FORSYTH BARR

Power Points

Wholesale Price Collapse Temporary — January 2020

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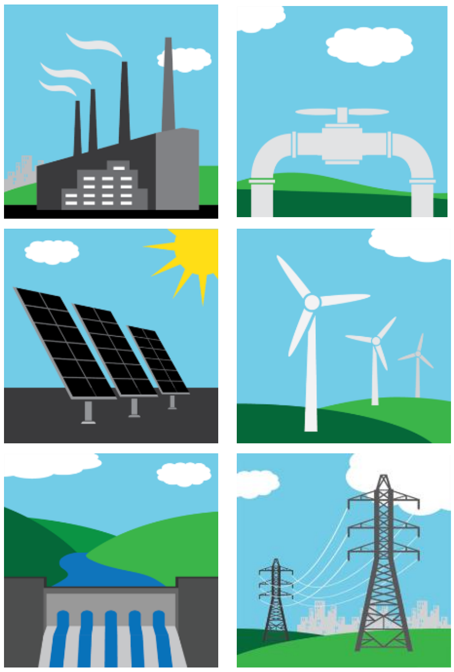


The finish of 2019 saw a dramatic fall in wholesale electricity prices, and the average December 2019 Otahuhu (OTA) price was just $55/MWh, the lowest since April 2017. Heavy rain during November and early December, plus a noticeable price drop following an undesirable trading situation claim, are the main drivers of the fall. However, more gas and transmission outages in the coming months has already seen prices firm.

Wholesale electricity prices collapse, but have once again firmed

Following heavy inflows into the lower South Island catchments in November and early December, and claims that Meridian Energy (MEL) and Contact Energy (CEN) were pricing generation too high, wholesale electricity prices collapsed in the middle of the month to month end (although the Christmas period is traditionally the lowest priced period). The average Benmore (BEN) price to 17 December was $79/MWh. The last 14 days of the year averaged just $11/MWh. However, more gas supply issues have seen wholesale electricity prices firm to average $52/MWh in the past week.

Current and upcoming outages create more wholesale market stress

1Q20 has several plant outages that will impact the wholesale electricity market. Pohokura is once again experiencing an unplanned outage, with production curtailed ~-15%. In addition, HVDC link capacity will be limited for much of 1Q20 and there are four days when the link is completely out of action. The Ahuroa gas storage facility capacity upgrade work is ongoing, with a planned outage in February likely to impact gas generation availability. The combined effect of these outages will lift the wholesale electricity price, and cause a significant price split between the North and South Island, favouring Mercury (MCY) and Genesis Energy (GNE) the most.

Looking ahead to 2020

The key catalyst in the coming months will be the output from NZAS's strategic review — due to be completed by 31 March 2020. It is clear there is ongoing dialogue between Rio Tinto and the Government, which is encouraging. We continue to believe NZAS will remain open for the foreseeable future. We are also expecting a final decision on transmission pricing in the coming months — although that may be the start of prolonged court cases. From an investment perspective, we expect interest rates to continue to be a key share price driver.

Figure 1. Summary company valuation metric

Ticker	Price	Target Price	Target Return	Rating	FY20 EV/EBITDA	FY20 PE	FY20 Gr Yld*	EBITDAF NZ$m
CEN	$7.43	$8.15	15.0%	OUTPERFORM	13.1	20.6	6.6%	478
GNE	$3.17	$3.23	7.4%	OUTPERFORM	14.8	30.2	7.4%	366
MCY	$5.20	$4.62	-8.1%	NEUTRAL	15.8	28.4	4.2%	516
MEL	$5.15	$4.25	-13.3%	NEUTRAL	17.2	26.1	5.2%	852
TLT	$3.35	$3.70	10.4%	OUTPERFORM	14.3	18.1	0.0%	138
TPW	$7.25	$7.75	11.6%	NEUTRAL	14.3	23.7	6.5%	203

Source: Eikon, Forsyth Barr analysis *Includes any forecast special dividend

Investment View

We continue to like the long-term outlook for the sector and maintain our view that NZAS will not be closing. Our preferred stocks are CEN, GNE & Tilt Renewables (TLT) (OUTPERFORM), whilst the other stocks, MCY, MEL & Trustpower (TPW) are NEUTRAL.

