FORSYTH BARR

NEW ZEALAND EQUITY RESEARCH

4 MARCH 2021

Power Points
Drying Out — March 2021

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Wholesale electricity market conditions are tight, with gas availability issues and well below average hydro storage lakes pushing the February 2021 average wholesale electricity price at Otahuhu to NZ$238/MWh, the third highest on record. As a result the earnings outlook for FY21 is more uncertain than usual, although Genesis Energy (GNE) is in the best position, with all of the other three large generator/retailers facing downside earnings risk if hydro conditions stay dry. The key take-out from the recent 1H21 results season is that we are moving from a "returning cash to shareholders" phase to a "building" phase requiring more capital. Contact Energy (CEN) and Meridian Energy (MEL) both announced new builds (as expected), had lower dividends and indicated the possibility of commencing a dividend reinvestment plan at the FY21 result.

Figure 1. Summary company valuation metric

					FY21			
Company	Price	Target price	Target return	Rating	EV/EBITDA	PE	Gross Yld	EBITDAF
CEN	$7.03	$8.40	24.6%	OUTPERFORM	12.6	19.4	6.2%	481
GNE	$3.75	$3.85	7.3%	OUTPERFORM	14.5	24.6	6.1%	419
MCY	$6.30	$5.75	-5.9%	UNDERPERFORM	19.2	29.5	3.7%	512
MEL	$5.89	$5.10	-10.5%	UNDERPERFORM	23.9	38.6	3.8%	701
TLT	$6.44	$5.00	-22.4%	NEUTRAL	32.5	46.4	0.0%	79
TPW	$8.42	n/a	n/a	RESTRICTED	n/a	n/a	n/a	n/a

Source: IRESS, Forsyth Barr analysis

February a sign of things to come

February saw a sharp rise in wholesale electricity prices as a result of ongoing gas shortages and hydro storage volumes declining. Hydro storage levels of ~70% of average are roughly the same as in 2008 and 2012, the last significant dry years. With the market under stress, the wholesale electricity price at Otahuhu averaged NZ$238/MWh, close to levels last seen in the price spike of October 2018. Average daily electricity demand was -2.0% lower than the pcp. Of the large generator/retailers, GNE appears to be in the best position to benefit with it gradually making a third Rankine unit available. February Rankine generation was the highest monthly total since May 2013. Soft hydro generation for CEN and MEL point to a weak February performance.

Solid 1H21 reporting season wrap

The large generator/retailers reported a strong set of 1H21 results, with total sector EBITDAF up +6% on 1H20. The only laggard on the prior year was MEL which was cycling a record 1H20, whilst Mercury (MCY), GNE and CEN benefitted from rising retail prices. Despite the strong earnings, sector dividends were down on both the prior year, with MEL having ceased its "special" dividend and CEN resetting its dividend -10% lower. These dividend resets coincided with MEL and CEN confirming new generation builds and CEN raising NZ$400m of equity.

Sector yields still look skinny despite share price falls

Whilst the average sector gross dividend yield rose +70 basis points to 5.4%, due to share prices falling -11% on average, the yield increase matched the rise in long-term interest rates. As a result the spread between the 10-year swap rate and the average sector yield is unchanged at 3.5% and still well below the long-term average of ~5.0%. Therefore, if interest rates stabilise at current levels, we expect further short-term weakness in the electricity stocks.

Forsyth Barr Limited is Trustpower's Financial Advisor on the strategic review of its retail business and will receive fees in connection with this role.

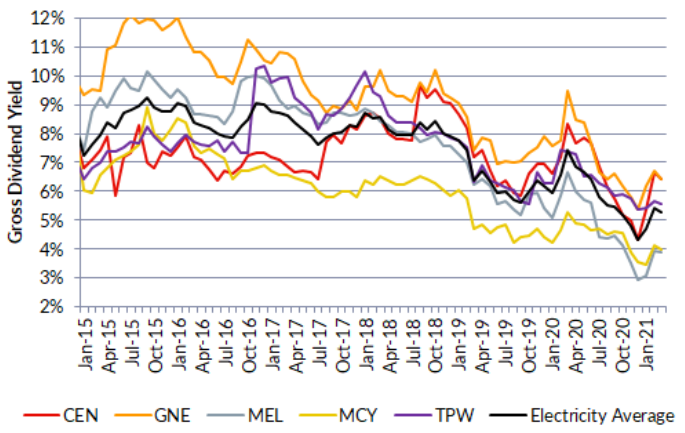
Yield spreads unchanged with share prices falling as fast as interest rates rise — updating the sector yields

February 2021 was a dramatic month for the electricity stocks. All dividend yields improved courtesy of falling share prices, with CEN, MCY and MEL all declining more than -10%. The average sector gross dividend yield lifted from 4.7% at the end of January to 5.4% to the end of February (although early March trading has seen yields dip slightly to 5.3%).

Whilst gross dividend yields have improved, the spread to the 10-year swap rate is unchanged at 3.5%. The 10-year swap rate lifted from 1.2% at the end of January to 1.8% currently. The spread of 3.5% is still well below the long-term average of ~5.0% and below 4.0% which was the floor until November 2020. We see downside risk to share prices if interest rates hold at current levels.

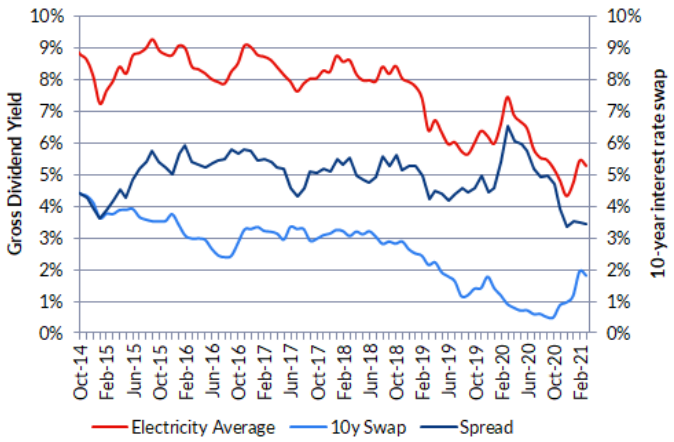
Looking at the generator/retailers purely from a yield perspective, our preference is CEN. It offers a sector high gross dividend yield of 6.4% and has better dividend growth prospects than all of the generator/retailers except MCY. MEL is the least attractive from a yield perspective – not only is the gross dividend yield a sector low at 3.9%, but growth prospects are muted in the near term.

Figure 2. Electricity sector yields



Source: Forsyth Barr analysis

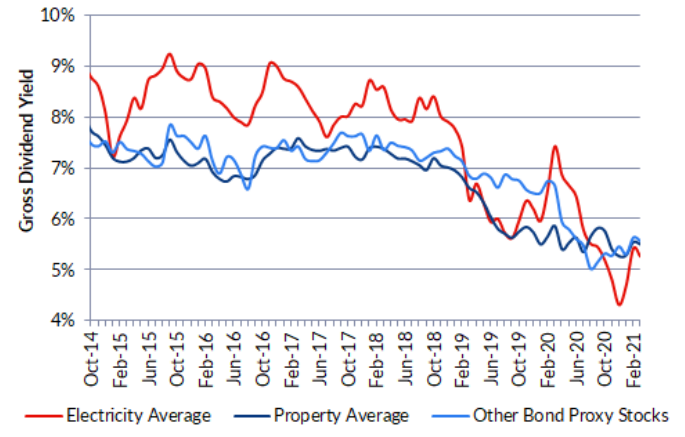
Figure 3. Electricity sector yield vs. 10 year swap rate



Source: Forsyth Barr analysis

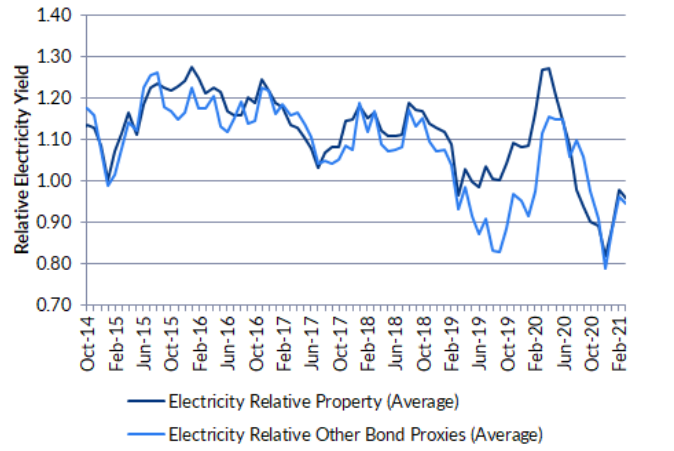
Relative to property stocks and other bond proxy stocks (CNU, SPK and VCT) electricity yields have risen faster and are now offering better value. That said, the average electricity sector dividend yield is still lower than the property sector and bond proxy averages.

Figure 4. Electricity yields vs. property and other bond proxies



Source: Forsyth Barr analysis

Figure 5. Relative yields



Source: Forsyth Barr analysis

Two weeks to go to S&P Global Clean Energy Index rebalance

There is a little over two weeks before the S&P Global Clean Energy Index (GCE Index) rebalance takes place. The rebalance date is Friday 19 March.

Since our report *Electricity Sector, Index Weighting Changes Confirmed* published 15 February 2021, the number of MEL and CEN shares held by the ETFs that track the GCE Index has remained largely unchanged. However, based on updated liquidity weightings we see an increase in the number of shares required to be sold, with CEN shares to be sold of ~58m (vs. ~55m in Feb) and MEL shares to be sold of ~82m (vs. ~78m in Feb). Based on the latest information, we estimate the following selling in CEN and MEL:

Figure 6. Estimated changes to holdings

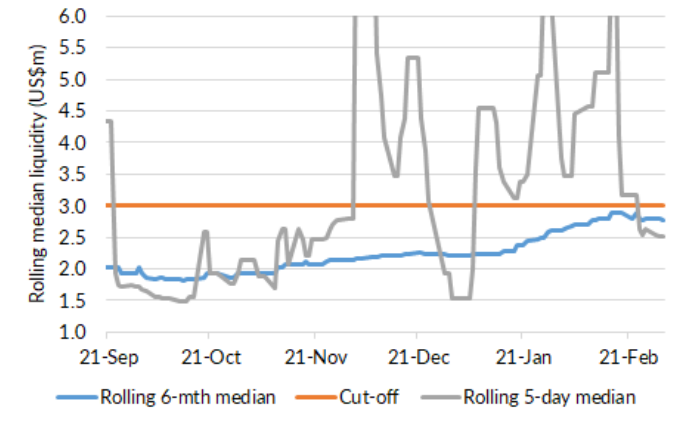
	Current position	Estimated position under new GCE Index rules	Movement	
GCEI weighting				
CEN	3.7%	1.2%	-2.5%	
MEL	4.3%	1.3%	-3.0%	
Shares owned by ETFs (m)				**Movement as a % of Free Float**
CEN	86	28	-58	7.5%
MEL	119	37	-82	6.5%

Source: ICLN, INRG, Eikon, Forsyth Barr analysis

MCY unlikely to meet liquidity threshold, although it got close

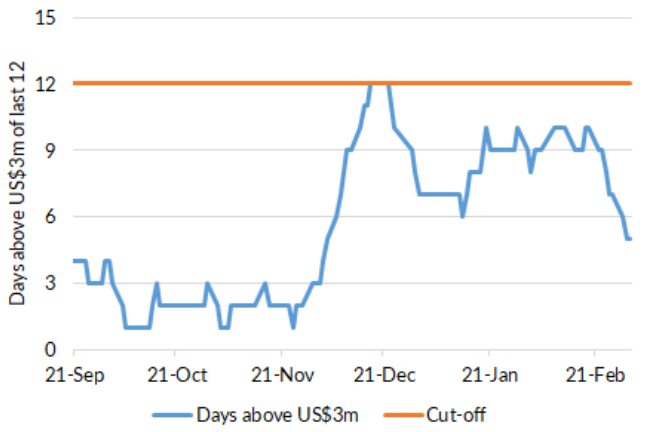
We estimate MCY has little chance of achieving the minimum liquidity requirements. The new liquidity rules have made it harder for MCY to enter the GCE Index. However, aiding MCY since December has been the strengthening of the NZDUSD exchange rate and GCE Index induced trading in CEN and MEL that has also increased trading volumes in MCY. As a reminder, MCY's six-month median daily liquidity must exceed US$3m. We currently estimate MCY's median liquidity since 21 September 2020 (the first date to be included in the six-month weighting) is US$2.8m. More importantly, we estimate all 12 of the remaining 12 trading days to 19 March must be above US$3m, a rate that MCY has not achieved in 2021, but managed briefly in mid-December 2020.

