission pricing methodology (TPM) decision and on 30 June, its undesirable trading situation (UTS) preliminary decision. Meridian Energy (MEL) was the big winner (as expected) from the TPM, but is the generator in the gun for the UTS. However, with Transpower's decision to upgrade the lower South Island transmission network, it has overall been a positive news month for MEL. We retain our positive view on the sector, both in terms of the long-term outlook and the attractive dividend yields the sector offers relative to alternatives.

Figure 1. Summary company valuation metrics

Company	Price	Target Price	Target Return	Rating	EV/EBITDA	PE	FY20 Gr Yld	EBITDAF NZ$m	Changes EBITDAF	Chg	Target Price	Rating
CEN	$6.35	$8.15	34.5%	OUTPERFORM	12.7	20.2	7.6%	431	$0m	0.0%	+$0.00	-
GNE	$3.06	$3.30	13.7%	OUTPERFORM	14.7	28.0	7.6%	359	$0m	0.0%	+$0.00	-
MCY	$4.68	$4.95	9.2%	OUTPERFORM	15.2	27.7	4.7%	493	$0m	0.0%	+$0.00	-
MEL	$4.86	$4.80	3.2%	OUTPERFORM	16.2	24.7	5.6%	870	$0m	0.0%	+$0.00	-
TLT	$3.42	$3.50	2.3%	OUTPERFORM	9.5	31.8	0.0%	125	$0m	0.0%	+$0.00	-
TPW	$7.00	$7.50	11.8%	OUTPERFORM	15.1	29.5	6.4%	186	$0m	0.0%	+$0.00	-

Source: Company reports, Forsyth Barr analysis

EA front and centre in the past month

In early June the EA releases its TPM decision (finally), with little change from the previous draft. MEL remained the biggest winner with its transmission charges expected to fall ~NZ$27m vs. the status quo pricing methodology. NZAS also benefits ~-NZ$10m, however, it has the added carrot of being able to apply for a discount if stand-alone costs would be lower than its current transmission charges. The new TPM will take effect on 1 April 2023 (subject to possible court action and other delays).

The EA's other big announcement is the preliminary decision that MEL caused a UTS in late-2019, resulting in higher than would be expected wholesale electricity prices and spilling more water than would be expected. Whilst this is a negative for MEL, we believe the reputational damage is likely to be bigger than the financial damage.

Wholesale electricity prices continue to surge as winter demand kicks in and hydro storage falls

Otahuhu (OTA) wholesale electricity prices averaged NZ$163/MWh in June 2020, up +22% on May 2020 as electricity demand remains firm (up +0.5% vs. June 2019 despite warmer temperature than the pcp.) and national hydro storage volumes declined to ~-15% to 75% of average. June 2020 is further evidence that COVID-19 is having little effect on electricity demand, with certain segments (such as residential) seeing significant demand growth.

Yield and decarbonisation stories hold

There is no change to our positive investment thesis for the sector. Long-term decarbonisation and the associated electrification will grow electricity demand. In the short-term we expect sector earnings to hold up well despite the economic downturn, providing sustainable dividends. We also maintain our view that NZAS will remain open, and the decision by Transpower to upgrade the lower South Island transmission grid derisks MEL and Contact Energy's (CEN) earnings were NZAS to close. We have OUTPERFORM ratings on the whole sector, although CEN offers the best value.

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Reading the NZAS tea leaves — more negatives than positives in June, but that doesn't change our view

News flow regarding the smelter and its potential future was more negative than positive in June. However, none of the news flow offsets the fact NZAS is a low carbon-emitting smelter, and therefore has a significant competitive advantage over coal-backed smelters. We retain our view that when Rio Tinto (RIO) eventually announces the outcome of its strategic review, NZAS will remain open.

TPM and Transpower decisions won't improve RIO's mood

Transmission pricing methodology (TPM)

After many years of consultation, rework and thousands of pages of reports, the Electricity Authority (EA) arrived at a final transmission pricing methodology (TPM) decision. Whilst it confirmed NZAS will receive an ~NZ$10m reduction in transmission prices relative to the status quo, it is still three years away from reality (planned implementation date is 1 April 2023) and is in fact slightly lower (-NZ$1m) than the EA's previously draft.

The carrot in front of NZAS is the ability to apply for a prudent discount on the basis NZAS is paying more for transmission than what it could on a stand-alone basis. However, there is a high degree of uncertainty about what it could receive (and there will be push-back from many other electricity users).

Relative to what NZAS was seeking, the TPM decision provides transmission price relief well below what we expected it was hoping for.

For more detailed analysis on the TPM and what it means for the sector, refer to our report, *The Beginning of the End TPM Decision Made*, published 10 June 2020.

Transpower decides to push ahead with lower South Island grid upgrade

The other piece of transmission related news is Transpower's decision to undertake the lower South Island grid upgrade (known as the Clutha Upper Waitaki Lines Project [CUWLP]). The grid upgrade is significant for MEL and CEN as it means most of their generation from the lower South Island (Manapouri and Clutha respectively) can be exported out of the region. In the unlikely event NZAS closed, without the grid upgrade, 1,500GWh to 2,000GWh of water would be split in a normal hydrological year. CUWLP is, therefore, of significant value to MEL and CEN and is one of the key bargaining points NZAS has historically held over MEL and CEN. i.e. NZAS's negotiating position with CEN and MEL has weakened with Transpower's announcement.

The CUWLP project does not completely alleviate all transmission constraints in the event NZAS closes, with the HVDC link also needing an upgrade, but it is the most significant transmission constraint. Detailed discussion of the transmission constraints that would need to be relieved if NZAS were to close can be found in our report, *Tiwai Transmission Cure to Take Time*, published 7 November 2019.

Minister Woods comment regarding potential terminal conversion of the refinery suggests the Government is less likely to provide support to NZAS

Notwithstanding NZ is heading into an election and the government has supported many businesses through the COVID period, Energy Minister Megan Woods comments in relation to the potential conversion of the refinery suggest direct government support is unlikely. Minister Woods said, "We'll continue to monitor developments and work with Refining NZ where necessary to ensure that economic opportunities in Northland can be maximised and utilised". In addition, the Minister appears to be comfortable with the refinery converting to an import terminal, further suggesting the government is unlikely to directly support refinery operations in order to save the jobs.

Appointment of new RIO executive should aid NZAS future

RIO announced at the end of June 2020 the creation of a new executive position, Group executive, Strategy and Development. The new role is to lead RIO's "transformation efforts around portfolio, climate change, and closure". Our view is that in a carbon constrained world NZAS has to remain open. The appointment of an executive position within RIO specifically targeted at climate change issues can only be positive for NZAS.

Still no news — unlikely to hear much in July

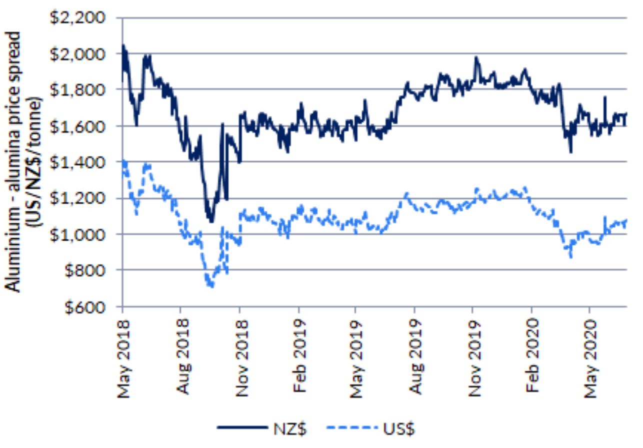
Whilst RIO has been appointing new executives, it does not appeared to have progressed its Strategic Review significantly with MEL, indicating engagement levels are low at present. We understand that MEL is expecting further engagement in July, but it would be a surprise if a final decision was made. In our, *June 2020 Power Points*, we noted the various reasons why RIO may be delaying its Strategic Review decision (it is now three months overdue). We are not overly concerned by the delay, and whilst frustrating, do not believe it is a harbinger of bad news.

NZAS profitability unchanged in last month — it's still tough

The aluminium market continues to be challenging (and is likely to be challenging for some time). We estimate the cash operating profit per tonne (EBITDA less capex) was -NZ$90/tonne in June. However, that is better than May when the estimated NZAS cash operating profit/tonne was -NZ$127/tonne. The driver of the improvement was the slightly better NZD aluminium price, up +NZ$20/ tonne in June vs. May.

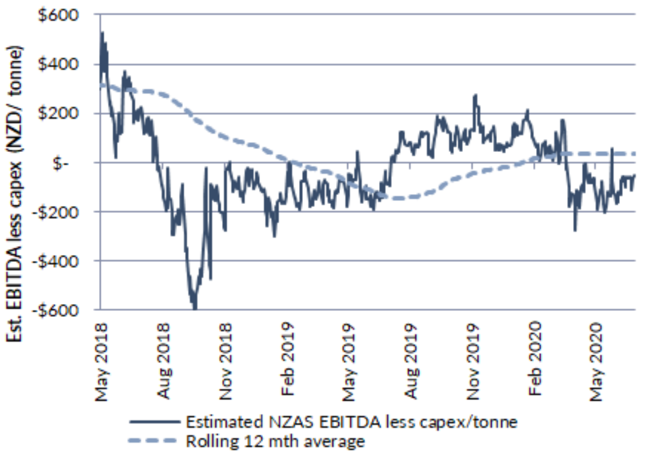
If NZAS were to accept the current electricity offers from CEN and MEL and wait for the lower transmission price benefits, we estimate NZAS would be slightly cash positive, albeit it has to wait three years to get to that point. Whilst current operating conditions are not great (and unlikely to improve materially in the near-term), the long-term option value associated with low carbon aluminium is too great.

Figure 2. Aluminium/alumina price spread



Source: IRESS, Bloomberg, Forsyth Barr analysis

Figure 3. Estimated NZAS profitability



Source: IRESS, Bloomerg, Company reports, Forsyth Barr analysis

UTS decision likely to be more a reputational issue than a financial issue

The EA's draft undesirable trading situation (UTS) decision is that MEL's trading resulted in a UTS between 3 and 18 December 2019. At the heart of the accusation is that MEL withheld hydro generation by offering volumes into the market at relatively high prices resulting in higher than would be expected wholesale electricity prices and more water being spilt than was necessary. i.e. if it had offered hydro generation at lower prices, there would have been more hydro generation, lower wholesale electricity prices and less water spilt. Similar accusations were made to CEN, however, it has avoided the EA's wrath (at this stage anyway).