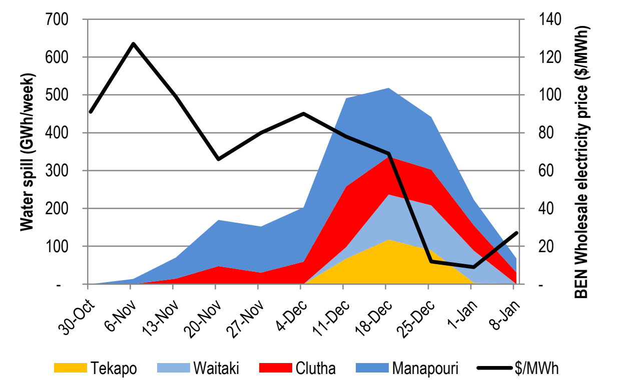
Big wholesale electricity price fall following UTS claim

On 12 December 2019, Haast Energy Trading (which has close links to Electric Kiwi) has claimed that MEL and CEN have breached the High Standard of Trading Conduct (HSOTC) requirements, leading to an undesirable trading situation (UTS). In its claim, lodged with the Electricity Authority (EA), Haast states that MEL and CEN had been deliberately raising wholesale electricity prices by bidding tranches of water at relatively high prices that resulted in North Island power stations being used ahead of South Island power stations that were spilling water at the time.

The observation that wholesale electricity prices were higher than normal during a spill event is correct. Lower South Island hydro catchments, Manapouri (MEL controlled) and Clutha (CEN controlled), were spilling water due to flooding events. Wholesale electricity prices were surprisingly high, given the level of water, and MEL and CEN did price some of the water at relatively high prices and were not always generating at full capacity.

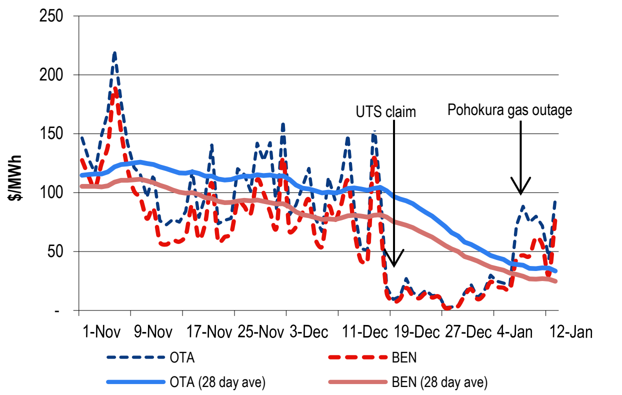
In addition, wholesale electricity prices fell to their lowest levels in more than a year a day after the UTS claim started being noticed by mainstream media.

Figure 2. Weekly water spill vs wholesale BEN prices



Source: NZX Energy, Forsyth Barr analysis

Figure 3. Average daily wholesale electricity prices



Source: NZX Energy, Forsyth Barr analysis

However, as usual with these things, that is not the whole story, with several other factors potentially impacting on prices. The question for the EA is whether the bidding behaviour amounts to a UTS, or whether it is reasonable trading behaviour?

Both CEN and MEL have indicated to us that there has been no change in their wholesale electricity trading strategy. Yes, they have priced water above the short-run marginal cost of generation, but that is nothing new. Both also claim they were more focussed on managing the flood situation. Both point to North Island gas issues and HVDC constraints as key factors behind the high wholesale electricity prices. With some North Island plant out of action at the time of the flooding event, and more gas market outages ahead, North Island reserve generation is limited, which they argue is having a big effect on price. Both also indicated that there are currently transmission constraints in the Lower South Island impacting on generation.