Figure 7. MCY liquidity vs US$3m threshold



Source: IRESS, Forsyth Barr analysis

Figure 8. Days above US$3m threshold



Source: IRESS, Forsyth Barr analysis

VanEck setting up ETF to track GCE Index

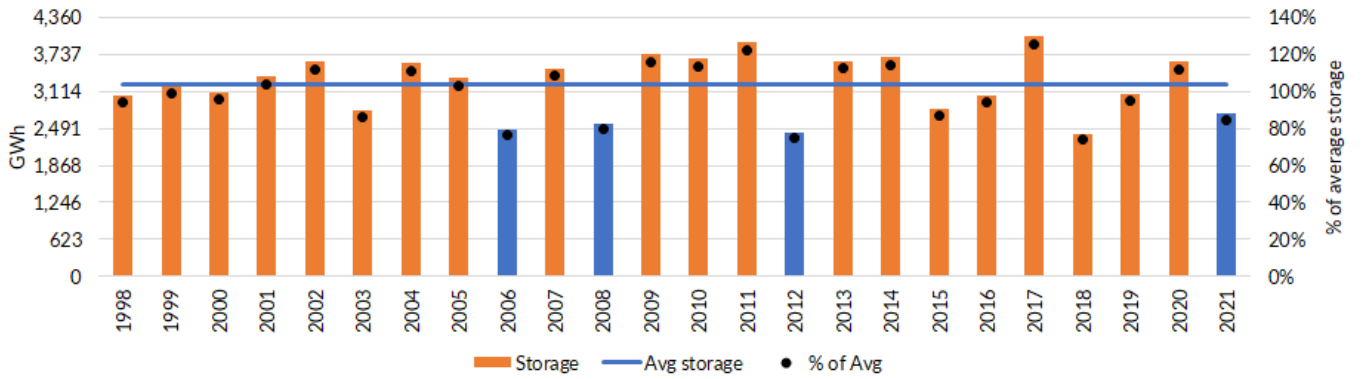
VanEck announced in mid-February 2021 that it intends to launch the VanEck Vectors Global Clean Energy ETF (will trade as CLNE on the ASX), that will track the GCE Index. VanEck indicated it will start trading in the coming weeks, and we assume it will wait for the GCE Index rebalance. We don't expect significant demand from this new ETF (VanEck's other sustainable ETFs have total funds of A$150m), but it does highlight the trend and after the GCE Index reweighting, the tracking ETFs are likely to be supportive for CEN & MEL.

Hydro storage lake levels continue to dry up

FY21 earnings outcomes are wider than normal for this time of year due to falling hydro generation storage in both islands. If conditions remain dry, CEN, MCY and MEL all face downside risk. GNE is the only large generator/retailer with upside as it is the only large generator able to be long generation (mainly due to it making its third Rankine unit available). We expect the other large generator/retailers to match generation to sales book as closely as possible. CEN is the only other listed generator with thermal generation, however, it has gas supply issues and current gas storage volumes are also limited.

Hydro storage conditions continue to dry up, and per EnergyLink data, as of Thursday, 25 February New Zealand storage levels were ~74% of average and MEL's storage levels were ~66% of average. Over the past 20+ years, there are only three other years that show a similar hydro pattern for this time of year — 2006, 2008 and 2012. 2008 conditions steadily worsened from early March onwards, whereas 2006 and 2012 storage levels never fell below 65% of average.

Figure 9. Hydro storage at this time of year historically



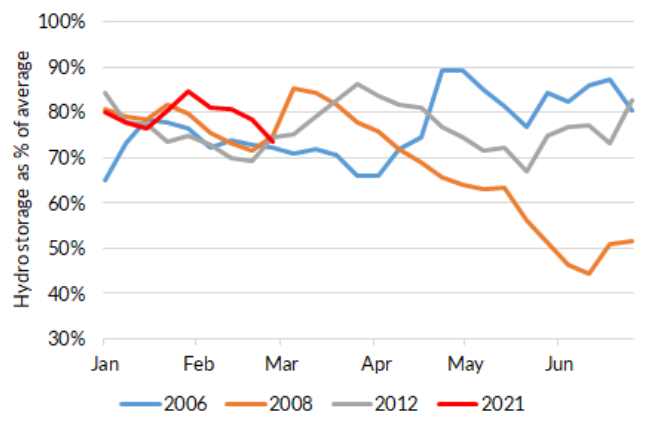
Source: Energylink, Forsyth Barr analysis

Whilst wholesale electricity prices were very similar between 2008 and 2012, 2021 is showing a very different trajectory (spot the difference!). The average Otahuhu wholesale electricity price for the past week was NZ$337/MWh, +7% higher than the 2008 peak price and closing in on the NZ$390/MWh record set in October 2018. There are three key reasons for this:

1) Less thermal generation available. In 2012, there was effectively 1.5 extra Rankine units available (GNE's third Rankine unit is being made available gradually and can only be run overnight at present). In addition, Otahuhu and Southdown were still in the market (although on the flip-side, there is now 400MW of additional peaking gas plant built after 2012). All-up there is ~-550MW less thermal generation available than 2012 (or 2008).
2) There is less gas available, limiting the ability of the gas plant to replace the reduced hydro generation volumes.
3) Carbon prices are materially higher. In 2008 carbon pricing was in its infancy. In 2012 thermal generators only had to pay for 50% of the carbon emitted and the carbon price was less than NZ$5/tonne compared to the current price of NZ$39/tonne

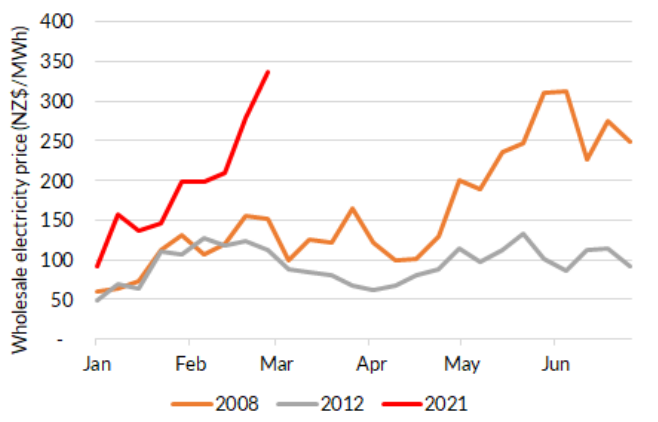
The very high wholesale electricity prices, in conjunction with uncertain hydro volumes, is the main factor behind why there is a wide range of possible earnings outcomes.

Figure 10. Average hydro storage levels



Source: Energylink, Forsyth Barr analysis

Figure 11. Wholesale electricity price



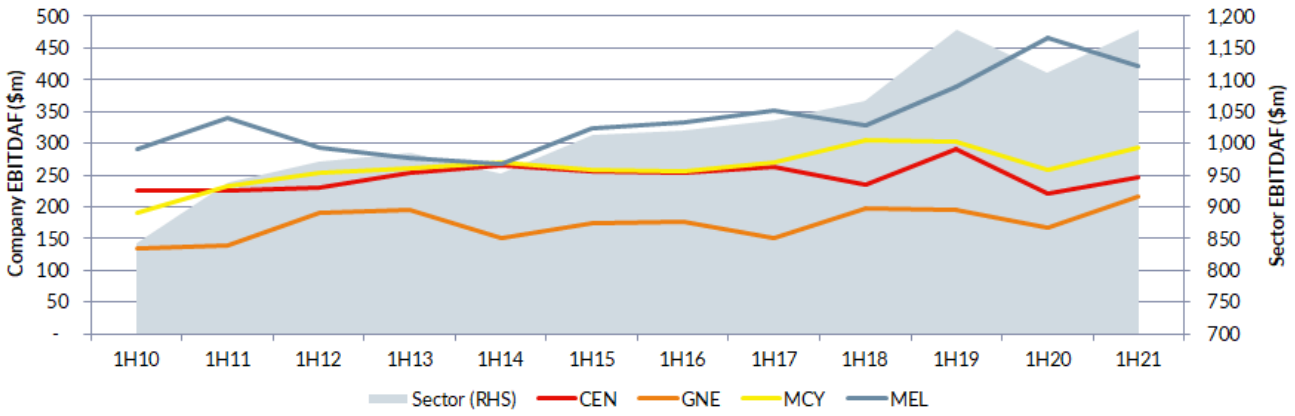
Source: NZX Energy, Forsyth Barr analysis

1H21 Reporting Season wrap

Strong 1H21 result across the board, with MEL the only generator/retailer to report lower operating earnings vs. 1H20

1H21 Sector EBITDAF increased +6% to NZ$1.18b, up from NZ$1.1b. The profitability increase came from all generator/retailers except MEL. CEN, GNE and MCY reported EBITDAF growth of +11%, +30% and +14% respectively. Whilst there was an element of suppressed earnings in 1H20 (particularly for GNE), the ongoing firm wholesale electricity prices have been the keen driver of the sector earnings uplift. MEL's comparatively weak 1H21 result (EBITDAF down -9%) was mainly due to it lapping a record high result.

Figure 12. Sector EBITDAF



Source: Company reports, Forsyth Barr analysis

Only positive earnings surprises, but dividends a little softer than expected

Relative to expectations, MCY delivered the result with the largest positive surprise, EBITDAF +NZ$26m (+9.7%) better than forecast. However, much of the outperformance came from "one-off" items that cannot be assumed will recur going forward such as a jump in Associate income (which in our view should be below EBITDAF in any case), gain on the sale of the US Hudson Ranch geothermal investment and a strong trading performance. GNE's result was a better quality outcome and CEN and MEL's operating result was in line with expectations (with both companies providing monthly operating updates enabling more accurate forecasting).