Regardless of whether the EA's analysis is correct or not, in our view MEL has lost in the court of public opinion. However, from a financial perspective we would be surprised if the outcome is material for MEL. Under a UTS, the typical remedy the EA uses is to reset prices to what it thinks should have occurred (it is not possible for the EA to apply punitive penalties under the UTS provisions of the Code, but it can "take any action the EA considers is necessary to correct the UTS"). The EA has assessed that retailers paid ~NZ $80m more than they should have over the 3 to 18 December period (and by implication that generators received ~NZ$80m more than they should have). However, the large generators have significant retail businesses, hence, the net impact is likely to be relatively minor (less than NZ$5m for MEL). There is also the interesting logistical question of how to retrospectively adjust prices.

However, whilst no penalties are payable under a UTS, the EA is also considering whether there was a breach of the "high standard of trading conduct" provisions in the Code. If found guilty of these provisions, the EA can apply penalties of up NZ$200,000 (again immaterial).

One of the protagonists of the UTS, Electric Kiwi, has been quoted saying the penalty should be NZ$240m. This is based on Commerce Act penalties and in our view is implausible in this situation.

Longer-term it is possible revised trading behaviour by the generators will lower average wholesale electricity prices. However, it is hard to see this being material, let alone observable in the forward market.

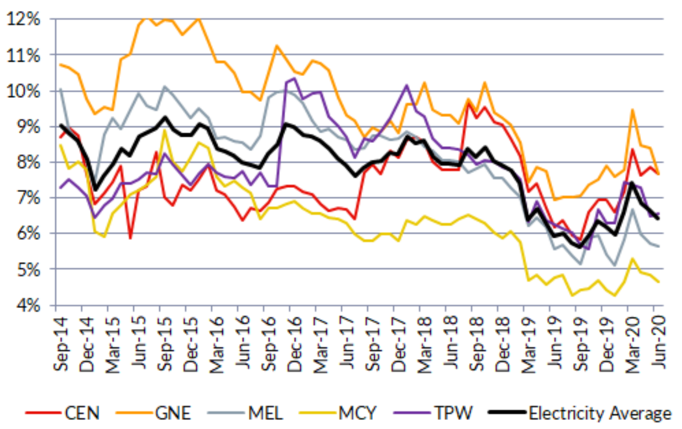
Overall, we see the UTS as having more reputational damage than actual financial damage to MEL. The EA's preliminary UTS decision is open for consultation for six weeks (submissions due Tues 11 August), with a further three week period after that for cross-submissions. It appears unlikely that there will be a final decision before the end of September 2020.

For those wanting to read all the detail, it can be found here: https://www.ea.govt.nz/code-and-compliance/uts/undesirable-trading-situations-decisions/10-november-2019/

Yield gap falls, but remains the main game in town

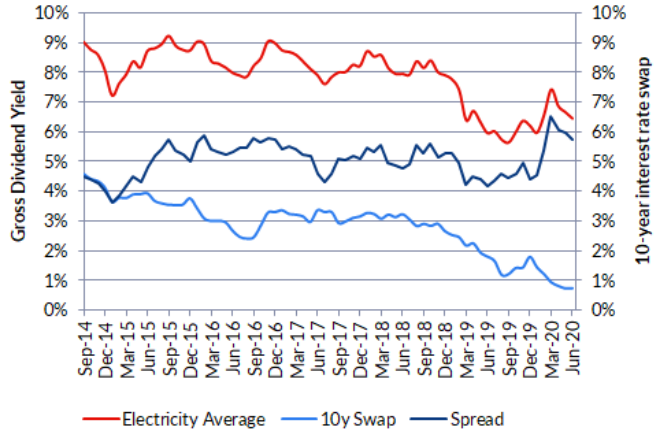
The average electricity gross dividend yield fell -21 basis points (bp) to 6.44% in June 2020. The share price performance of GNE is the main driver of the lower average gross dividend yield. Relative to the 10-year swap rate, the spread contracted -22bp to 5.73%. That is still well above the average 5-year spread of 5.20% and recent lows of 4.16%. i.e. with the expectation that interest rates are likely to remain low, there is upside to electricity generator/retailer share prices.

Figure 4. Electricity company yields



Source: Forsyth Barr analysis

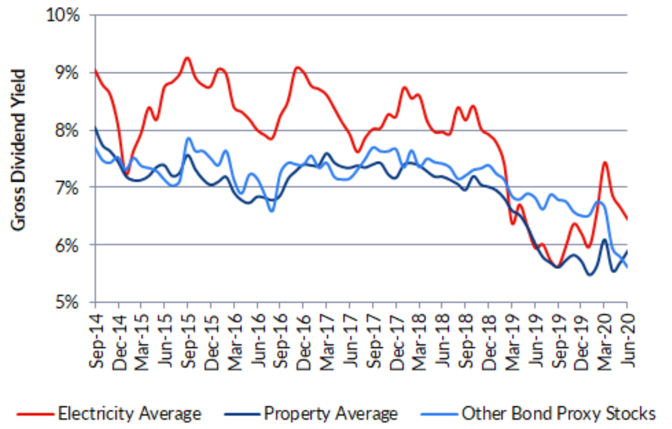
Figure 5. Relative yields



Source: Thomson Reuters, Forsyth Barr analysis

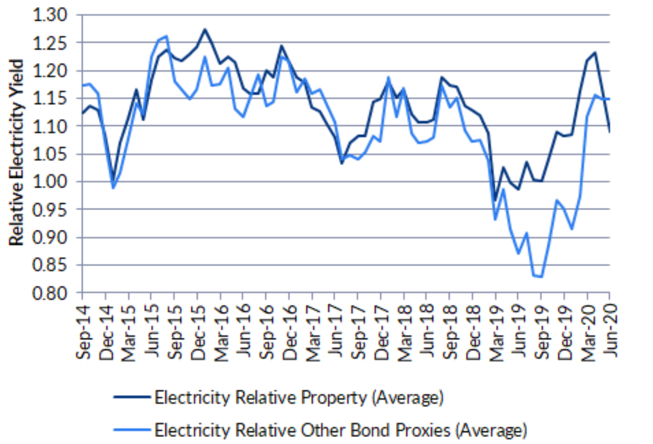
Relative to other bond proxies (Chorus, Spark, Vector), little has changed with the average bond proxy gross dividend yield also falling during June 2020. However, compared to the average gross property yield, the electricity sector yield has closed significantly. That said, we'd argue there is more downside risk (and exposure to an economic downturn) in the property sector than the electricity sector, hence, we'd view the electricity sector as still offering better value.

Figure 6. Average sector yields



Source: Forsyth Barr analysis

Figure 7. Electricity relative yields



Source: Forsyth Barr analysis

Electricity volumes during the Alert Levels

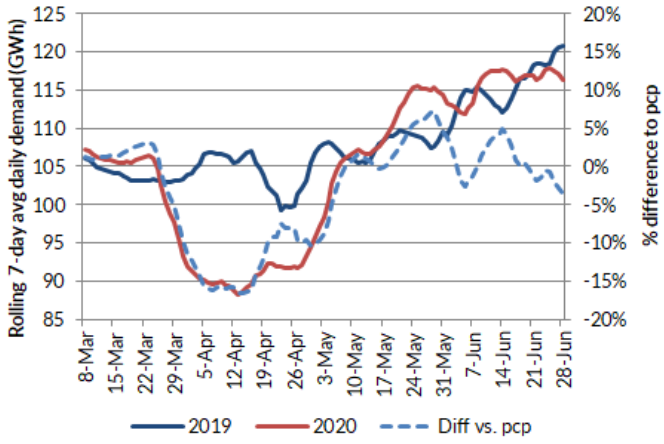
Electricity volumes are back to normal and Alert Level 1 volumes were actually slightly lower than Alert Level 2 volumes (relative to pcp), although the weather played a significant part in that observation, with late-May 2020 colder than late-May 2019, but June 2020 was warmer than June 2019.

Figure 8. Electricity demand vs. pcp

	Alert Level 4	Alert Level 3	Alert Level 2	Alert Level 1	TOTAL
Start date	**25-Mar**	**28-Apr**	**14-May**	**8-Jun**	
End date	**27-Apr**	**13-May**	**7-Jun**		
North Island	-15.2%	-2.3%	3.0%	-0.6%	**-4.8%**
South Island	-7.8%	-2.8%	1.7%	0.7%	**-2.5%**
New Zealand	-12.4%	-2.5%	2.5%	-0.1%	**-4.0%**

Source: Electricity Authority, Forsyth Barr analysis

Figure 9. Electricity demand vs. pcp



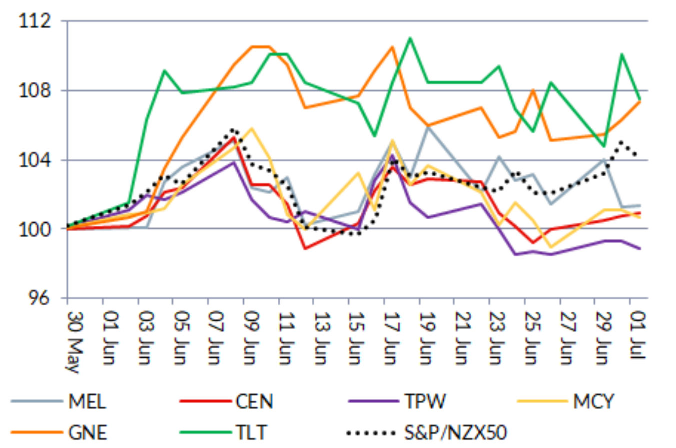
Source: Electricity Authority, Forsyth Barr analysis

Nevertheless, residential demand is up as more people are working from home, offsetting any SME weakness. Industrial demand has also rebounded and inventory rebuild following the lost production during lockdown is a key factor (NZ Steel electricity demand is higher than normal). That said, two large industrials, NZAS and the refinery, are still below pre COVID-19 levels. Combined, the lower electricity demand from the smelter and refinery equate to a drop in national electricity demand of ~-1.3%.