From our perspective, the biggest risk is political. Whilst the EA may exonerate CEN and MEL for its trading behaviour, the perception is not great. The wholesale electricity market largely received a tick of approval from the Electricity Price Review, and its continued operation is key to sector valuations. However, in our view, it will not take much for the politicians to get upset — and as the fuel companies have found: explaining is losing.

Note: Whilst the UTS claim states CEN and MEL have extracted ~$60m of excess revenue, CEN and MEL do not have ~$60m at risk if the EA finds their trading behaviour was unacceptable. Both have retail demand to meet, hence, what they gain on the generation side is a cost on the retail side (albeit it is still a net gain). Haast is asking the EA to reset prices to $5/MWh for the periods where CEN and MEL were spilling water and generating less than their theoretical maximum. If that were to occur, generation revenue would fall ~-$60m, but the cost of buying that electricity in the market also falls.

In summary, whilst the UTS claim is not a good look and is hard to explain, it appears the chances of the EA doing anything significant is probably less than 50/50. However, more and more pressure is being applied to the EA (particularly from the Government), so it may want to be seen to be doing something. The EA has indicated it is considering the UTS, but has not given any timeframe for a decision.

Plant outages to impact wholesale electricity prices in 1Q20

There are several plant outages taking place in the current quarter that will have a significant impact on the wholesale electricity market. We expect the outages will lift wholesale electricity prices and create, on occasion, a big price split between the North and South Island. In addition, South Island hydro storage is likely to be at or near capacity by the end of March.

Figure 4. Planned outages

Outage type	Outage dates
HVDC	
No capacity (~750MW capacity both ways recently)	18 January, 1 February, 7 March, 25 March
Capacity limited to 406 MW	19 January-31 January, 8 March-20 March
Capacity limited to 500 MW	27 February-6 March, 22 March-9 April
Pohokura	
25-35 TJ/day reduction	13 January-23 January
40 TJ/day reduction	27 January
25-40 TJ/day reduction	24 January-25 January
Full outage (peak capacity of 220 TJ/day)	11 March-24 March
Ahuroa gas storage facility	
Full outage (45 TJ/day)	8 February-23 February

Source: Transpower, Gas Industry Co, Forsyth Barr analysis

HVDC outages

The main effect of the HVDC restrictions will be to cause North Island and South Island price separation and increased storage in South Island hydro storage.

The HVDC outages are due to the need to re-conductor the Churton Park section of HVDC BEN-HAY, replace the Pole 2 control system equipment, and undertake maintenance and inspections of the HVDC equipment.

Pohokura gas outage

The Pohokura gas field is New Zealand's largest gas field, producing ~40% of New Zealand's gas. An unexpected outage reducing gas production materially impacted wholesale electricity prices in late 2018.

The planned Pohokura outages are due proactive inspection and maintenance work on the undersea pipeline at the Pohokura natural gas field as well as at the onshore production station.

Ahuroa gas storage facility

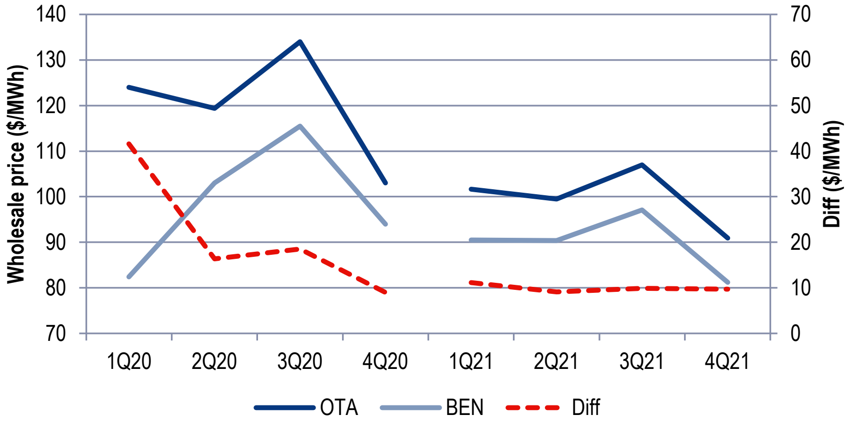
The main effect of the Ahuroa gas storage facility outage will be operating restrictions on CEN's gas-fired generation in Taranaki. This will temporarily lift wholesale electricity prices, particularly with the HVDC constraint also taking place at the same time.