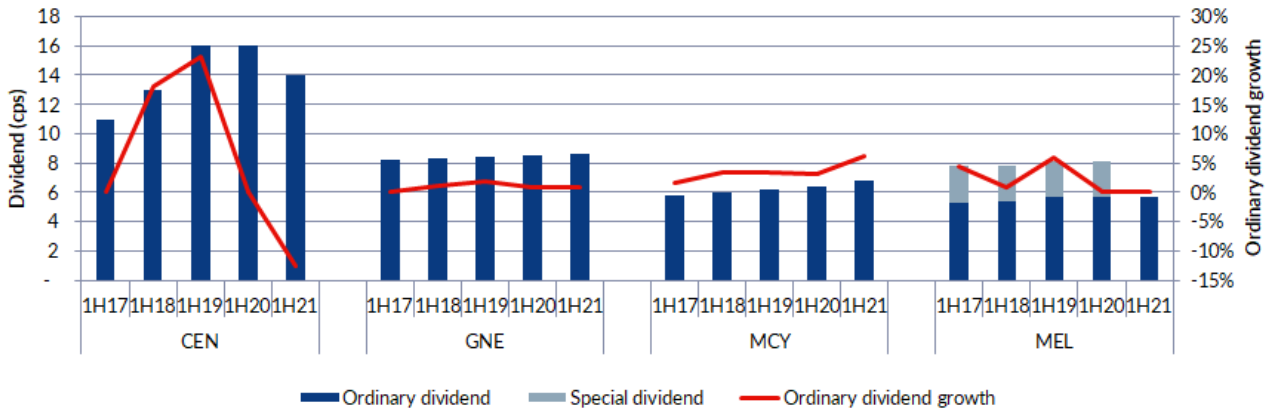
Figure 13. Forecast vs. actual 1H21 results

	EBITDAF					Dividend				
	1H20 Actual NZ$m	1H21 F'cast NZ$m	1H21 Actual NZ$m	Diff NZ$m	Diff %	1H20 Actual cps	1H20 F'cast cps	1H20 Actual cps	Diff cps	Diff %
CEN	221	246	246	-	0.0%	16.00	15.00	14.00	(1.00)	-6.7%
GNE	167	207	217	10	4.8%	8.525	8.65	8.60	(0.05)	-0.6%
MCY	258	268	294	26	9.7%	6.30	6.80	6.80	-	0.0%
MEL	465	422	422	-	0.0%	8.14	5.70	5.70	-	0.0%
Total ($m)	**1,111**	**1,143**	**1,179**	**36**	**3.1%**	**497**	**445**	**437**	**-8**	**-1.9%**

Source: Company reports, Forsyth Barr analysis

Whilst EBITDAF was stronger than expected, following the NZAS announcement CEN reset its dividend lower than expected at 14cps, vs. our 15cps forecast (albeit CEN has also undertaken an equity raise diluting the dividend it could pay). GNE was also a little more parsimonious than expected, although it has decided to suspend its dividend reinvestment plan (DRP), signalling it is comfortable with gearing levels. In contrast, both CEN and MEL indicated they are considering implementing a DRP at the FY21 result — signalling both companies are expecting to move into a long-term development phase (with both companies also announcing the go ahead for new development projects).

Figure 14. Sector dividends



Source: Company reports, Forsyth Barr analysis

Forecast changes weighted to the upside as high wholesale electricity prices continue to provide an earnings tailwind

The medium-term outlook for the sector is positive. Wholesale prices look like staying higher for longer which is providing a positive tailwind for the sector. In the short-term (i.e. FY21) there are some earnings risks to those most exposed to dry hydrological conditions. MEL and MCY are most exposed to dry South Island and North Island conditions respectively. GNE is the only generator/ retailer we expect to have earnings upside if conditions remain dry. Gas supply issues mean GNE's coal units will have to do more heavy lifting under a dry scenario. Its decision to make available for this winter its third Rankine coal/gas unit is a key factor.

Figure 15. Summary forecast changes

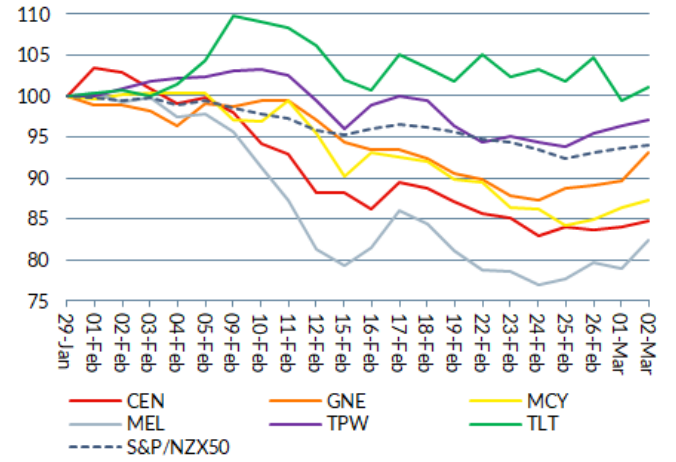
	FY21 Old	FY21 New	$m chg	% chg	FY22 Old	FY22 New	$m chg	% chg	FY23 Old	FY23 New	$m chg	% chg
CEN	456	481	25	5.4%	459	490	31	6.8%	463	499	36	7.8%
GNE	408	419	11	2.8%	437	441	4	0.9%	430	435	5	1.1%
MCY	538	512	(26)	-4.8%	569	591	22	3.9%	598	615	17	2.8%
MEL	714	701	(13)	-1.9%	742	741	(1)	-0.2%	758	756	(2)	-0.3%
Total	**2,116**	**2,113**	**(3)**	**-0.2%**	**2,207**	**2,263**	**56**	**2.6%**	**2,249**	**2,305**	**56**	**2.5%**

Source: Forsyth Barr analysis

Share market performance: February 2021

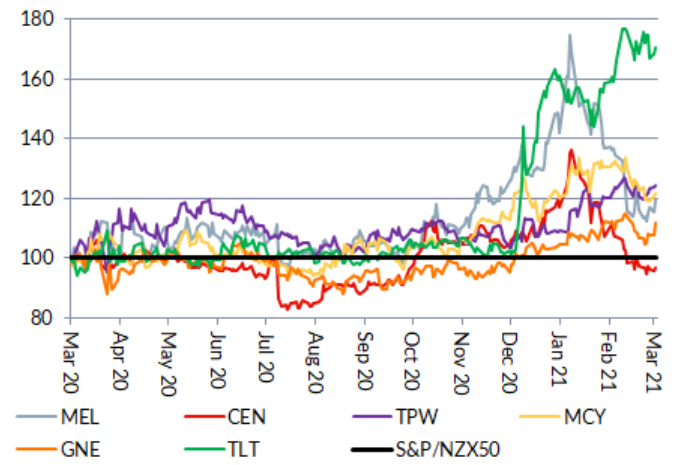
February 2021 was a weak month for the listed electricity stocks. TLT was only stock that ended above where it started, up +1.1% from the end of January to 2 March, and TPW was the only other company to beat the S&P/NZX50C, down -2.9% vs the index which was down -6.1%. MEL had the worst month, down -17.6%, whilst CEN and GNE were down -15.2% and -6.9% respectively.

Figure 16. Stock performance vs. S&P/NZX50C



Source: Thomson Reuters, Forsyth Barr analysis

Figure 17. 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. Whilst we continue to like the long-term outlook for the sector, we are conscious of increasing risks. Our preferred stocks are CEN and GNE (OUTPERFORM), whilst we rate TLT NEUTRAL and MEL and MCY UNDERPERFORM. We are RESTRICTED on TPW

Figure 18. EBITDAF multiples

			Target	Target		Mkt Cap	EBITDAF (x)		EBITDAF - capex (x)	
Company	Code	Price	Price	Return	Rating	$m	FY21	FY22	FY21	FY22
Contact Energy	CEN	$7.03	$8.40	24.6%	OUTPERFORM	5,030	12.6	12.4	15.0	14.6
Genesis Energy (excl Kupe)	GNE	$3.75	$3.85	7.3%	OUTPERFORM	3,535	14.5	13.9	17.2	16.4
Mercury	MCY	$6.30	$5.75	-5.9%	UNDERPERFORM	8,574	19.2	16.6	22.5	19.0
Meridian Energy	MEL	$5.89	$5.10	-10.5%	UNDERPERFORM	15,096	23.9	22.6	26.1	24.6
Trustpower	TPW	$8.42	n/a	n/a	RESTRICTED	n/a	n/a	n/a	n/a	n/a
Sector average							**17.0**	**15.9**	**19.7**	**18.3**
Tilt Renewables	TLT	$6.44	$5.00	-22.4%	NEUTRAL	2,423	32.5	23.3	37.2	25.6
Genesis Energy (incl Kupe)	GNE	$3.75	$3.85	7.3%	OUTPERFORM	3,913	12.2	11.6	14.0	13.2

Source: IRESS, Forsyth Barr analysis

Figure 19. PE multiples and dividend yields

	PE (x)		Adjusted PE (x)		Cash Div Yield		Gross Div Yield		Free Cash Flow Yield	
Company	FY21	FY22	FY21	FY22	FY21	FY22	FY21	FY22	FY21	FY22
Contact Energy	34.0	30.2	19.4	18.0	5.0%	5.2%	6.2%	6.6%	5.1%	2.6%
Genesis Energy (excl Kupe)	57.3	42.5	24.6	21.5	3.5%	3.6%	4.6%	4.9%	1.7%	2.0%
Mercury	46.0	40.6	29.5	26.7	2.7%	2.9%	3.7%	4.1%	1.9%	3.2%
Meridian Energy	70.7	62.3	38.6	35.9	2.9%	2.9%	3.8%	3.8%	2.1%	2.5%
Trustpower	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Sector average	**50.2**	**42.5**	**27.1**	**24.7**	**3.5%**	**3.7%**	**4.6%**	**4.8%**	**2.7%**	**2.6%**
Tilt Renewables	126.2	n/m	46.4	40.5	0.0%	0.0%	0.0%	0.0%	1.4%	5.9%
Genesis Energy (incl Kupe)	38.4	31.6	18.7	16.6	4.6%	4.7%	6.1%	6.3%	6.8%	7.6%

Source: IRESS, Forsyth Barr analysis

Note: In calculating the GNE excl Kupe multiples, the value of Kupe is assumed to be $225m. Debt and interest has been apportioned 5% to Kupe and 95% to Energy (in line with EV proportion) and dividend in line with adjusted NPAT.

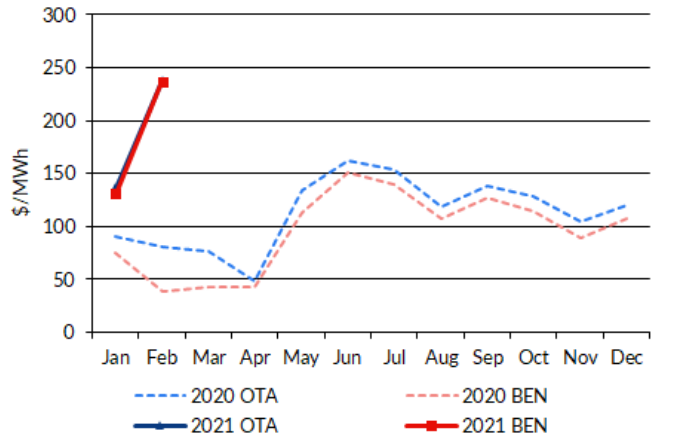
Wholesale electricity market: February 2021

Spot wholesale electricity prices and ASX futures

Wholesale prices up sharply

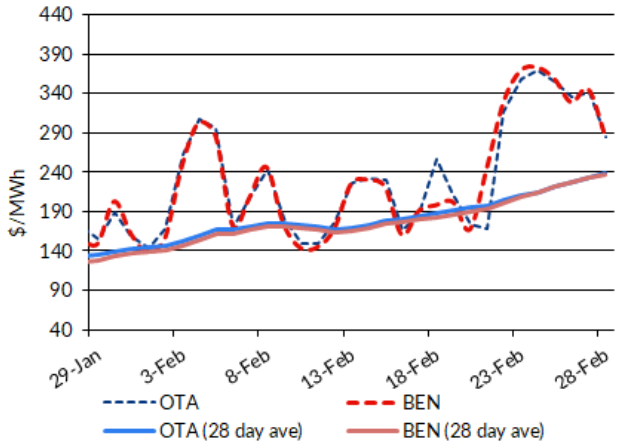
- Benmore (BEN) wholesale electricity prices averaged $238/MWh in February 2021, up over +500% on the pcp, and +81% on the prior month. Otahuhu (OTA) prices also shot up +195% on the pcp and +74% on January, to average $238/MWh in February.
- The price gap between the North Island (OTA) and South Island (BEN) was $1/MWh in February, the lowest since mid-2017.
- Electricity prices were volatile in February, with OTA prices bouncing between $144/MWh and $370/ MWh and BEN prices between $138/MWh and $374/MWh.