Share market performance: June 2020

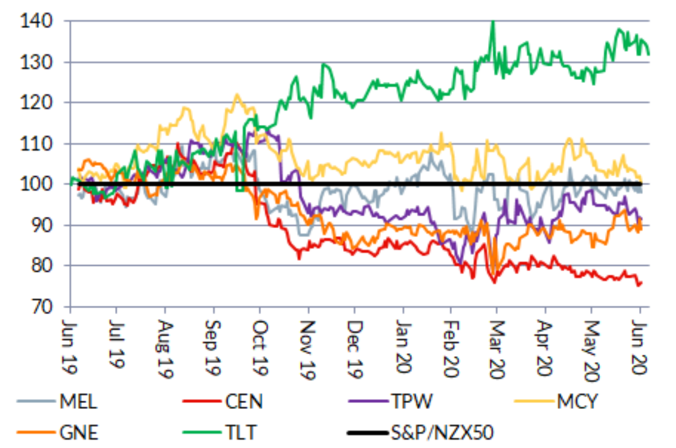
The NZX50 was up +4.1% from 29 May to 1 July, as markets continue to recover the losses made in March 2020. GNE and TLT were the only two of the electricity stocks to beat the market, up +7.5% and +7.4% respectively. CEN, MCY, and MEL were all up over the month, but less so than the market, up +1%, +0.6% and +1.4% respectively. TPW was the only of the electricity stocks to decline over the month, although was down just -0.1%.

Figure 10. Stock performance vs. S&P/NZX50C



Source: Thomson Reuters, Forsyth Barr analysis

Figure 11. 12 month performance relative to S&P/NZX50C



Source: Thomson Reuters, Forsyth Barr analysis

Market multiples and target returns

- Our electricity target prices are based on a combination of our DCF valuation (30%), market multiples (30%) and gross dividend yield (40%). We focus on year two earnings to avoid short-term hydrological conditions impacting the multiples. We continue to like the long-term outlook for the sector and maintain our view than NZAS will not be closing. All sector stocks (CEN, GNE, MCY, MEL, TPW & TLT) are rated OUTPERFORM.

Figure 12. EBITDAF multiples

Company	Code	Price	Target Price	Target Return	Rating	Mkt Cap $m	EBITDAF (x) FY20	EBITDAF (x) FY21	EBITDAF - capex (x) FY20	EBITDAF - capex (x) FY21
Contact Energy	CEN	$6.35	$8.15	34.5%	OUTPERFORM	4,544	12.7	11.8	15.3	14.1
Genesis Energy (excl Kupe)	GNE	$3.06	$3.30	13.7%	OUTPERFORM	2,760	14.7	12.8	18.1	15.3
Mercury	MCY	$4.68	$4.95	9.2%	OUTPERFORM	6,369	15.2	14.6	17.9	17.1
Meridian Energy	MEL	$4.86	$4.80	3.2%	OUTPERFORM	12,456	16.2	17.6	17.4	19.0
Trustpower	TPW	$7.00	$7.50	11.8%	OUTPERFORM	2,191	15.1	14.1	17.4	16.1
Sector average							14.7	14.0	17.2	16.2
Tilt Renewables	TLT	$3.42	$3.50	2.3%	OUTPERFORM	1,606	9.5	12.3	10.3	13.8
Genesis Energy (incl Kupe)	GNE	$3.06	$3.30	13.7%	OUTPERFORM	3,169	12.3	10.9	14.5	12.6

Figure 13. PE multiples and dividend yields

Company	PE (x) FY20	PE (x) FY21	Adjusted PE (x) FY20	Adjusted PE (x) FY21	Cash Div Yield FY20	Cash Div Yield FY21	Gross Div Yield FY20	Gross Div Yield FY21	Free Cash Flow Yield FY20	Free Cash Flow Yield FY21
Contact Energy	36.8	33.3	20.2	18.6	6.1%	6.1%	7.6%	7.7%	5.0%	6.2%
Genesis Energy (excl Kupe)	155.9	66.5	28.0	20.7	4.0%	4.4%	5.4%	6.1%	3.5%	5.4%
Mercury	47.5	38.1	27.7	24.1	3.4%	3.5%	4.7%	4.8%	1.2%	1.2%
Meridian Energy	38.7	47.2	24.7	28.0	4.4%	4.4%	5.6%	5.6%	3.9%	4.4%
Trustpower	35.6	28.0	29.5	23.2	4.6%	4.6%	6.4%	6.4%	3.5%	4.2%
Sector average	51.9	40.7	25.8	22.7	4.5%	4.6%	5.9%	6.1%	3.4%	4.3%
Tilt Renewables	n/m	99.2	31.8	29.2	0.0%	0.0%	0.0%	0.0%	2.9%	2.4%
Genesis Energy (incl Kupe)	89.3	45.9	20.0	16.0	5.6%	5.7%	7.6%	7.8%	5.9%	7.5%

Source: Forsyth Barr analysis

Note: In calculating the GNE excl Kupe multiples, the value of Kupe is assumed to be $410m. Debt and interest has been apportioned 10% to Kupe and 90% to Energy (in line with EV proportion) and dividend in line with adjusted NPAT.

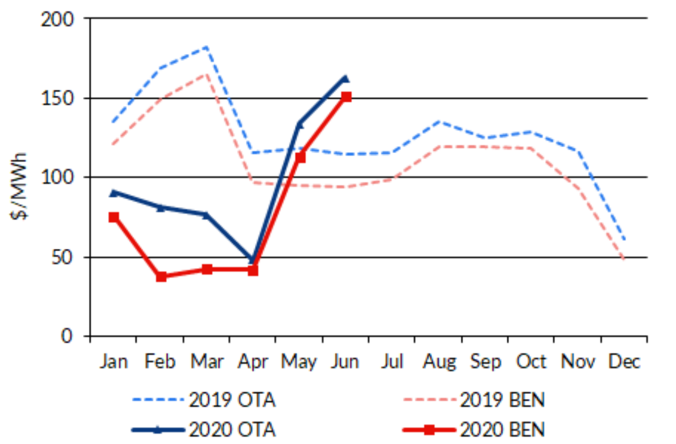
Wholesale electricity market: June 2020

Spot wholesale electricity prices and ASX futures

Wholesale prices up due to low hydro storage

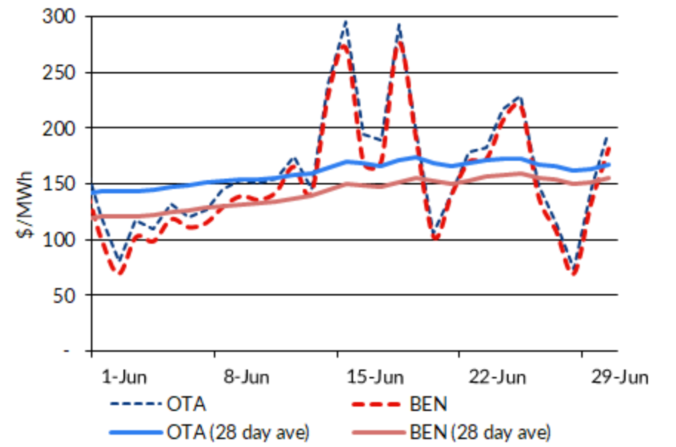
- The average Otahuhu (OTA) wholesale electricity price was $163/MWh in June, which is +22% up on May 2020. Benmore (BEN) prices were also up sharply, with the average price of $151/MWh a +35% increase on the prior month. These wholesale electricity prices were up due to the falling storage levels in the South Island leading to a decline in lower hydro generation, meaning that more expensive thermal generation was required. Demand was largely flat on the pcp (+0.5%).
- Wholesale prices continued to be volatile through June, particularly in the second half, with OTA prices fluctuating between $73/MWh and $296/MWh, and BEN prices between $69/MWh and $277/MWh.

Figure 14. Average monthly wholesale electricity prices



Source: NZX Energy, Forsyth Barr analysis

Figure 15. Average daily wholesale electricity prices

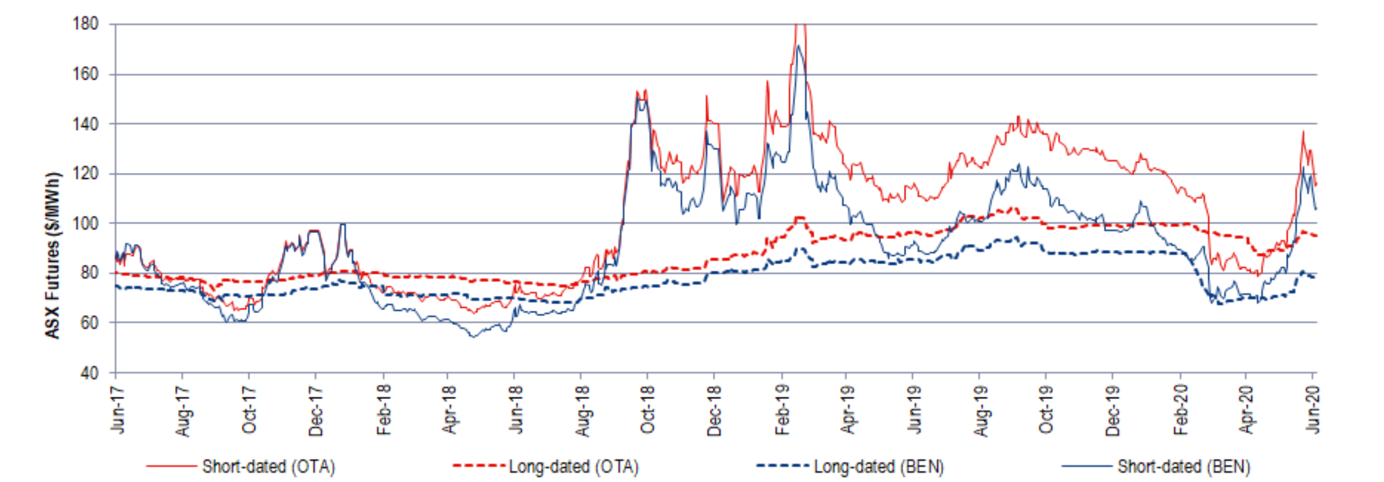


Source: NZX Energy, Forsyth Barr analysis

All futures up over June

- Short-dated futures were up significantly in June 2020, with BEN futures up +29% to end the month at $106/MWh, and OTA futures ending the month at $117/MWh, a +25% increase. Futures peaked around 24 June, with short-dated OTA futures reaching $130/MWh. These increases are again likely due to the low hydro storage levels in the South Island.
- Long-dated futures were also up in June, with OTA and BEN futures up +6% and +10% to end the month at $95/MWh and $78/MWh respectively (also dipping slightly in the last weeks of June).