The shutdown is required to tie-in facilities relating to the expansion of Ahuroa to a 65 TJ/d injection and withdrawal capacity.

Impact on the wholesale electricity market

The ASX futures highlight the expected effects on the wholesale electricity market. The price split between North and South Island wholesale electricity prices is material in 1Q20 at more than $40/MWh. North Island prices are expected to fall slightly in 2Q20 — which is unusual given current hydro storage levels and increased electricity demand heading into winter. In contrast, South Island prices are expected to firm materially in 2Q20 as the HDVC work is completed. By 4Q20 the market is expected to have returned to normal.

Figure 5. OTA vs BEN wholesale price comparison



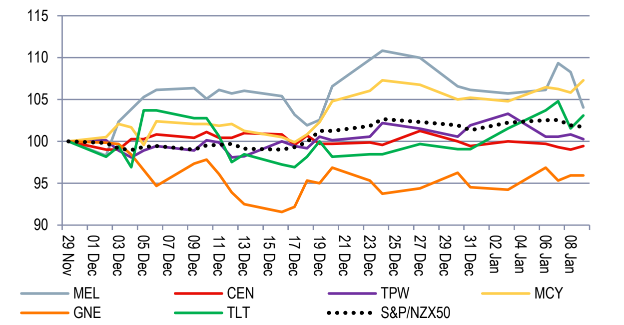
Source: NZX Energy, Forsyth Barr analysis

The losers from the wholesale market conditions in 1Q20 are MEL and CEN as their generation will receive a relatively low price — but their North Island load will cost materially more. However, the expected high lake levels heading into winter is a slight offsetting positive (more so for MEL than CEN). The main beneficiaries are the North Island generators, MCY and GNE.

Share market performance: Dec 2019

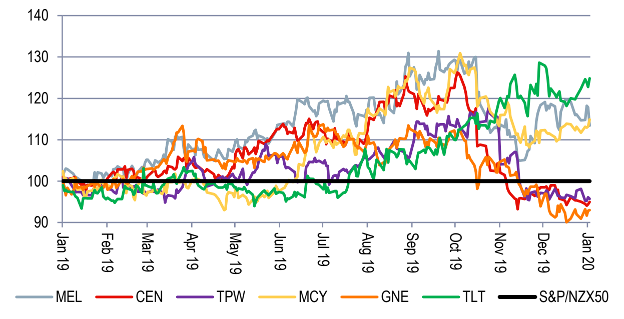
December was far more stable than November for the electricity stocks, likely given the market has now digested the initial NZAS strategic review notice. MCY was the largest gainer, up +7.3% from the end of November 2019 to 9 Jan 2020. This gain comes as the company announced that Vince Hawksworth is coming from TPW to be CEO at MCY. GNE was the most disappointing, dropping -4.1% over the same period. CEN was the only other generator/retailer to drop, down -0.6%, whilst all others gained as the overall S&P/NZX50 gained +1.7%.

Figure 6. Stock performance vs. S&P/NZX50C



Source: Thomson Reuters, Forsyth Barr analysis

Figure 7. 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 that NZAS will not be closing. Our preferred stocks are CEN, GNE & TLT (OUTPERFORM), whilst the other stocks, MCY, MEL & TPW are NEUTRAL.