Figure 20. Average monthly wholesale electricity prices



Source: NZX Energy, Forsyth Barr analysis

Figure 21. Average daily wholesale electricity prices

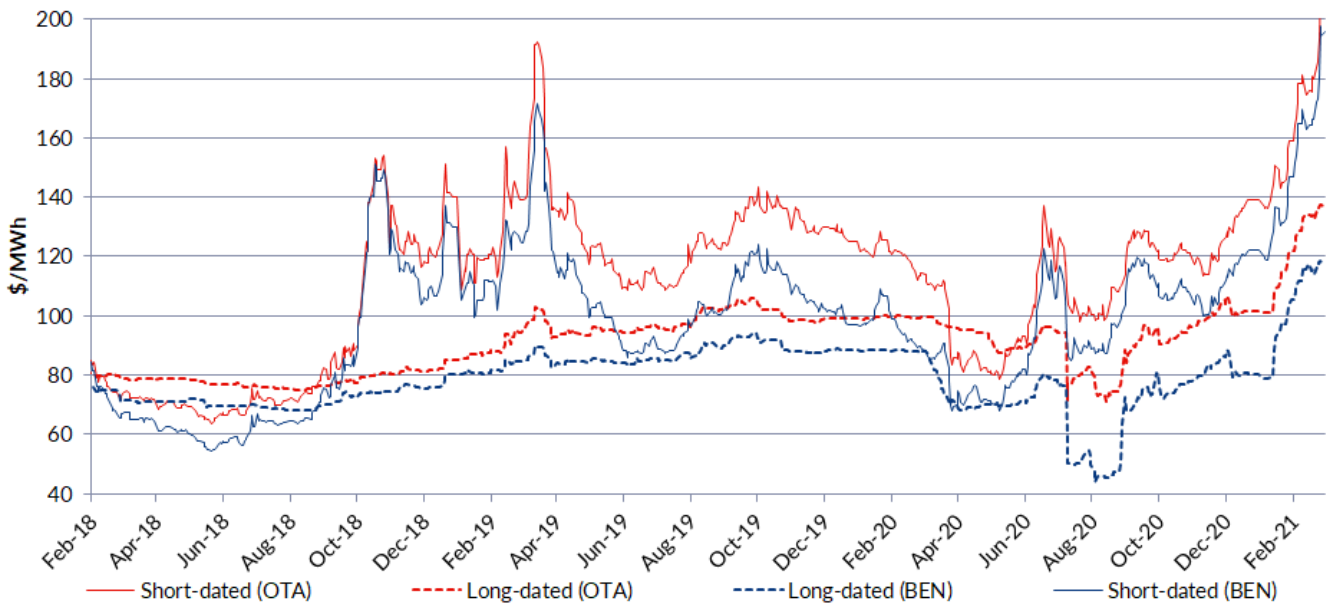


Source: NZX Energy, Forsyth Barr analysis

Futures at record highs

- Futures have risen sharply as a result of the low hydro storage levels as well as ongoing gas supply shortages. Short-dated BEN and OTA futures were up +32% and +30% in February 2021 to end the month at $207/MWh and $196/MWh respectively.
- Long-dated BEN futures were up +13% in February, sitting at $119/MWh, whilst long-dated OTA futures hit record highs at $137/ MWh.

Figure 22. ASX futures prices (last three years)



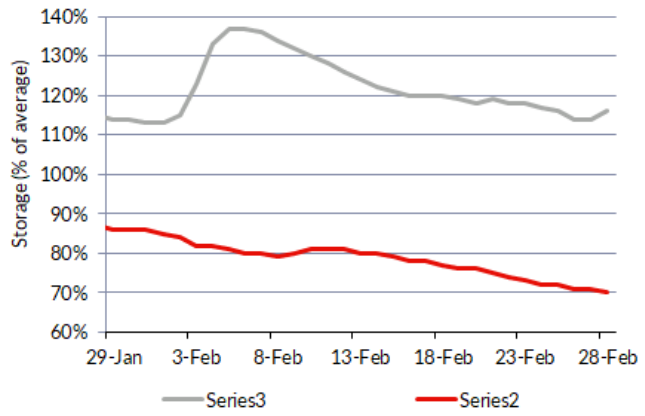
Source: Electricity Authority, Forsyth Barr analysis

Hydro storage volumes

Hydro levels continue to fall

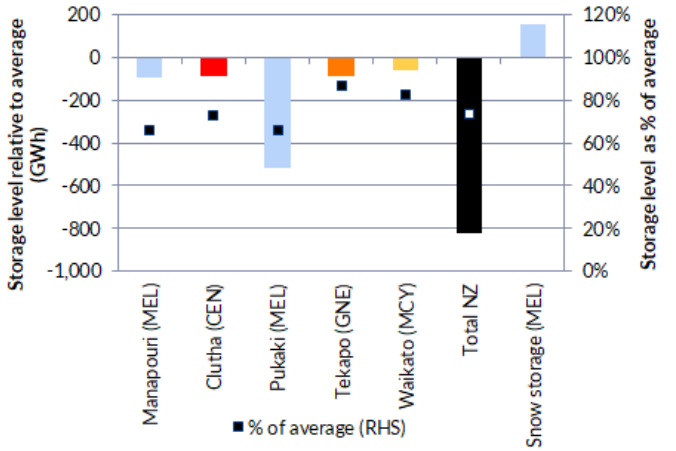
- Hydro lake storage levels have fallen to 70% of average for this time of year, with all major storage lakes below average. MEL's Manapouri and Pukaki storage lakes are the lowest at 66% of average, whilst GNE's Tekapo storage is the highest at 87%.
- MEL's estimate of its current snow storage is 243GWh, +153GWh above average for this time of year.

Figure 23. Average lake storage levels



Source: NZX Energy, Forsyth Barr analysis

Figure 24. Key storage lake levels relative to avg (as at 25 Feb)



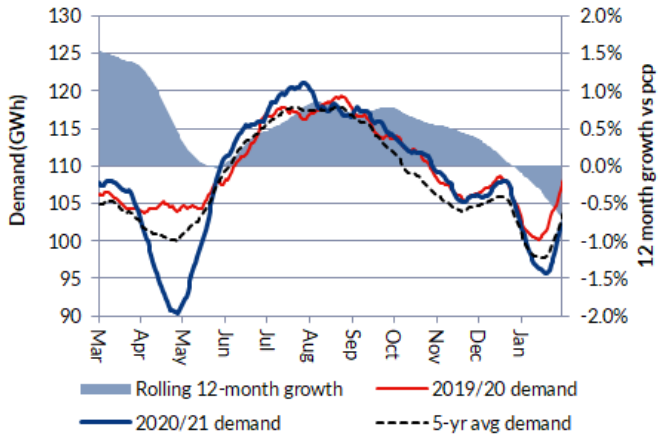
Source: EnergyLink, MEL, Forsyth Barr analysis NOTE: MEL snow storage at ~270% of avg

Demand and generation analysis

Demand down on prior year

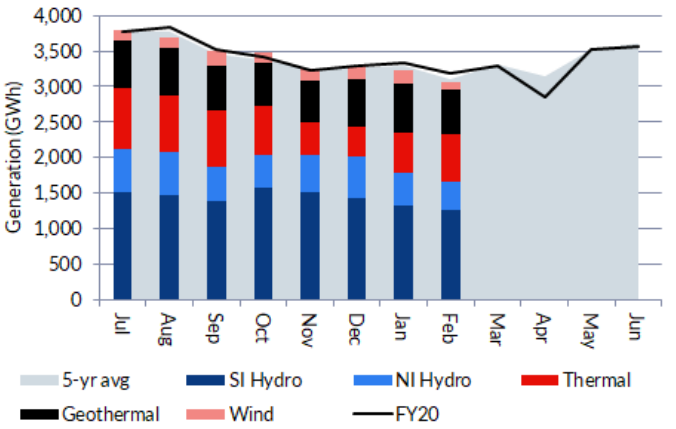
- New Zealand electricity demand averaged 105.6GWh/day in February, down -2.0% on the pcp. Tiwai demand decreased by -4.3% on the pcp as Potline 4 remains suspended.
- Total New Zealand generation of 3,069GWh in February 2020 was down -4% on the pcp. South Island hydro generation was down -16% on the prior year, whilst thermal, wind and North Island hydro generation all increased, up +16%, +14% and +6% respectively.
- Compared to the prior month thermal generation was up +37%.

Figure 25. Rolling 28-day avg demand & rolling 12-m growth



Source: EMI EA, NZX energy, Forsyth Barr analysis

Figure 26. NZ generation (by technology) — fiscal year to June



Source: Energylink, Forsyth Barr analysis

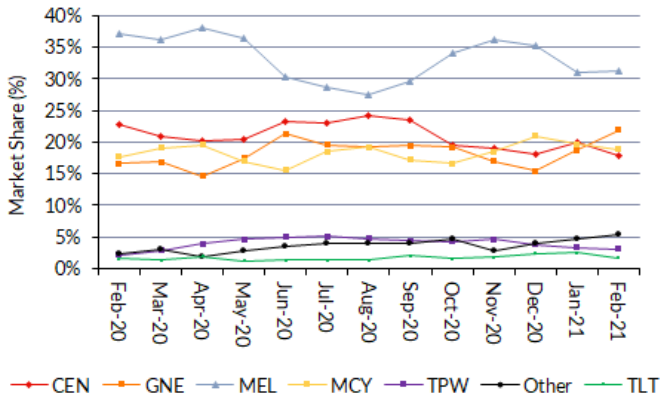
Generation market share — GNE benefits from dry conditions

- GNE gained +3.2% market share in February 2021 to total 21.9% (its highest market share since mid-2013) as a result of low hydro storage conditions. CEN's market share fell -2.1% to 17.9%, its lowest market share on record as its Clutha hydro generation dropped sharply and TCC remained switched off due to a lack of gas. TLT's generation market share fell -0.9% on the back of weak Tararua wind generation and MCY and TPW fell -0.9% and -0.2% respectively. MEL market share was up +0.3%.