Figure 16. ASX futures prices (last three years)



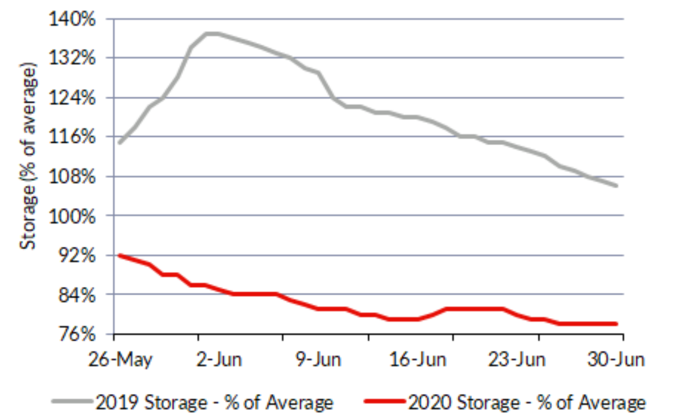
Source: Electricity Authority, Forsyth Barr analysis

Hydro storage volumes

National hydro levels well below average

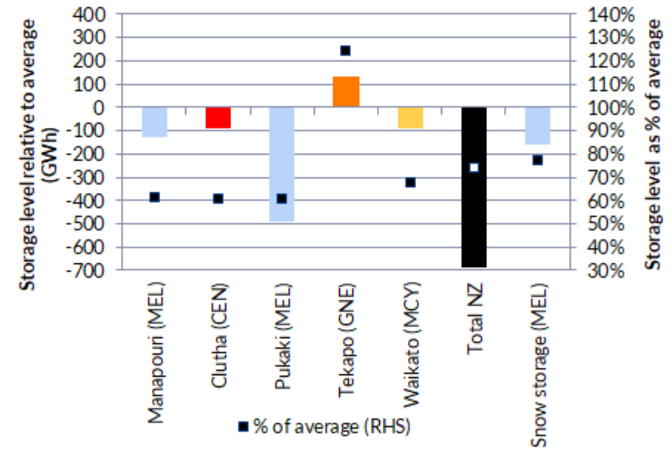
- Hydro storage is down at all key storage lakes apart from Tekapo, with national storage of 1,978GWh equal to~74% of average for this time of year. MEL's Pukaki storage, which is the largest storage lake in the country, is only ~61% of average, whilst GNE's Tekapo storage is the only lake above average at ~125% for this time of year.
- MEL's snow storage is currently at 544GWh, and is -160GWh below average for this time of year (although that has probably changed in the past few days).

Figure 17. Average lake storage levels



Source: NZX Energy, Forsyth Barr analysis

Figure 18. Key storage lake levels relative to avg (as at 2 July)



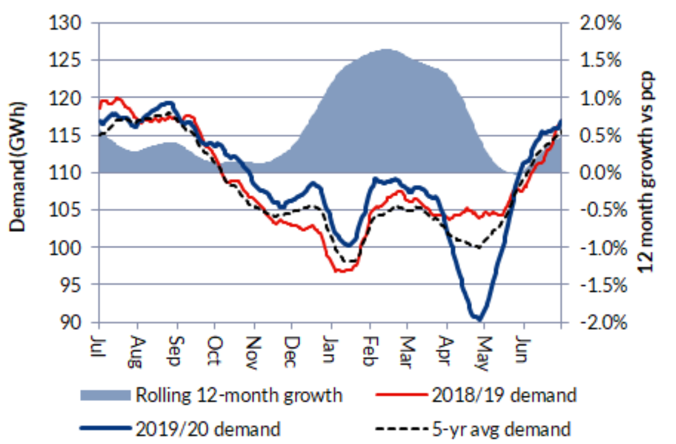
Source: EnergyLink, MEL, Forsyth Barr analysis

Demand and generation analysis

Generation rebounds

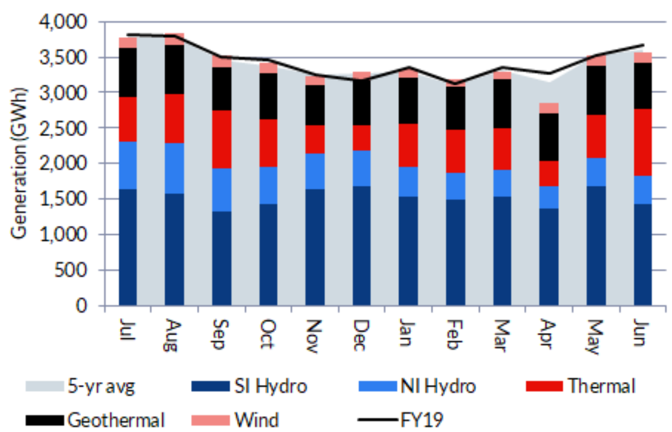
- Electricity demand averaged 116 GWh/day in June 2020, which is broadly flat on the pcp (+0.5%). Considering average temperatures were up +6% on the pcp then the flat demand vs June 2019 is another indication that underlying electricity demand is strong.
- Total generation in New Zealand was 3,571GWh in June, down -2.5% on the pcp with increased North Island generation reducing transmission losses. Most notably, South Island hydro generation was down -19% (-323GWh) on the pcp, as South Island hydro levels fell well below average. This large decline in generation was offset by a +72% increase in thermal generation compared to June 2020. Renewable generation as a percentage of total fell to 73.4%, which is the lowest it has been since January 2018.

Figure 19. Rolling 28-day avg demand & rolling 12-m growth



Source: NZX energy, Forsyth Barr analysis

Figure 20. NZ generation (by technology) — fiscal year to June



Source: NZX energy, Forsyth Barr analysis

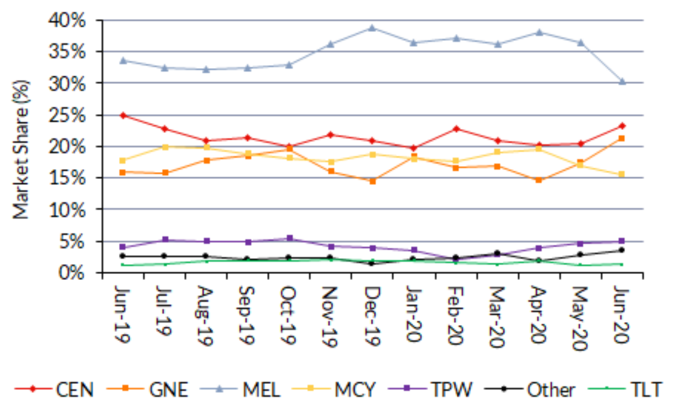
Generation market share — GNE reaches three year high

- GNE gained +3.9% market share in June 2020, to reach 21.3% of total generation, the highest it has been since July 2017. CEN, TPW and TLT also gained market share over the month, gaining +2.8%, +0.3% and +0.1% respectively. MEL lost the most, dropping -6.1% of market share in June compared to May due to low hydro generation, whilst MCY lost -1.4%.

CEN — TCC unit back in operation

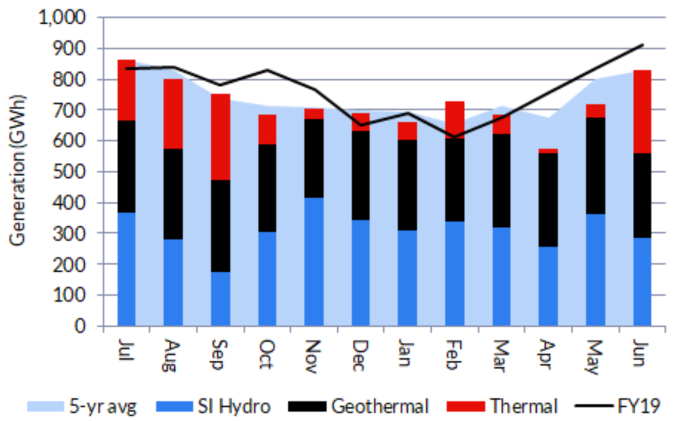
- Total CEN generation in June 2020 was 828GWh, up +16% on the prior month (+19% increase in average daily generation), although June generation was down -9% on the pcp. This decrease on the pcp was due to CEN's Clutha hydro plant producing -34% (-144GWh) less generation due to low hydro storage levels. CEN's TCC unit was back operating as a result, generating 207GWh in June, up from zero in May and the highest generation since January 2018. The Poihipi geothermal plant produced only 1GWh due to a planned outage that was deferred due to COVID-19 and lasts until 11 July. CEN has two further planned outages, with Wairakei out from 14 July for seven days, and Ohaaki tentatively scheduled to be out from 27 July for just over a month.

Figure 21. Monthly generation market share



Source: EnergyLink, Forsyth Barr analysis

Figure 22. CEN monthly generation mix (current, pcp & 5y avg)



Source: EnergyLink, Forsyth Barr analysis

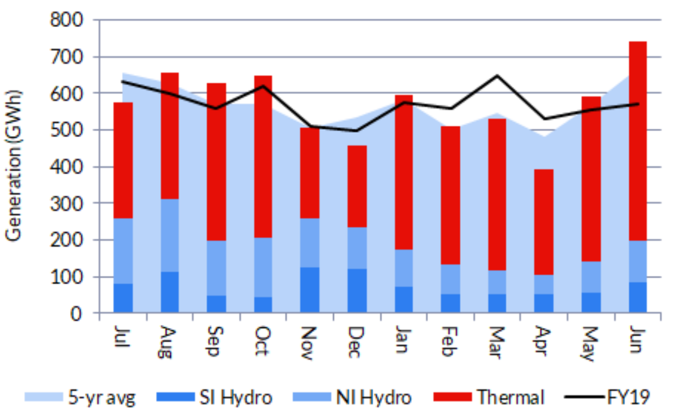
GNE — Highest generation in three years

- GNE generation in June 2020 was 762GWh, the highest generation since July 2017 and a +31% increase on the pcp. This increase came from an +82% increase in thermal generation, with Huntly Rankine generation up +221GWh on the pcp. Both GNE's North Island and South Island hydro generation levels fell on the pcp (-29% and -24%), although were up +34% and +56% on May. GNE's generation market share of 21.3% is its highest percentage since July 2017.

MCY — Down significantly on June 2019

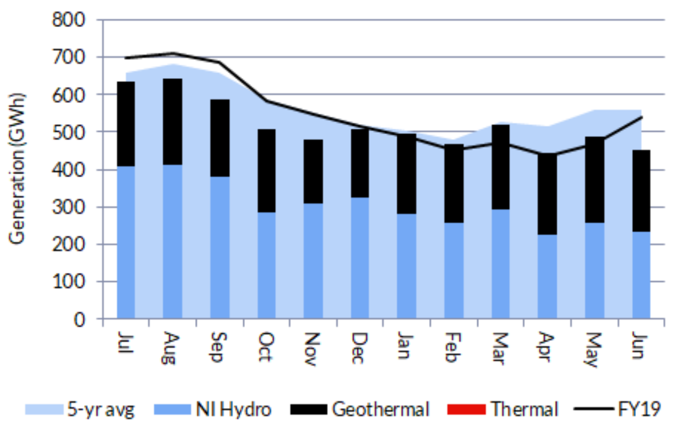
- MCY's June 2020 generation was 452GWh, a -16% decline on the pcp and a -4% decline in average daily generation from May. This decline was due to hydro generation falling -27% on the pcp and geothermal remaining largely flat (-1%). MCY downgraded FY20 hydro guidance to 3,700GWh on 26 June due to continued low hydro generation.

Figure 23. GNE monthly generation mix (current, pcp & 5y avg)



Source: EnergyLink, Forsyth Barr analysis

Figure 24. MCY monthly generation mix (current, pcp & 5y avg)



Source: EnergyLink, Forsyth Barr analysis

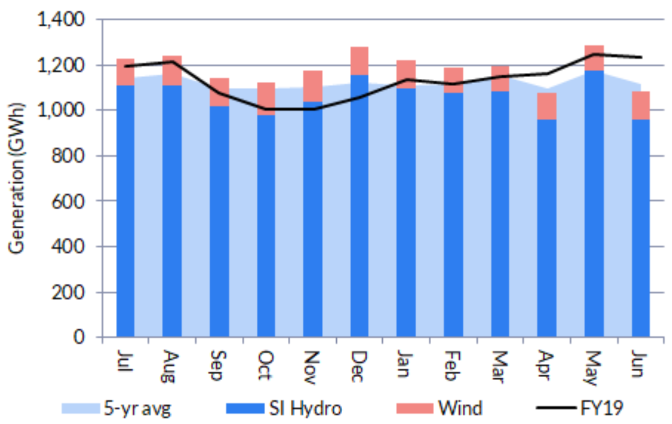
MEL — Hydro generation slumps

- MEL hydro generation was 958GWh in June 2020, a -15% decline on June 2019 and back to April 2020 levels which were the lowest reported since late 2018. This decline in hydro generation was largely due to MEL's Manapouri hydro generation being -39% less than June 2019. MEL's total generation for the month was 1,085GWh, with average daily generation falling -13% from May 2020. Wind had a good month, however, with average daily generation increasing +23% compared to the prior month.
- MEL hydro storage is well below average at only ~61% of average for this time of year, with all of its hydro lakes as well as its snow storage being materially down.

TPW — South Island hydro grows on pcp

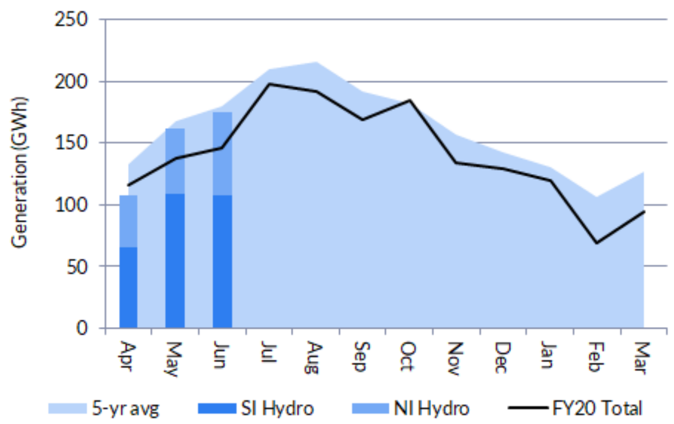
- We estimate that June 2020 generation for TPW was 175GWh, which is a +20% increase on the pcp. This increase was due to South Island hydro generation being up +38% as a result of TPW's Highbank hydro plant producing 15GWh, after only generating 1GWh in June 2019 (due to an unplanned outage). Average daily generation was up +12% from May 2020, with South Island hydro up slightly vs last month (+3%) and North Island hydro up +32%.

Figure 25. MEL monthly generation mix (current, pcp & 5y avg)



Source: EnergyLink, Forsyth Barr analysis

Figure 26. TPW monthly generation mix (current, pcp & 5y avg)



Source: EnergyLink, Forsyth Barr analysis

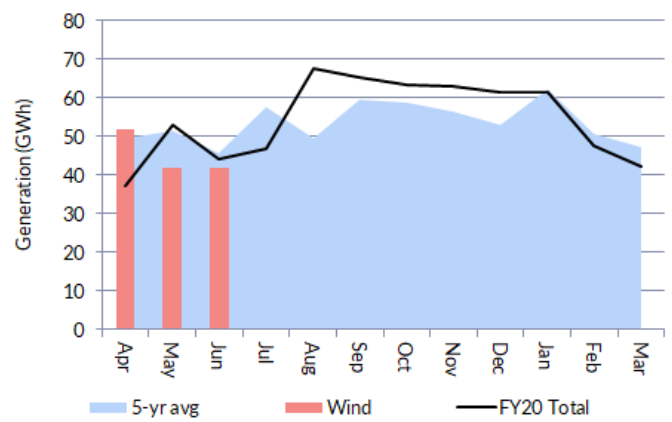
TLT — Generation bounces back

- Estimated TLT generation was 45GWh in June 2020, a +10% bounce back in average daily generation from the prior month and a +1% increase on the pcp. TLT's generation market share was largely flat in June (+0.1%) to be 1.2% of total generation.

Generation prices — GWAP increases due to low hydro generation

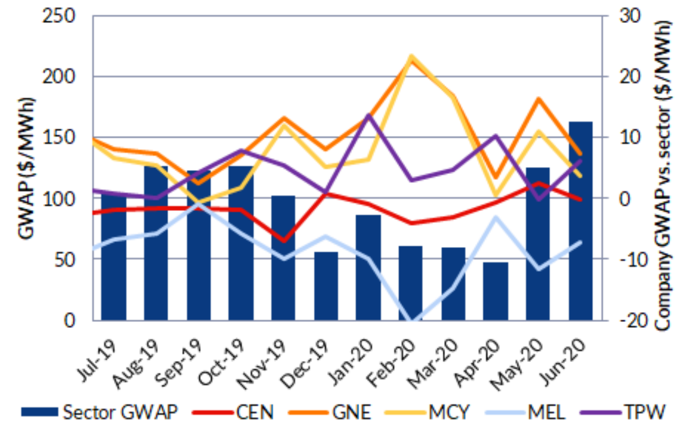
- The average generation weighted average price (GWAP) was $163/MWh in June, up +30% from $125/MWh in May 2020 and +59% up on the pcp. All of the big five generators had increases in prices, with MEL's monthly increase of +37% being the largest increase, with MEL averaging $156/MWh. MCY, CEN, GNE and TPW average prices received all increased by more than +20% to $167/MWh, $163/MWh, $170/MWh and $169/MWh respectively.

Figure 27. TLT monthly generation mix (current, pcp & 5y avg)



Source: EnergyLink, Forsyth Barr analysis

Figure 28. Avg generation weighted average price (GWAP)



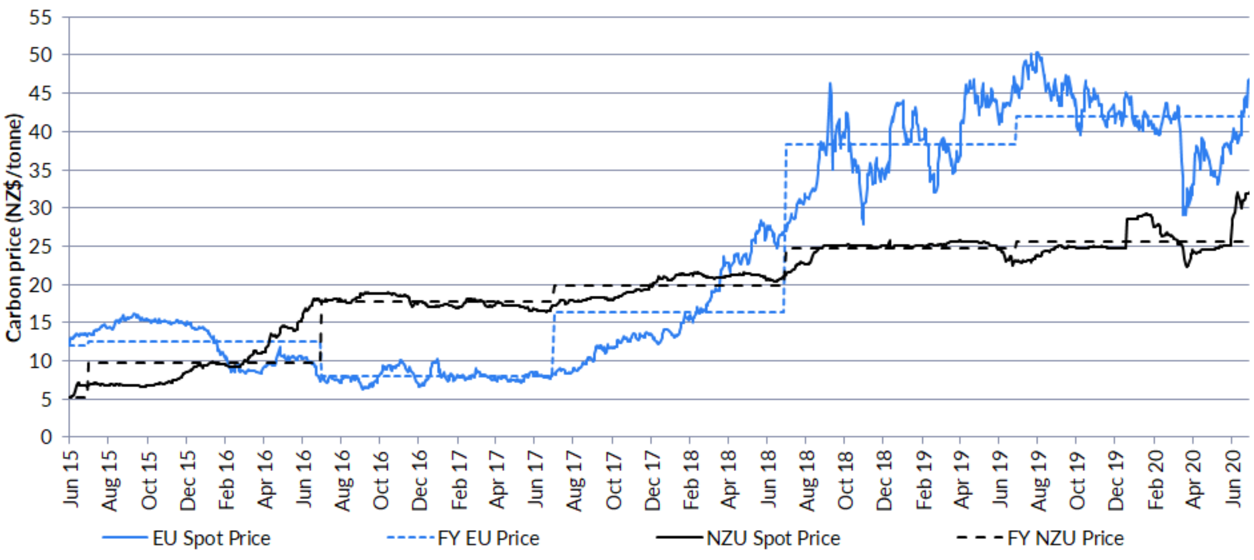
Source: EnergyLink, Forsyth Barr analysis

Carbon prices

NZ carbon prices — Unit prices rise sharply

- NZ carbon units ended June at NZ$32/unit, after starting the month at NZ$25/unit (+28%). This is the highest unit prices have been. Prices are similar to the levels reported after the government's announcement that it would remove the unit price cap in December 2019. These changes have now been through their second reading at parliament and as we approach the implementation of these changes, prices may continue to rise.
- EU carbon unit prices also increased over the month to end June at €27/unit (NZ$47/unit), up from €21/unit (NZ$37/unit) (+29% in €) at the end of May. The average monthly price was NZ$41.2/unit, and this is the first increase in the average monthly price for six months.