CEN — Generation down on low hydro

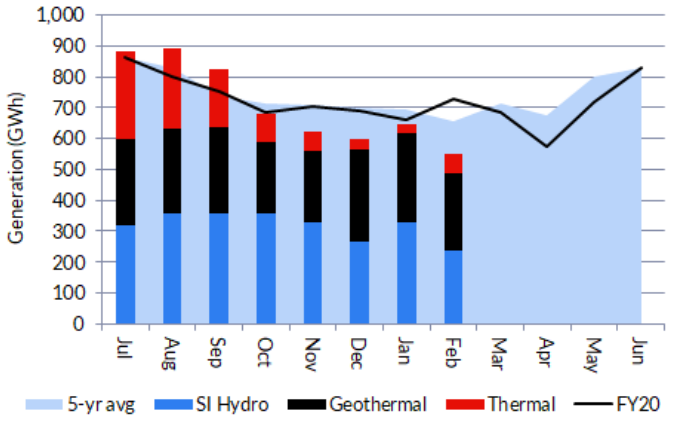
- Total CEN generation was 550GWh in February 2021, down -25% on the pcp and -20% on average. This drop came largely from CEN's Clutha hydro plant, which was down -30% on the pcp and -20% on the prior month (on an average daily generation basis). This comes as CEN is facing low hydro storage levels at Clutha, which is currently ~72% of average. CEN's Stratford Peaker thermal plant generation increased sharply in an effort to offset the hydro generation decline.

Figure 27. Monthly generation market share



Source: EnergyLink, Forsyth Barr analysis

Figure 28. CEN monthly generation mix (current, pcp & 5y avg)



Source: EnergyLink, Forsyth Barr analysis

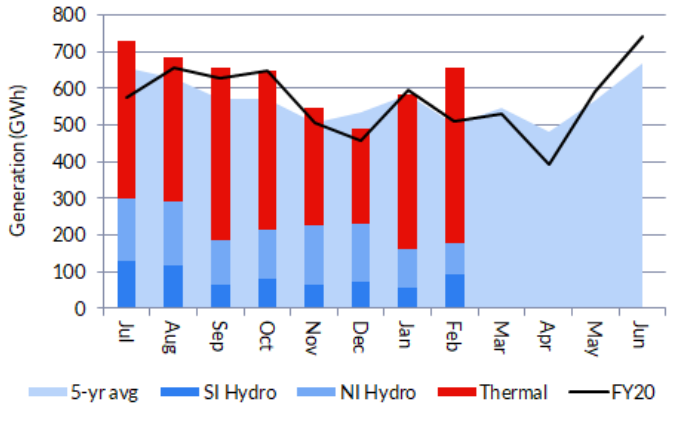
GNE — Huntly Rankine Units generation up sharply

- GNE's average daily generation in February was up +23% on the prior month and +12% on the pcp. This rise in generation on January 2021 comes from GNE's Huntly Rankine Units generation increasing +63% per day as well as GNE's South Island hydro (Tekapo) increasing +82% per day. GNE has announced it will bring online a third Rankine Unit as a result of the dry hydro storage conditions and gas shortages coming into winter.

MCY — Solid February

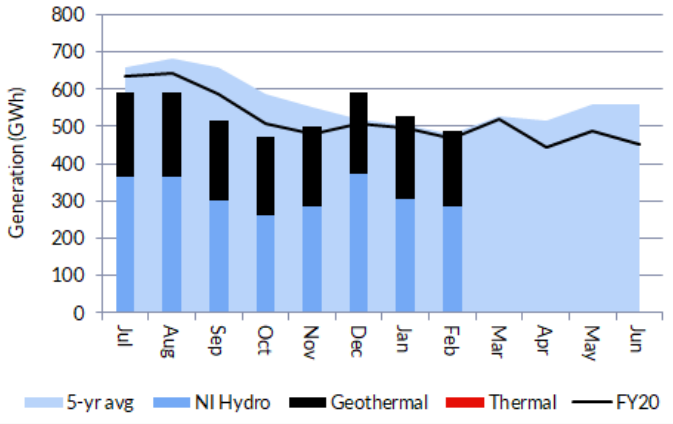
- MCY's February average daily generation was up +8% on the pcp and +2% on January 2021. MCY's Waikato hydro scheme generated +4% more per day than the prior month, whilst the Mokai geothermal plant (of which MCY owns 25% of production) generated -12% less.

Figure 29. GNE monthly generation mix (current, pcp & 5y avg)



Source: EnergyLink, Forsyth Barr analysis

Figure 30. MCY monthly generation mix (current, pcp & 5y avg)



Source: EnergyLink, Forsyth Barr analysis

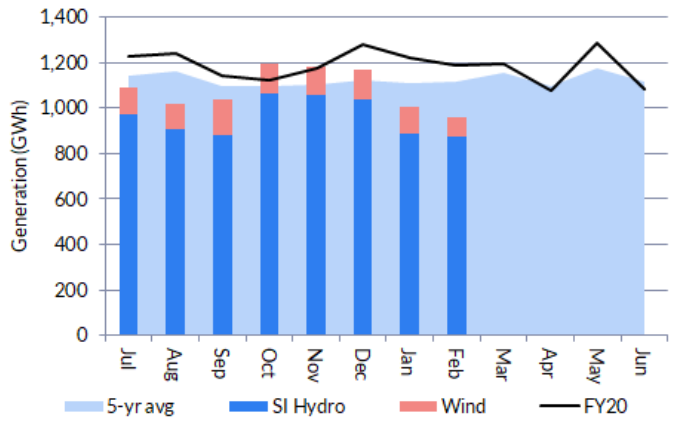
MEL — Below the prior year

- MEL's generation of 959GWh was up +6% on the prior month (average daily generation), but down -19% on a strong pcp. All of MEL's generation assets were down on the prior year, as a result of a weak wind month and ongoing low hydro storage conditions. MEL's Waitaki hydro system was the only plant to generate more per day than in January, up +19%.

TPW — North Island hydro up on prior year

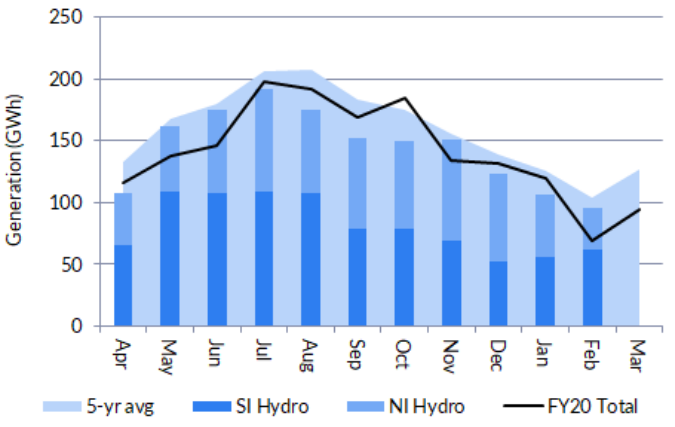
- We estimate that TPW generation was 95GWh in February 2021. This is up +37% on the pcp whilst average daily generation was flat on the prior month.

Figure 31. MEL monthly generation mix (current, pcp & 5y avg)



Source: EnergyLink, Forsyth Barr analysis

Figure 32. TPW monthly generation mix (current, pcp & 5y avg)



Source: EnergyLink, Forsyth Barr analysis

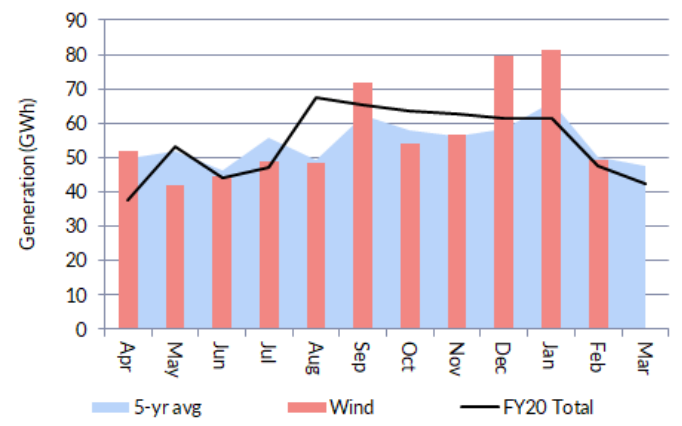
TLT — Weak wind in February

- Our estimate of TLT's NZ generation is 49GWh, a very soft number considering Waipipi volumes are included. Waipipi is very close to final commissioning, with only one turbine to go.

Generation prices — Sharp rise in wholesale prices

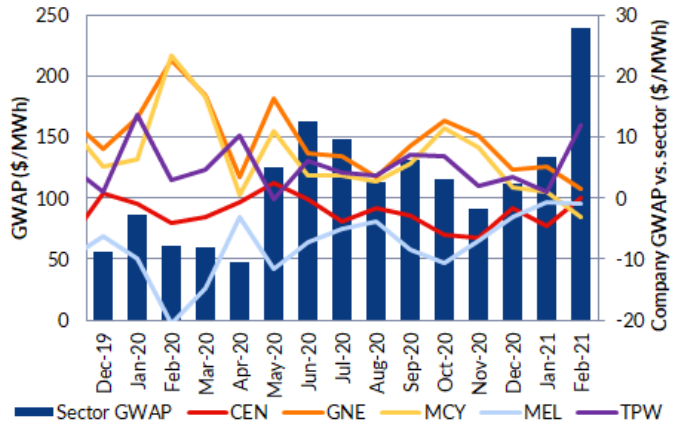
- Generation weighted average prices (GWAPs) shot up in February, with an average increase on the prior month of +79% and an average increase on the pcp of +295%. TPW received the highest price of $252/MWh, and MCY received the lowest at $236/MWh. The sharp spike in prices is a result of expensive thermal generation increasing. These are the highest prices since the spike in October 2018.

Figure 33. TLT monthly generation mix (current, pcp & 5y avg)



Source: EnergyLink, Forsyth Barr analysis

Figure 34. Avg generation weighted average price (GWAP)



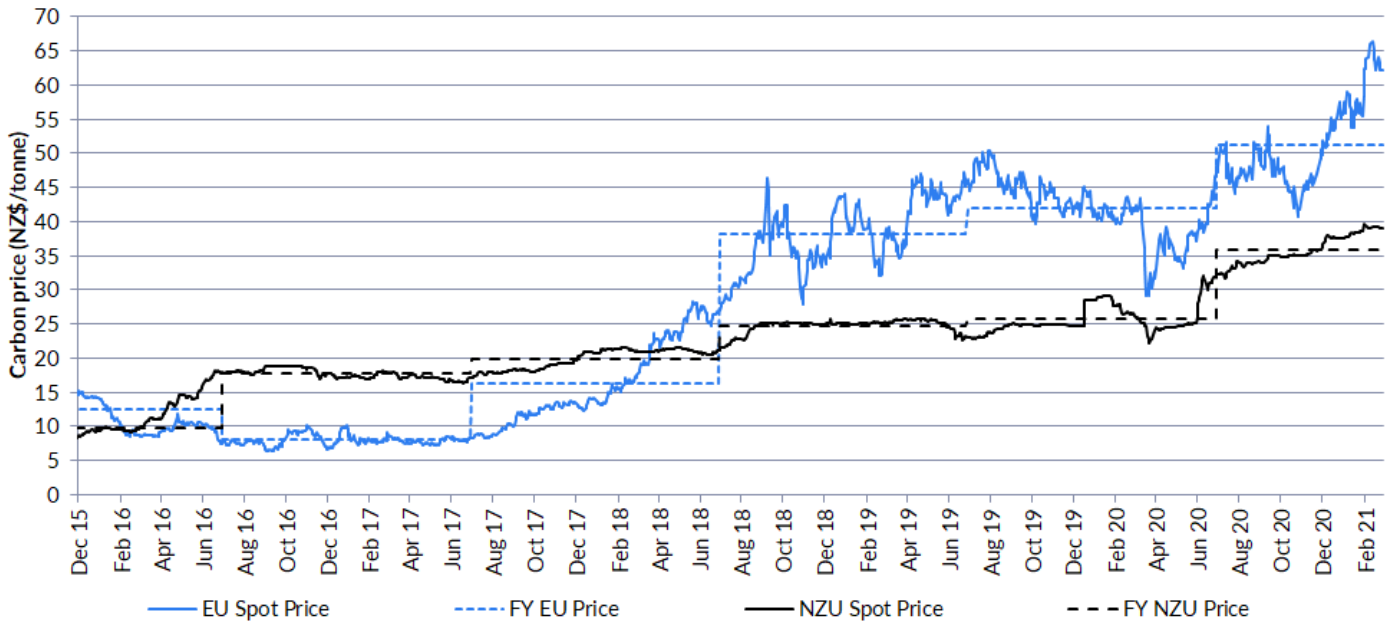
Source: EnergyLink, Forsyth Barr analysis

Carbon prices

NZ carbon prices — Units set a new record high, again

- NZ carbon units ended February at $39.1/unit, after hitting $39.6/unit earlier in the month. This is a new record high price for carbon units, and well above the $35/unit Fixed Price Option.
- EU carbon units were €37.3/unit (~NZ$62.2/unit) at the end of February, a +14% increase from the €32.9/unit (~NZ$55.4/unit) price recorded at the end of January.