Figure 29. Price of carbon (NZ$/tonne)



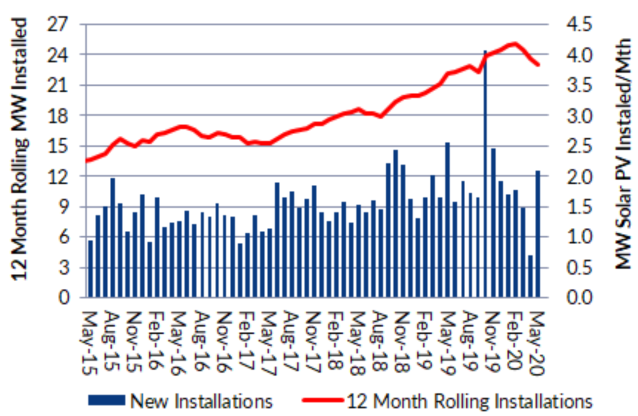
Source: Bloomberg, Forsyth Barr analysis

Solar PV installations

Rate of installation bounces back from April

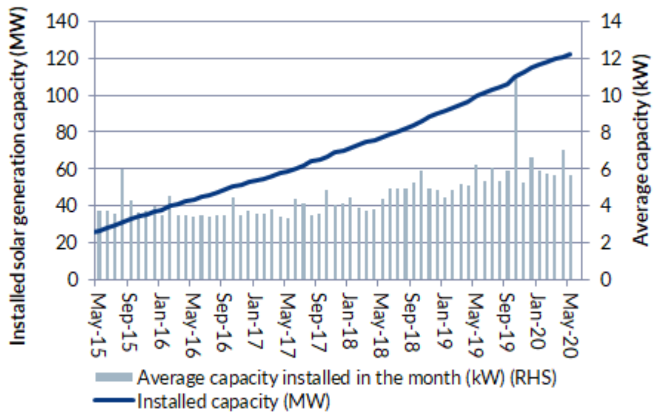
- There was 2.08MW of new solar capacity installed in May 2020 with +330 new solar connections. This is a sharp bounce back from April 2020, largely due to April encompassing Level 4 lockdown. Total solar capacity is now 122MW with 27,405 solar ICPs.

Figure 30. Solar PV capacity installed



Source: Electricity Authority, Forsyth Barr analysis

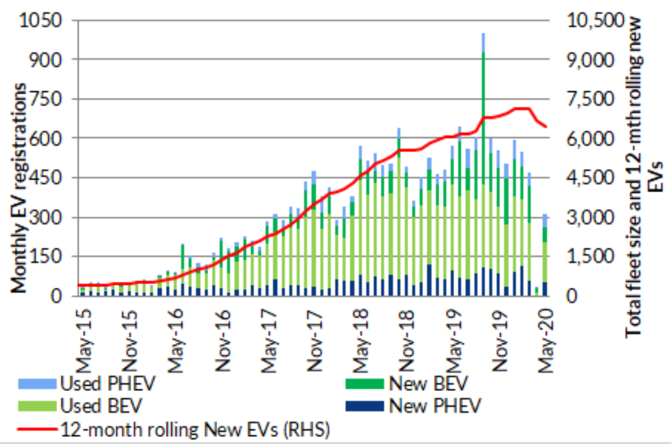
Figure 31. Average size of system and total capacity installed



Source: Electricity Authority, Forsyth Barr analysis

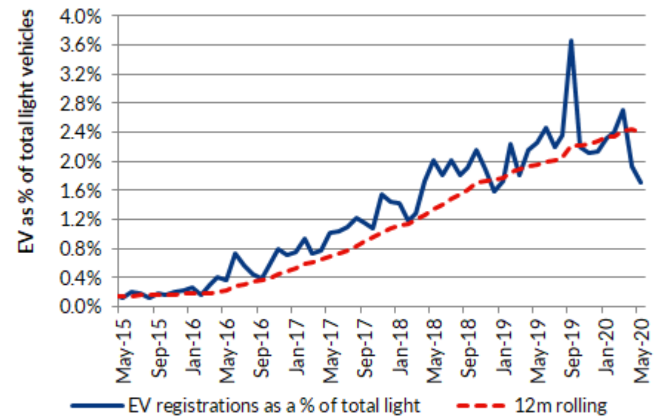
Electric vehicle (EV) registrations

Figure 32. EV registrations



Source: Ministry of Transport, Forsyth Barr analysis

Figure 33. EV registrations % of total light vehicle registrations

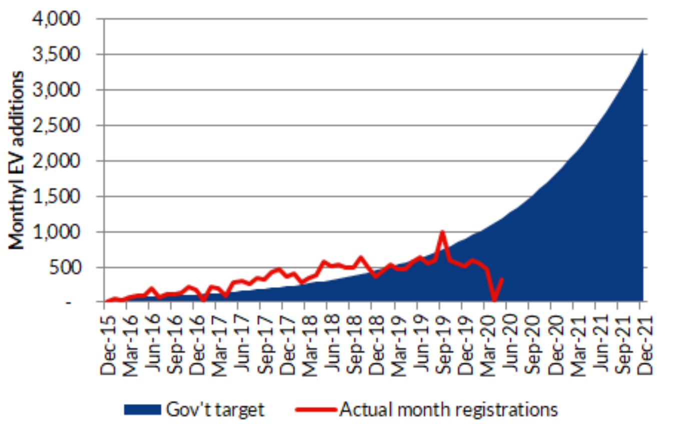


Source: Ministry of Transport, Forsyth Barr analysis

New EV registrations

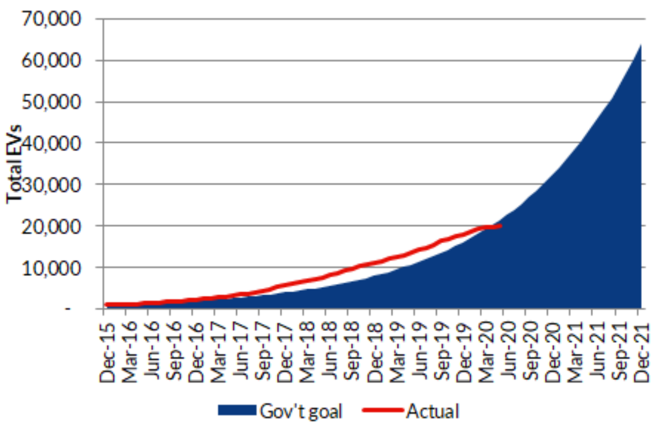
- There was 314 electric vehicles registered in May 2020, which although down materially on May 2019 (-45%), is a significant bounce back from April which saw only 32 EV registrations. However, electric vehicles as a percentage of total light vehicles dropped for the second consecutive month, down to 1.7%, the lowest percentage it has been since December 2018.
- Only 111 of the 314 electric vehicles registered over the month were new, 1.4% of the total new light vehicles registered.
- The total number of electric vehicles registered is ~20,100, which is roughly -1,300 less than the government's target for this time. Monthly registrations for May 2020 were hoped to be ~1,200 in April and May 2020 which is well above the 32 and 314 that were reported respectively.
- As at the time of publishing EV sales data for June has not been released.

Figure 34. Monthly EV registrations vs. govt target



Source: Ministry of Transport, Forsyth Barr analysis

Figure 35. Total EVs registered vs. govt target



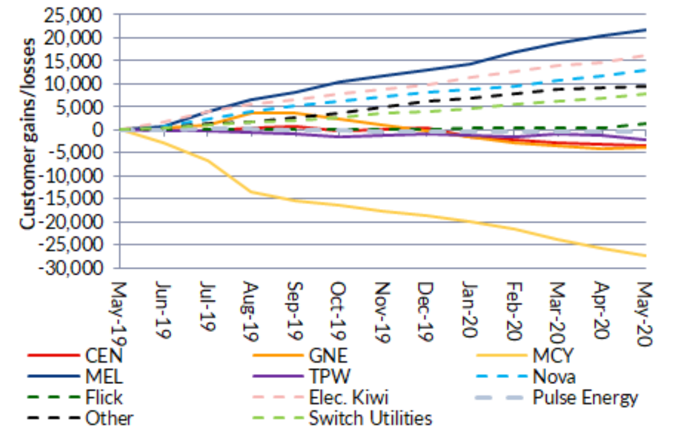
Source: Ministry of Transport, Forsyth Barr analysis

Retail electricity customers

Another month of losses for MCY

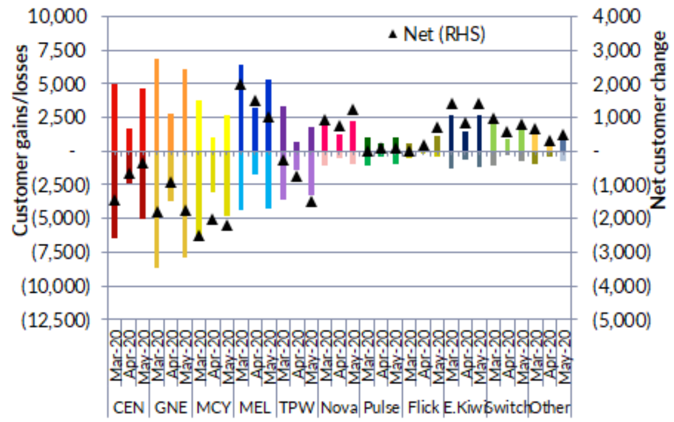
- MEL and GNE gained +1,305 and +434 connections respectively in May 2020, and were the only two big retailers to gain connections over the month. MCY again had the worst month, losing -1,785 customers, making it 27 consecutive months of losses. TPW and CEN lost -952 and -262 respectively.
- Of the tier two retailers Electric Kiwi gained the largest number of customers, with an extra +1,617 in May 2020. However, Nova, Switch Utilities, Pulse Energy and Flick Electric all also gained customers over the month. Flick Electric added +733 customers, which is well above its +186 customers added in April, possibly reflecting its new advertising campaign continuing to gain traction.
- MEL was also the only large retailer to gain customers through switching (which excludes market growth), gaining +1,033 connections in the May.

Figure 36. Cumulative 12-mth electricity customer gains/losses



Source: EA, Forsyth Barr analysis

Figure 37. Customer switches (excludes market growth)

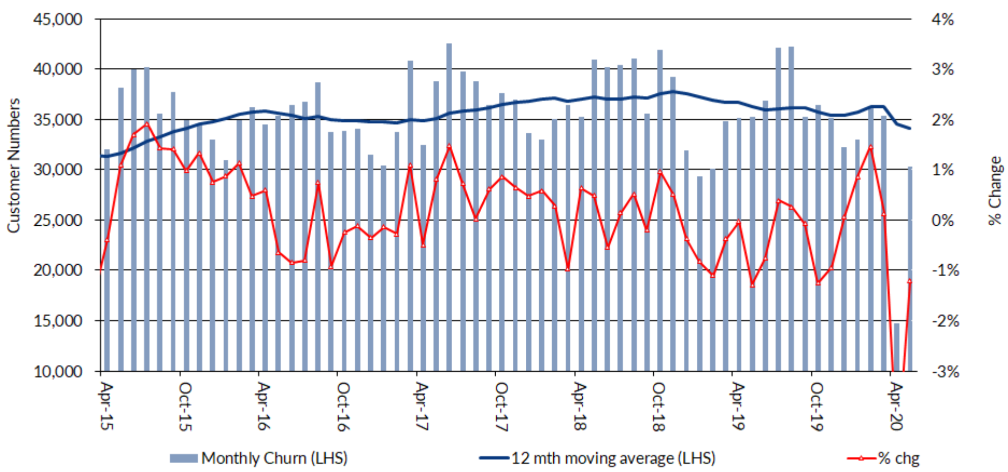


Source: EA, Forsyth Barr analysis

Connection churn

- Customer switches bounced back to ~30,000 in May 2020, up +105% from April, although April was down due to New Zealand's Alert Level 4 lockdown. ~30,000 is still down -14% on the pcp, showing switching numbers are yet to fully recover.
- The percentage of switches from moving retailers is broadly back in line with the 12-month average at 70%. This is a good bounce back from April's value of 53%, although April was the lowest recorded since March 2014.

Figure 38. Electricity connection churn



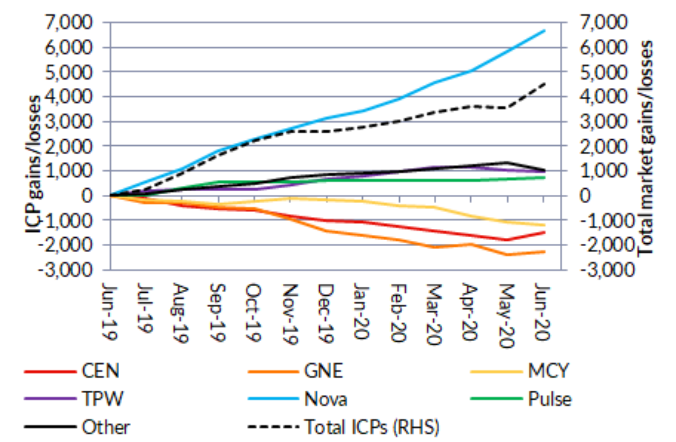
Source: EA, Forsyth Barr analysis

Retail gas customers

MCY and TPW only big gas retailers to lose customers

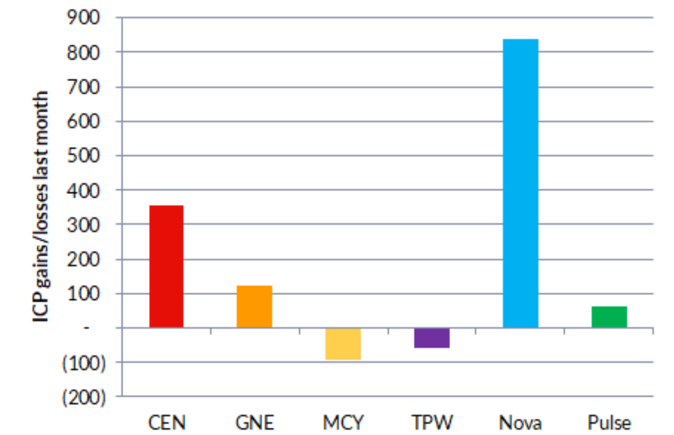
- CEN and GNE had the best month of the big retailers, gaining +355 and +122 gas connections respectively. TPW and MCY both lost customers in June, with TPW having -58 and MCY having -93 fewer connections at the end of June. Nova again had a big month of gains, adding +837 gas connections in June. This brings the total 12-month gains for Nova to +6,658. Pulse Energy also had a good month adding +61 connections, while Switch Utilities was largely flat, losing -5 since May.
- Since June 2019 TPW is the only of the big retailers to have gained connections, with +976 added over the 12-month period. GNE has lost the most with -2,268 less, while CEN and MCY have lost -1,464 and -1,188 connections over the year respectively.

Figure 39. Gas connection gains/losses over the past 12-months



Source: Gas Industry Co, Forsyth Barr analysis

Figure 40. Gas connection gains/losses in June 2020



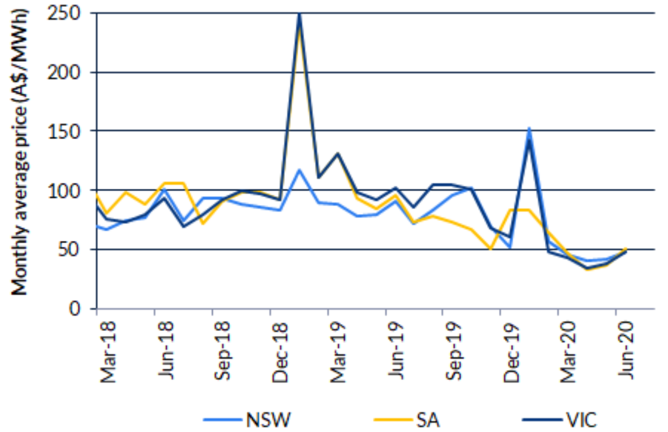
Source: Gas Industry Co, Forsyth Barr analysis

Australian electricity market

Wholesale electricity prices remain low

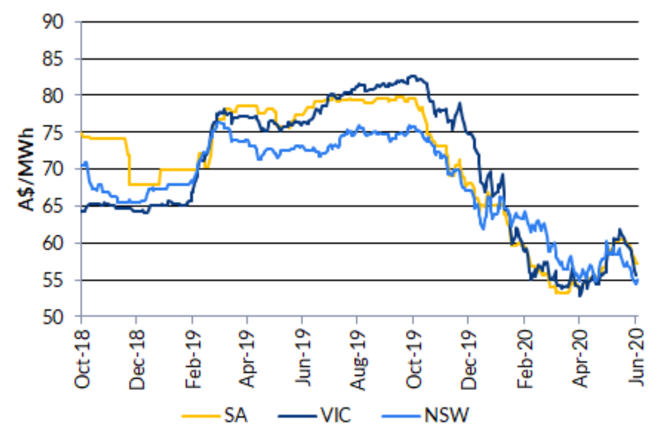
- NSW, SA and VIC wholesale electricity prices were all down sharply on the pcp, down -47%, -47% and -52% respectively. NSW prices were the flattest month to month, averaging A$48.1/MWh throughout June, which is up +15% on a low price May. SA and VIC wholesale electricity prices averaged A$50.3/MWh and A$48.7/MWh over the month, which, although down materially on the pcp, are up +35% and +27% on the prior month respectively.
- FY21 futures were all down in June, with NSW futures down -6% to sit at A$55.1/MWh on 30 June and experiencing the largest decline. SA and VIC futures were down -3% and -5% to end the month at A$57.2/MWh and A$55.5/MWh respectively.

Figure 41. Australian wholesale electricity price (A$/MWh)



Source: AEMO, Forsyth Barr analysis

Figure 42. Australian FY21 futures prices (A$/MWh)

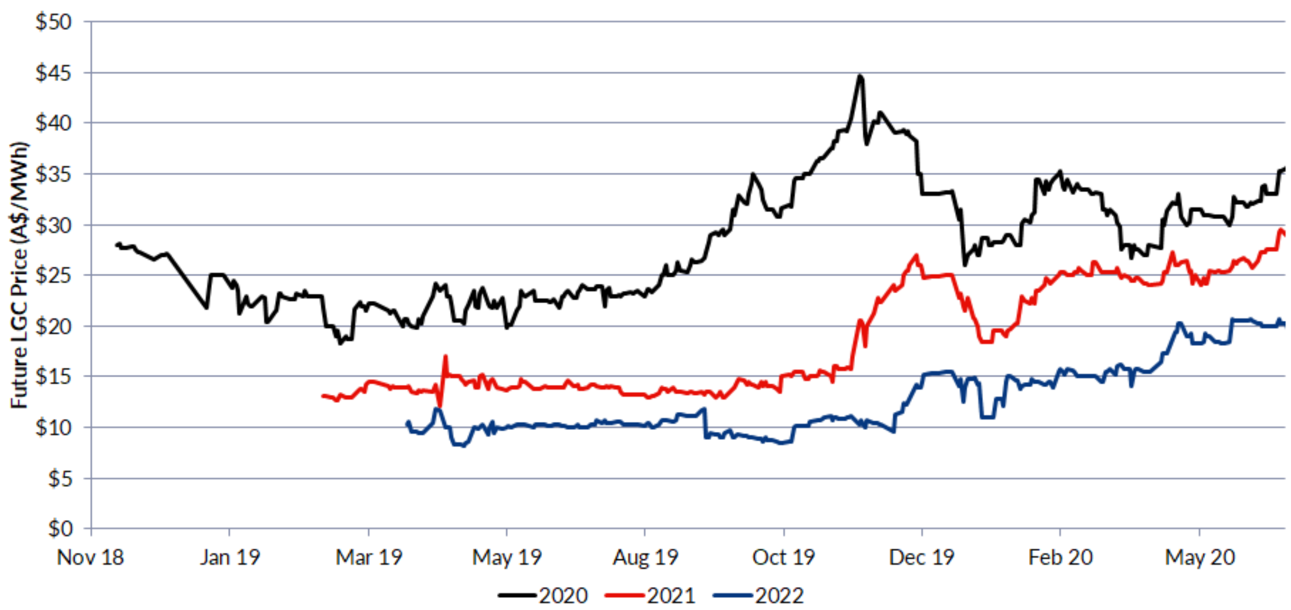


Source: Thomson Reuters, Forsyth Barr analysis

Renewable energy certificates (LGC) spot prices bounce back

- Spot LGC prices bounced back in June, to end the month +23% up from the end of May, currently sitting at A$40/MWh. Spot prices peaked at A$41/MWh late in the month.
- 2021 LGC prices were also up +13% over the month, increasing from A$26.5/MWh to A$30.1/MWh, the highest 2021 LGC prices since early January 2020. 2022 prices also rose slightly, up +1.5% from May, to end the month at A$20.6/MWh.