Figure 35. Price of carbon (NZ$/tonne)



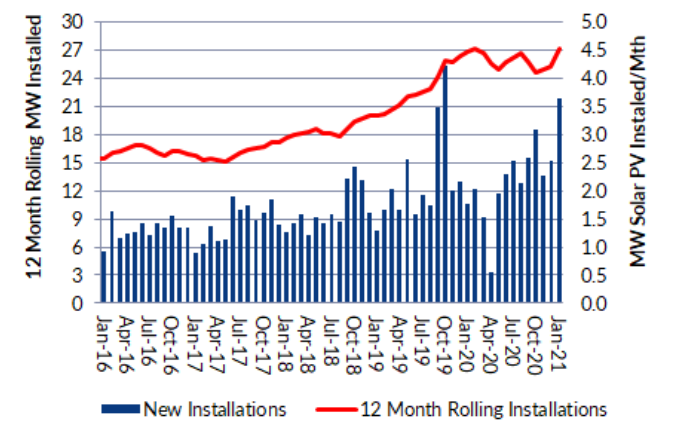
Source: Bloomberg, Forsyth Barr analysis

Solar PV installations

Rate of installation spikes

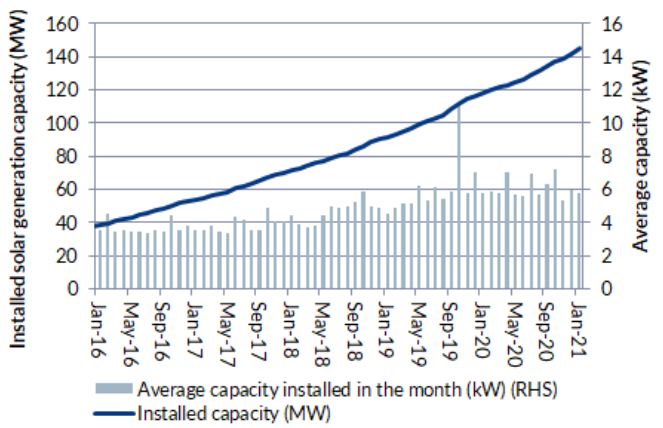
- There was 3.65MW of new solar capacity installed in January 2021, with 275 new connections. This is up +44% on the prior month, and the highest level of monthly MW installed since October 2019. Total installed capacity is now ~145MWh with 30,744 connections.

Figure 36. Solar PV capacity installed



Source: Electricity Authority, Forsyth Barr analysis

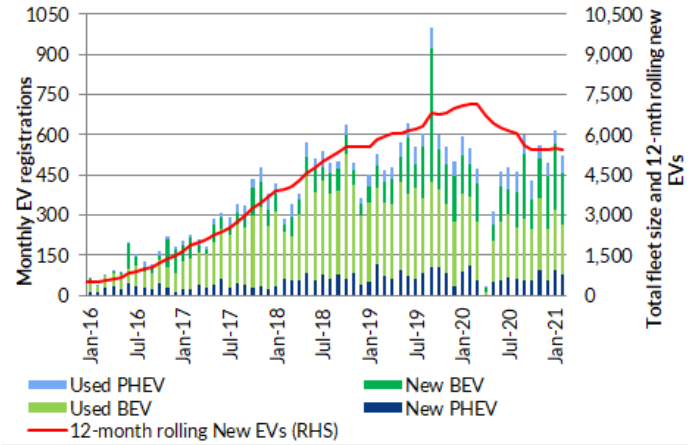
Figure 37. Average size of system and total capacity installed



Source: Electricity Authority, Forsyth Barr analysis

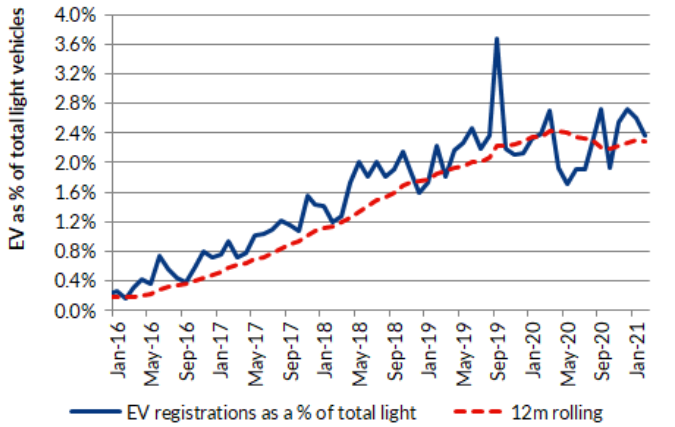
Electric vehicle (EV) registrations

Figure 38. EV registrations



Source: Ministry of Transport, Forsyth Barr analysis

Figure 39. EV registrations % of total light vehicle registrations

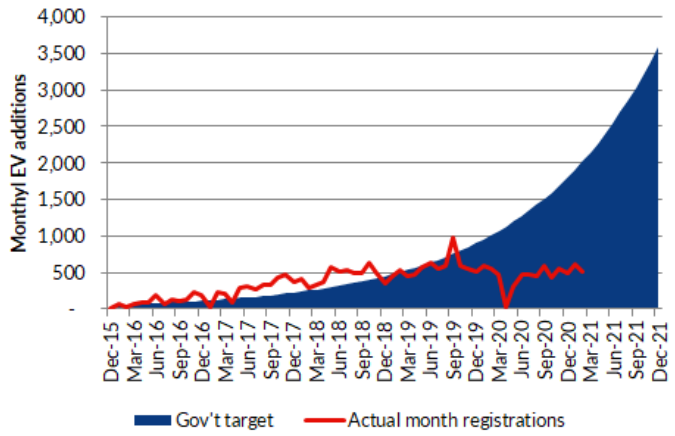


Source: Ministry of Transport, Forsyth Barr analysis

Solid EV registration growth in February

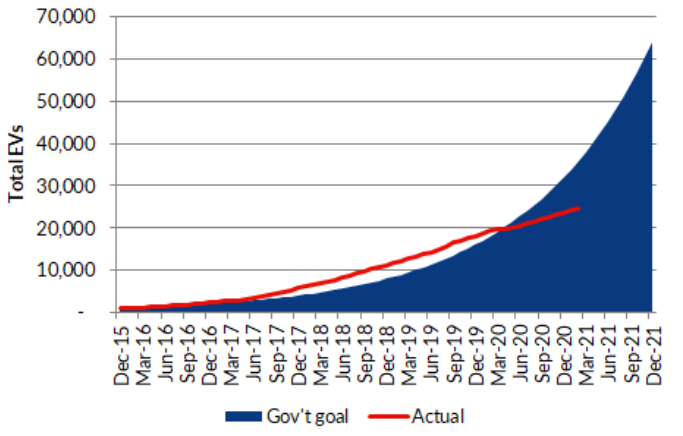
- There were 520 EVs registered in February 2021, of which 273 were new. Total registrations are down -6% on February 2020 and down -16% on January 2021. The total number of EVs registered is 24,699, -11,200 below the government target number of EVs to have been registered by now. Monthly EV registrations continue to average ~500 per month since the end of 2017.
- New EVs made up ~2.2% of total new light vehicles registered in February 2021.

Figure 40. Monthly EV registrations vs. govt target



Source: Ministry of Transport, Forsyth Barr analysis

Figure 41. Total EVs registered vs. govt target



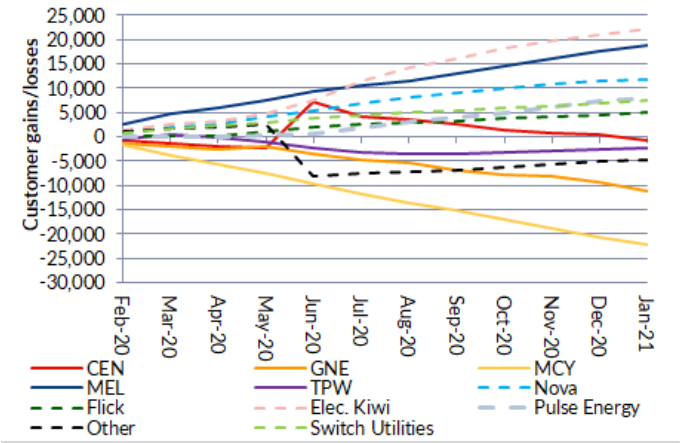
Source: Ministry of Transport, Forsyth Barr analysis

Retail electricity customers

MEL continues to gain

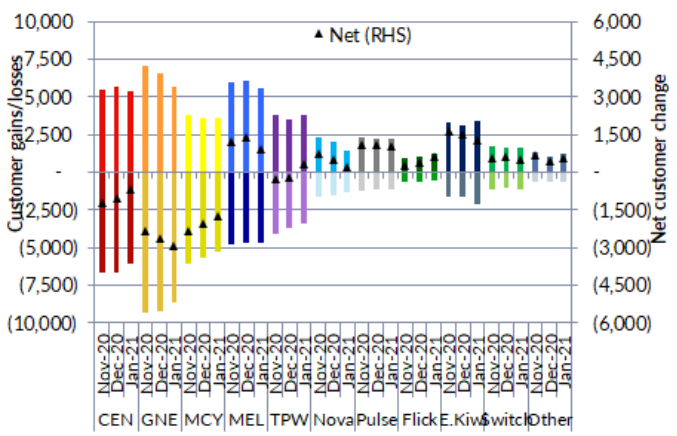
- MEL gained +1,148 customer connections in January 2021, and had the best month of the large generator/retailers. TPW was the only other listed retailer to gain connections, adding +418 over the month. GNE had the worst month of the large retailers, losing -1,683 connections whilst MCY and CEN lost -1,604 and -1,202 respectively.
- Electric Kiwi gained +1,161 connections and had the best month of all retailers. All other tier 2 retailers also gained connections in January, with Pulse Energy, Flick Electric, Switch Utilities and Nova adding +785, +588, +395 and +196 respectively.
- In January MEL and TPW gained customers through switching (which excludes market growth) of +895 and +296 connections respectively. All other large generator/retailer lost connections.