Figure 43. Renewable energy certificate prices (LGC)



Source: Bloomberg, Forsyth Barr analysis

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Key statistics

New Zealand electricity market statistics

Figure 44. Key statistics — New Zealand

	Jun-19	May-20	Jun-20	% Chg pcp	% Chg mom
Average Monthly Prices					
OTA avg ($/MWh)	$ 115.1	$ 133.6	$ 162.5	41.2%	21.6%
HAY avg ($/MWh)	$ 101.0	$ 120.7	$ 154.0	52.5%	27.6%
BEN avg ($/MWh)	$ 94.0	$ 112.8	$ 150.8	60.5%	33.7%
Avg Daily Generation (GWh)					
CEN	30.4	23.1	27.6	-9.1%	19.5%
% of NZ Generation	24.9%	20.4%	23.2%	-6.8%	13.6%
GNE	19.4	19.7	25.4	30.7%	28.7%
% of NZ Generation	15.9%	17.4%	21.3%	34.0%	22.3%
MCY	21.8	19.2	18.5	-14.8%	-3.7%
% of NZ Generation	17.8%	17.0%	15.6%	-12.7%	-8.5%
MEL	41.1	41.4	36.2	-12.0%	-12.6%
% of NZ Generation	33.7%	36.6%	30.4%	-9.8%	-16.9%
TPW	6.3	6.5	7.0	10.6%	7.1%
% of NZ Generation	5.2%	5.8%	5.9%	13.3%	1.8%
Daily Demand (GWh)					
Demand (excl Tiwai)	101.7	96.5	102.9	1.2%	6.7%
NZAS demand	14.3	13.5	13.6	-4.9%	0.3%
Total NZ Demand	116.0	110.0	116.5	0.5%	5.9%
Hydrology (% of average)					
Average hydro inflows	90%	86%	75%	-16.6%	-13.3%
Average hydro storage	121%	97%	81%	-33.2%	-16.9%
Month end hydro storage	106%	88%	78%	-26.4%	-11.4%
ASX futures as at:	**28-Feb-19**	**29-May-20**	**30-Jun-20**		
Short-dated OTA	$ 139.1	$ 93.0	$ 116.5	-16.2%	25.3%
Long-dated OTA	$ 94.6	$ 89.4	$ 95.0	0.4%	6.3%
Short-dated BEN	$ 124.8	$ 82.2	$ 106.3	-14.8%	29.3%
Long-dated BEN	$ 84.6	$ 71.6	$ 78.4	-7.4%	9.5%

Source: NZX Energy, EnergyLink, Thomson Reuters, Forsyth Barr analysis

Australian electricity market statistics

Figure 45. Key Statistics — Australia

	Jun-19	May-20	Jun-20	% Chg pcp	% Chg mom
Average Monthly Prices					
NSW avg (A$/MWh)	$ 91.3	$ 42.0	$ 48.1	-47.3%	14.6%
SA avg (A$/MWh)	$ 95.7	$ 37.3	$ 50.3	-47.5%	34.9%
VIC avg (A$/MWh)	$ 101.8	$ 38.3	$ 48.7	-52.2%	27.1%
Electricity Futures for FY21:	**1-Jul-19**	**29-May-20**	**30-Jun-20**		
NSW avg (A$/MWh)	$ 72.4	$ 58.7	$ 55.1	-24.0%	-6.1%
SA avg (A$/MWh)	$ 77.9	$ 59.1	$ 57.2	-26.6%	-3.2%
VIC avg (A$/MWh)	$ 76.2	$ 58.4	$ 55.5	-27.2%	-5.0%
Spot and Future LGC Prices	**30-Jun-19**	**31-May-20**	**30-Jun-20**		
2020 (A$/MWh)	$ 23.5	$ 32.3	$ 40.0	70.2%	23.8%
2021 (A$/MWh)	$ 14.6	$ 26.5	$ 30.1	105.8%	13.4%
2022 (A$/MWh)	$ 10.0	$ 20.3	$ 20.6	105.5%	1.5%

Source: Bloomberg, AEMO, Thomson Reuters, Forsyth Barr analysis

Industry news

Listed sector company news

Contact (CEN)

- CEN has supported Transpower's decision to move ahead with the Clutha Upper Waitaki Lines Project (CUWLP) saying it will help move renewable generation from the South Island northwards in high inflow events, and will ultimately help accelerate the electrification of the country and boost employment. In a submission to Transpower, CEN highlighted that climate change is leading to increased volatility in hydro flows and therefore poorer use of storage, and CEN believes the CUWLP will help alleviate this.
- CEN's Tauhara geothermal expansion is moving forward, with an early works contract having been signed by both CEN and Sumitomo Corporation for the development of the NZ$600m, 150 MW power station. CEN's CEO Mike Fuge has said that the development is "technically shovel-ready" and that the final investment decision will be made when the market conditions are right to do so. CEN currently operates the 23 MW Te Huka plant on the Tauhara geothermal field.
- Energyclubnz is exiting the market, with its 11,600 energy customers being sold to CEN. Energyclub cited a number of factors for exiting, including the impact of COVID-19 as well as the continued volatility in the wholesale electricity market. CEN has said there will be no impact on energyclubnz customers as a result of the switching. CEN acquired the customers for a very good price.
- The Electricity Authority (EA) has found that CEN's behaviour did not constitute an Undesirable Trading Situation (UTS), deeming that its behaviour did not cause outcomes significant enough to warrant a UTS.

Genesis (GNE)

- GNE has made a third Rankine unit available at its Huntly Power Station, due to both low hydro inflows and recent production concerns at the Pohokura gas field. Unit 2 had been in storage, but GNE had it recertified in late December 2019/January 2020 in case there was supply disruptions due to the planned HVDC repairs and outages at the Pohokura and Ahuroa gas facilities. We suspect the extra Rankine unit is as much to cover GNE's retail load during peak demand periods as anything else.

Mercury (MCY)

- MCY downgraded FY20 EBITDAF -NZ$10m on 26 June to NZ$480m due to a -100GWh reduction in forecast generation due to continued dry weather conditions in the Taupo catchment.
- MCY has said that the CUWLP should not be progressed until there is a decision made around the Tiwai point aluminium smelter, and that if NZAS continues to operate there is no need for a full scale CUWLP. Highlighting that there has been no major South Island generation developments since the initial industry consultation in 2013, MCY said that the first approval of the CUWLP by the EA was driven by forecasts for major generation projects.

Meridian (MEL)

- The Electricity Authority's (EA) preliminary view is that MEL's wholesale electricity market bidding behaviour in early December resulted in more water being spilled than necessary and that wholesale electricity prices were higher than they should have been.

Vector (VCT)

- VCT has announced that Jonathan Mason will be the new chair following Dame Alison Paterson retiring at the 2020 Annual Shareholder Meeting this September. Mason has been a director on Air New Zealand, Westpac New Zealand and Zespri.

Political / regulatory news

- The EA's new transmission pricing methodology (TPM) guidelines see a switch to a benefit-based model, and is expected to come in to effect in April 2023. As expected NZAS and MEL are the biggest winners from the decision and MCY and VCT the biggest losers in the new model. For more information please refer to our note, *Electricity Sector: The Beginning of the End — TPM decision made* published on 11 June 2020.
- The EA has received a proposal from the big five generator/retailers, as well as Nova Energy and Pioneer Energy, on an incentive based scheme for exchange traded products. The proposal is a result of the EA asking the seven generator/retailers to find a market-making scheme following the recommendation by the Electricity Price Review Panel to impose a mandatory market-making scheme on vertically integrated companies if the industry could not develop its own. The proposal outlines that the gentailers would provide exchange traded forward energy pricing products and that beneficiaries (retailers who don't own generation) would pay for them.

Other industry news

- MBIE has released data on New Zealand's gas reserves as at 1 January 2020, reporting that total reserves have declined by close to -0.8% from 2,037 PJ at the start of 2019 to 2,021 PJ. This is largely a result of the Pohokura gas reserves declining from 714 PJ to 498 PJ, a ~-217 PJ reduction. Todd Energy's Mangahewa field reserves increased from 399 PJ to 450 PJ over the 12-month period, and Todd drilled six new wells in the field in 2019. OMV's Maui also had its reserves increased from 104 PJ to 142 PJ, as did Todd's Kapuni field (143 PJ to 197 PJ), Greymouth Petroleum's Turnagi Field (277 PJ to 286 PJ) and Beach Energy's Kupe Field (256 PJ to 286 PJ).
- The Pohokura gas field has been experiencing problems, with an unexpected outage on Monday 29 June following a report from Pohokura operator OMV that production rates were declining faster than expected. The plant is now back operating at normal rates and OMV reported to the Gas Industry Company that the impact of the outage on the day was 40 TJ.
- Ahuroa gas storage facility had a planned extraction outage from 29 June to 2 July as reported by operator Flexgas. The reduction will be 45 TJ a day for four days.
- The hydrogen project being developed by the New Plymouth District Council and being supplied by Hiringa Energy has won a ~ $37m grant from the government. The grant will be used to replace a thermal drying facility used by the council to process sewage bio-solids into household fertiliser.
- Kaimai Wind Farm has announced it is seeking support through the COVID-19 Recovery Fast track Consenting Bill for its project near Paeroa, citing in its submission that the project fits the government's zero carbon and economic recovery goals. The company aims to install 24 wind turbines over 1,304 hectares of farmland in the Kaimai Ranges.
- WEL Networks' not-for-profit retail brand OurPower has added +1,061 customers in FY20, bringing the total to 1,509 as at 31 March. OurPower aims to provide cheaper power to Waikato residents in low socio-economic groups and is aimed at the "power poor" as WEL attempts to reduce energy hardship in the region.
- Real annual average electricity prices in New Zealand fell -1.8% in FY20 to NZ29.11c per KWh compared to NZ29.63c per KWh in FY19. The MBIE data shows that this is the lowest prices have been since 2012 when prices averaged NZ28.68 c per KWh. The average annual power bill has also fallen to NZ$2,067 a year, the lowest it has been in real terms in 11 years. The Electricity Retailers' Association puts the decline in prices down to the increased competition in the market.
- Consumer NZ's annual electricity retailer customer satisfaction survey has found that smaller power companies have the highest customer satisfaction. Flick Electric had a 76% satisfaction rating, with Nova Energy and Electric Kiwi close behind on 74% and 71% respectively. Flick Electric and Electric Kiwi were also joint winners of the Most Satisfied Customers award from Canstar in the category of electricity providers. The average customer satisfaction rating was 52% and the survey found that cost of electricity was a major concern of customers.
- The Ministry of Transport (MoT) has indicated that the electrification of road freight faces large barriers including high upfront costs, uncertainty around the reliability of electric vehicles, as well as more than half of heavy trucks belonging to small fleets with relatively restricted capital. It also highlighted that the industry is highly price competitive with low profit margins and that government investment and targeted policy will be required to enable the transition to electric vehicles.

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