Figure 42. Cumulative 12mth electricity customer gains/losses



Source: EA, Forsyth Barr analysis

Figure 43. Customer switches (excludes market growth)

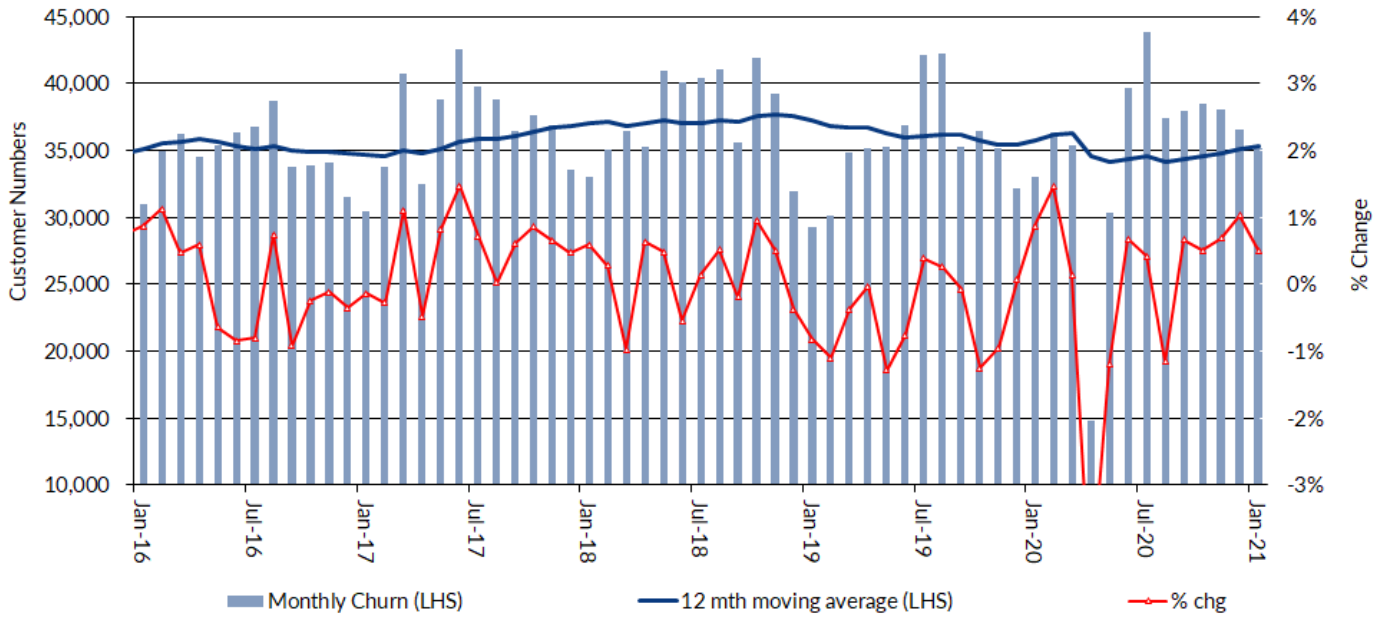


Source: EA, Forsyth Barr analysis

Connection churn

- There were ~35,300 customer switches in January 2021. This is down -3.8% on the pcp but up +6.5% on the prior month. The percentage of switches remained low from December 2020, flat at 26%.

Figure 44. Electricity connection churn



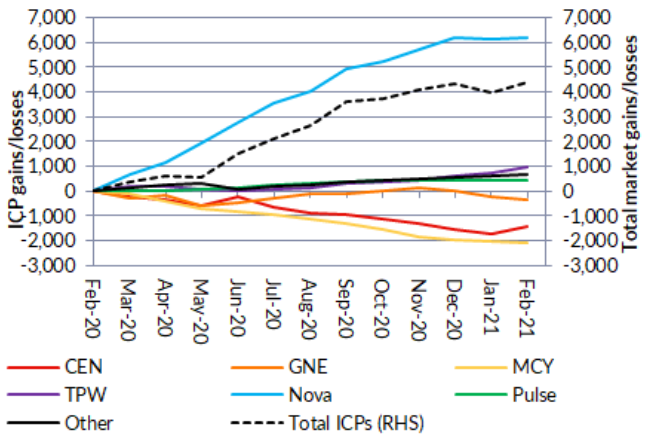
Source: EA, Forsyth Barr analysis

Retail gas customers

CEN puts a stop to the losses

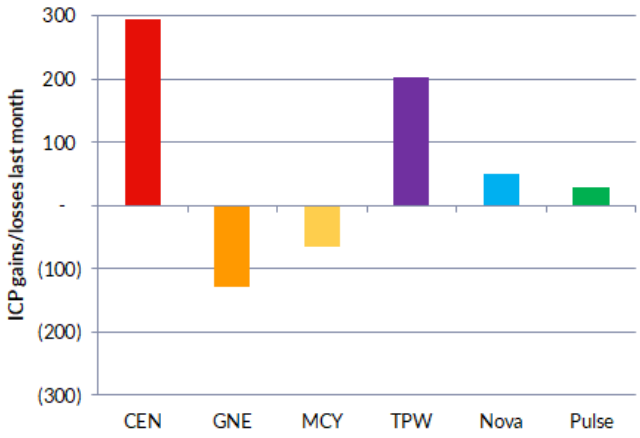
- CEN gained the most connections in February, adding +294 customers, whilst TPW, Nova and Pulse also gained connections, with an extra +203, +49 and +29 connections over the month respectively. GNE and MCY lost -128 and -66 customers in February respectively.
- In the past 12 months TPW is the only listed retailer to gain connections, adding +954. Nova, however, has added the most overall, gaining +6,189 gas customers since February 2020.

Figure 45. Gas connection gains/losses over the past 12-months



Source: Gas Industry Co, Forsyth Barr analysis

Figure 46. Gas connection gains/losses in February 2021



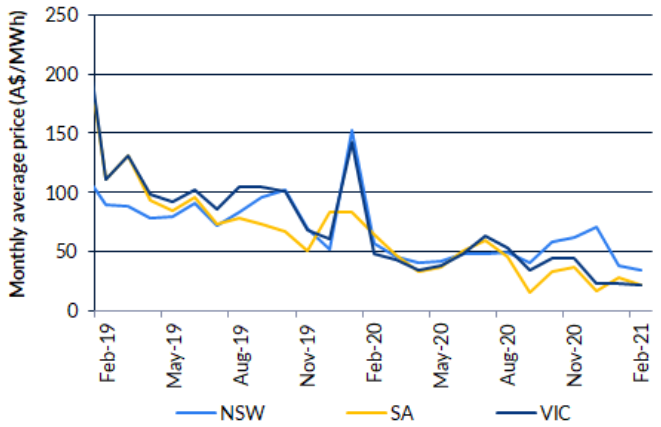
Source: Gas Industry Co, Forsyth Barr analysis

Australian electricity market

Wholesale electricity prices remain down on prior year

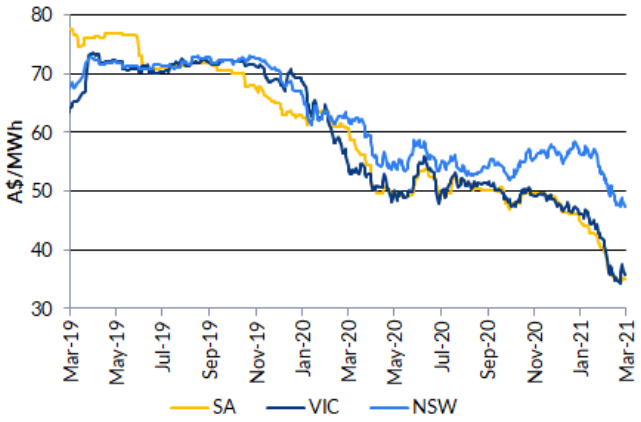
- NSW, VIC and SA prices were all down on the pcp in February. SA experienced the sharpest decline, down -65% on February 2020 to average A$23/MWh. VIC and NSW were down -55% and -39% on the pcp respectively to average A$22/MWh and A$35/MWh.
- 2021 futures were down sharply in February. VIC futures fell -15% to end the month at A$36/MWh, whilst NSW and SA futures were down -11% and -14% to end the month at A$47/MWh and A$35/MWh respectively.

Figure 47. Australian wholesale electricity price (A$/MWh)



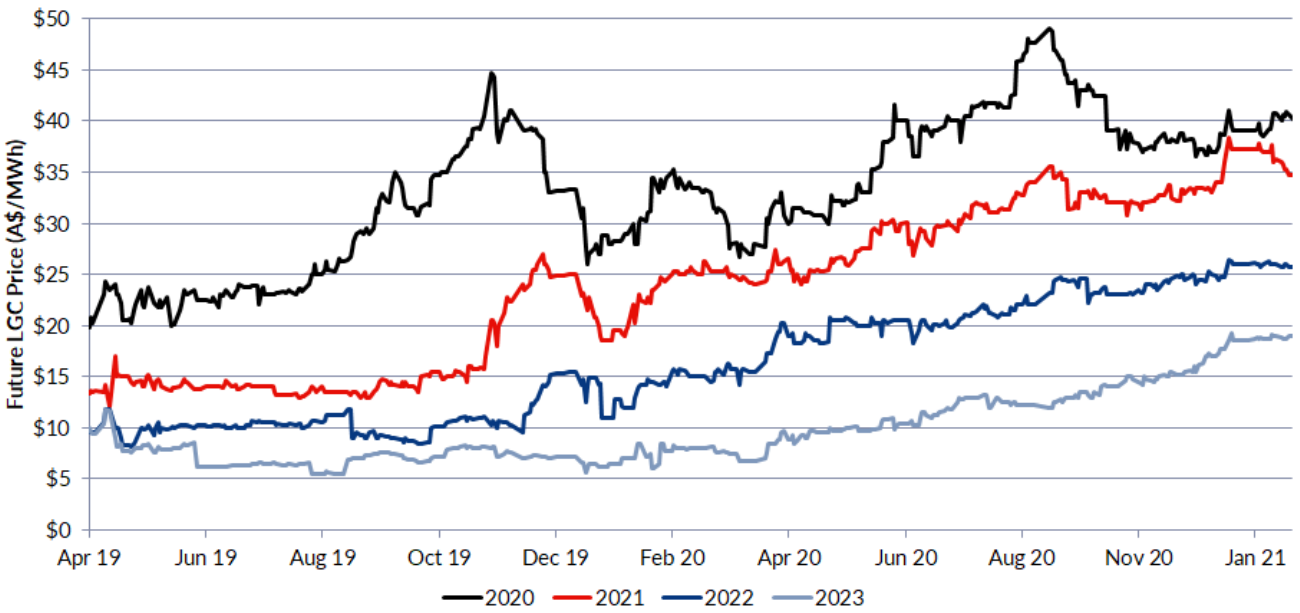
Source: AEMO, Forsyth Barr analysis

Figure 48. Australian 2021 futures prices (A$/MWh)



Source: Thomson Reuters, Forsyth Barr analysis

Figure 49. Renewable energy certificate prices (LGC)



Source: Bloomberg, Forsyth Barr analysis

Key statistics

New Zealand electricity market statistics

Figure 50. Key statistics — New Zealand

	Feb-20	Jan-21	Feb-21	% Chg pcp	% Chg mom
Average Monthly Prices					
OTA avg ($/MWh)	$ 81.0	$ 136.7	$ 237.9	193.7%	74.0%
HAY avg ($/MWh)	$ 74.3	$ 132.9	$ 238.3	220.8%	79.3%
BEN avg ($/MWh)	$ 37.8	$ 130.8	$ 237.0	526.3%	81.2%
Avg Daily Generation (GWh)					
CEN	25.1	20.9	19.6	-21.8%	-6.0%
% of NZ Generation	22.8%	20.0%	17.9%	-21.4%	-10.6%
GNE	18.3	19.5	24.1	31.7%	23.3%
% of NZ Generation	16.6%	18.7%	21.9%	32.4%	17.2%
MCY	19.4	20.5	20.6	6.4%	0.8%
% of NZ Generation	17.6%	19.7%	18.8%	6.9%	-4.2%
MEL	40.9	32.3	34.3	-16.2%	6.0%
% of NZ Generation	37.1%	31.0%	31.3%	-15.7%	0.8%
TPW	4.0	6.0	5.2	28.1%	-14.7%
% of NZ Generation	3.7%	5.8%	4.7%	28.8%	-18.9%
Daily Demand (GWh)					
Demand (excl Tiwai)	93.6	87.3	92.0	-1.7%	5.4%
NZAS demand	14.2	13.5	13.6	-4.3%	0.5%
Total NZ Demand	107.8	100.8	105.6	-2.0%	4.8%
Hydrology (% of average)					
Average hydro inflows	146%	74%	61%	-58.1%	-17.4%
Average hydro storage	123%	83%	78%	-36.6%	-6.1%
Month end hydro storage	116%	86%	70%	-39.7%	-18.6%
ASX futures as at:	**28-Feb-20**	**1-Feb-21**	**1-Mar-21**		
Short-dated OTA	$ 114.6	$ 158.9	$ 206.6	80.2%	30.0%
Long-dated OTA	$ 99.6	$ 122.2	$ 136.5	37.1%	11.8%
Short-dated BEN	$ 89.0	$ 147.0	$ 195.8	120.1%	33.2%
Long-dated BEN	$ 88.0	$ 105.4	$ 118.9	35.2%	12.8%

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

Australian electricity market statistics

Figure 51. Key statistics Australia

	Feb-20	Jan-21	Feb-21	% Chg pcp	% Chg mom
Average Monthly Prices					
NSW avg (A$/MWh)	$ 57.5	$ 38.8	$ 35.1	-38.9%	-9.6%
SA avg (A$/MWh)	$ 64.2	$ 28.7	$ 22.5	-65.0%	-21.6%
VIC avg (A$/MWh)	$ 48.3	$ 22.8	$ 21.9	-54.8%	-4.3%
Electricity Futures for 2021:	**28-Feb-20**	**29-Jan-21**	**1-Mar-21**		
NSW avg (A$/MWh)	$ 62.8	$ 53.3	$ 47.3	-24.7%	-11.3%
SA avg (A$/MWh)	$ 60.7	$ 40.4	$ 35.0	-42.3%	-13.3%
VIC avg (A$/MWh)	$ 56.0	$ 42.0	$ 35.8	-36.1%	-14.8%

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

Industry news

Listed sector company news

Contact (CEN)

- CEN released its 1H21 result on 15 February 2021. EBITDAF of NZ$246m was in-line with expectations and up +11% on 1H20, whilst the dividend of 14cps was down -2cps on the pcp. The key announcements from the result were the confirmation that CEN will go ahead with its 152MW Tauhara geothermal project expansion, funded by a NZ$400m equity raise. Tauhara is expected to be complete in mid 2023. For more detail on the result refer to our note *Contact Energy, Geothermal Generates Equity Raise* published 16 February 2021.
- CEN has said it is concerned that Transmission Pricing Methodology (TPM) rules may discourage investment in grid-connected batteries, as rules treat battery owners as load customers rather than generators. CEN determined that the new interconnection charges, on top of yearly connection charges makes building its proposed 100MW battery uneconomic. CEN has said its proposed battery, in conjunction with MEL, would have further benefits than just providing North Island reserves, including a wider role in decarbonisation.
- CEN is scoping a number of dry year firming options outside the proposed 100MW battery. CEN CEO Mike Fuge has said that a number of options are required, not just one big solution. CEN is investigating hydrogen, green ammonia and green urea, however Fuge says that these, as well as possible pumped hydro, batteries and demand flex should all be looked at objectively as possible solutions.

Genesis (GNE)

- GNE reported a record interim EBITDAF of NZ$217m at its 1H21 result on 25 February, and has upgraded guidance for the full year to between NZ$415m and NZ$425m, up from NZ$395m to NZ$415m. GNE also indicated it would make a third Rankine Unit available given the current dry hydro conditions and gas shortages going in to winter. For more detail on the result refer to our note *Genesis Energy, Foiling at High Speed — Record 1H21 Result* published 26 February 2021.
- GNE has announced it is evaluating 6,000GWh of potential renewable generation projects as part of its Future-gen strategy. GNE received 12,000GWh of proposals from developers following its call for expressions of interest in November, and has since narrowed this down. GNE has said its goal is to bring 1,350GWh of new renewable generation to market by 2024.
- The Electricity Ruling Panel has found that GNE did not breach disclosure obligations in February 2019 around supply interruptions at Pohokura. Haast Energy Trading filed a complaint claiming that GNE should have disclosed the fact that OMW was planning an outage at the fields, however, GNE said the information it was given by OMV was confidential and subject to change.
- GNE has completed its NZ$26.5m Tekapo Intake Gate project, significantly improving the seismic resilience of the Tekapo scheme.
- GNE has acquired a 60% stake in retailer Ecotricity from Pioneer Energy. Ecotricity will now retail generation from TLT's Waipipi wind farm, of which GNE buys 100% of generation. GNE has said that Ecotricity will continue to operate independently.

Meridian (MEL)

- MEL reported its 1H21 results on 24 February 2021. 1H21 EBITDAF of NZ$422m was down -9% on the record 1H20. At the result MEL confirmed it would go ahead with its 176MW Harapaki wind farm. The wind farm is expected to be commissioned in Mid 2024, and is set to cost NZ$395m. For more detail on the result refer to our note *Meridian Energy, Joining the Development Train — 1H21 Result* published 25 February 2021.
- MEL and CEN have announced they are investigating alternate demand uses for NZAS power in anticipation of the smelters exit in 2024. MEL is in ongoing discussions around the conversion of process heat, targeting old coal boilers, as well as MEL and CEN having both mentioned data centres and hydrogen as possible demand replacement options. If NZAS remains after 2024 both CEN and MEL agree that its cost of electricity will increase substantially from the discounted rate it is receiving.

Mercury (MCY)

- MCY reported a 1H21 EBITDAF of NZ$294m when it released its results on 23 February. However, MCY cut its FY21 EBITDAF guidance by -NZ$15m to NZ$520m as a result of weak hydro inflows over the past month and the Turitea wind farm completion delays. Turitea Stage 1 is now expected to be completed in October 2021 (~10 months late), whilst Stage 2 is expected to completed by July 2023 (~18 months late). For more detail on the result refer to our note *Mercury, Turitea Turbulence Shrugged Off — 1H21 Result* published 24 February 2021.

NZ Windfarms (NWF)

- NWF's 1H21 results highlighted a drop in both generation and revenue, but reaffirmed FY21 guidance EBITDAF of between NZ$5.7m and NZ$6.3m. The company also announced it is scoping an upgrade to its 48.5MW Te Rere Hau wind farm, as turbines are nearing the end of their useful life, (although the wind farm is less than 10 years old, we suspect it has more to do with its transmission connection).

Tilt Renewables (TLT)

- TLT has announced that it has received several non-binding offers to acquire the company as a result of TLT's parent company, Infratil (IFT) putting its 65% ownership stake in the company under strategic review. Reports out of Australia indicate final bids are due by 12 March.

Trustpower (TPW)

- Tauranga Energy Consumer Trust (TECT) is consulting with beneficiaries around its proposal in response to TPW's review, and potential sale, of its retail arm. TECT has said it will need to change its structure regardless of whether TPW sells its retail assets through the current process, as it demonstrates the uncertainty of the retail ownership. As a result, TECT has presented a proposal which would see TECT beneficiaries continue to receive the TECT rebate if they are TPW customers for another 30 years, regardless of the retail sale. TPW has said it supports TECT's proposal.

Forsyth Barr Limited is Trustpower's Financial Advisor on the strategic review of its retail business and will receive fees in connection with this role.

Vector (VCT)

- VCT reported its 1H21 results on 23 February. VCT's EBITDA of NZ$274m was up +3.5% on the pcp, whilst revenue was down as a result of the electricity price reset which came into effect in April 2020. VCT has upgraded its FY21 guidance to between NZ$500m to NZ$520m, up from NZ$480m to NZ$500m. For more detail on the result refer to our note *Vector, No Change in Direction — 1H21 Result Review* published 24 February 2021.
- VCT has announced that Peter Ryan will take on the COO role for its electricity, gas and fibre business from late March. Ryan has held executive roles in the telecommunications sector in both Australia and the UK.

Political/regulatory news

- The Government has announced that it will repeal the Resource Management Act (RMA) and replace it with three new laws. The primary replacement will be the Natural and Built Environments Act (NBA), which will relate to land use and environmental regulation, and will be followed by the Strategic Planning Act (SPA) and the Climate Change Adaptation Act. Transpower has said the RMA reform will be essential in the electrification of the economy, and a number of generators have suggested the regulation around consenting new needs streamlining.
- Energy and Resources Minister Megan Woods has responded to the Climate Change Commission's (CCC) draft report, saying that the government is committed to its 100% renewable electricity generation by 2030 target, despite the report saying gas will have a role in New Zealand's electricity generation until 2035. Woods also confirmed pumped hydro (i.e Lake Onslow) remains the government's key solution to dry year risk.
- The CCC has extended its consultation period on its draft report by an additional two weeks, with Commissioner Rod Carr saying stakeholders need extra time to consider the data the CCC has provided. This comes after a submission from 15 groups asked for the consultation period to be extended by at least two weeks as well as for the release of the models that underpin the report. However, thus far the CCC has only made available comments and peer reviews of its modelling but not the models themselves.
- Megan Woods has said developing local hydrogen is integral to the Government's climate change strategy. Woods says she will build on the Government's current hydrogen strategy this year, using our renewable energy to produce hydrogen instead of fossil fuels.

Other industry news

- MainPower has announced it expects its Mt Cass WindFarm Project to reach financial close in mid 2021 and construction to begin by the end of the year. Mt Cass was delayed as a result of the uncertainty surrounding the NZAS closure. The NZ$200m wind farm will be the biggest in the South Island, at 93MW from 22 turbines.
- Transpower has released its Electrification Roadmap report. The report found that the electrification of transport and increased renewable generation can produce substantial economics benefit as well as greatly reducing New Zealand's emissions. However,

Transpower said that as a result of the high up-front costs of electric vehicles (EV's), policy support for EV's will be required to incentivise mass EV uptake. The report also found that policy will be needed to overcome the high barriers to process heat conversion, albeit it acknowledged electricity is not always the best alternate fuel.

- Auckland Transport (AT) has partnered with Hiringa Energy to trial a hydrogen powered bus using a refuelling facility in South Auckland, with future work expected to investigate the possibility of hydrogen fuelled ferry services. AT's Low Emission Bus Roadmap released in 2018 identified hydrogen as the preferred fuel for its transport services.
- Methanex has announced an organisational review as a result of low production at its New Zealand operations. Due to ongoing problems at Pohokura, Methanex idled its Waitara Valley Plant in December 2020.

Source: Energy News, Company reports, Forsyth Barr analysis

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