Figure 8. 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	$7.43	$8.15	15.0%	OUTPERFORM	5,316	13.1	12.7	15.5	14.9
Genesis Energy (excl Kupe)	GNE	$3.17	$3.23	7.4%	OUTPERFORM	2,869	14.8	12.5	18.2	14.9
Mercury	MCY	$5.20	$4.62	-8.1%	NEUTRAL	7,077	15.8	15.6	18.5	18.2
Meridian Energy	MEL	$5.15	$4.25	-13.3%	NEUTRAL	13,199	17.2	18.8	18.5	20.4
Trustpower	TPW	$7.25	$7.75	11.6%	NEUTRAL	2,269	14.3	13.9	16.3	15.8
Sector average							**15.0**	**14.5**	**17.4**	**16.7**
Tilt Renewables	TLT	$3.35	$3.70	10.4%	OUTPERFORM	1,573	14.3	17.4	15.5	19.1
Genesis Energy (incl Kupe)	GNE	$3.17	$3.23	7.4%	OUTPERFORM	3,263	12.2	10.8	14.3	12.5

Source: Forsyth Barr analysis

Figure 9. 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	32.0	30.0	20.6	19.9	5.2%	5.3%	6.6%	6.8%	5.0%	5.7%
Genesis Energy (excl Kupe)	114.3	46.6	30.2	20.3	3.8%	4.4%	5.1%	6.1%	3.4%	4.9%
Mercury	43.8	38.3	28.4	25.7	3.0%	3.1%	4.2%	4.3%	1.7%	1.2%
Meridian Energy	40.5	48.0	26.1	29.4	4.2%	4.2%	5.2%	5.3%	4.0%	3.8%
Trustpower	26.6	24.7	23.7	22.1	4.7%	4.7%	6.5%	6.5%	2.7%	4.4%
Sector average	**44.4**	**36.4**	**25.6**	**23.2**	**4.2%**	**4.4%**	**5.5%**	**5.8%**	**3.4%**	**4.0%**
Tilt Renewables	3.2	13.1	18.1	23.3	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Genesis Energy (incl Kupe)	71.2	37.2	20.7	16.2	5.5%	5.6%	7.4%	7.6%	5.6%	6.6%

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.

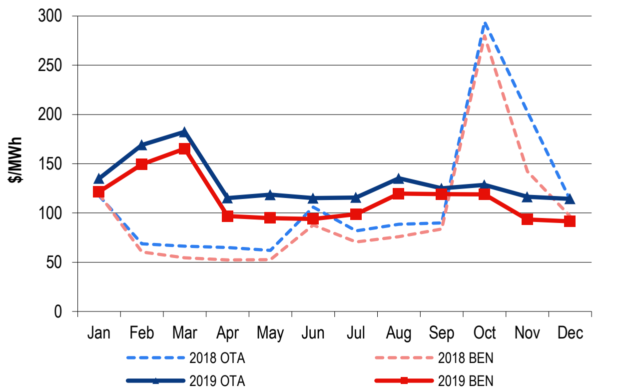
Electricity market: December 2019

Spot wholesale electricity prices and ASX futures

Wholesale electricity prices hit $2/MWh

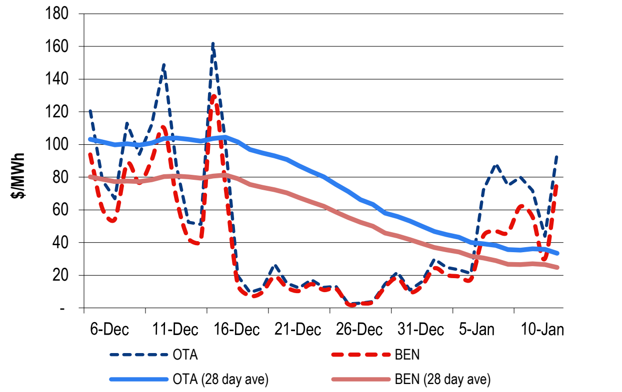
- Daily prices collapsed in mid December, bottoming out at $2/MWh at OTA, HAY, and BEN on the 27 December 2019. These massive price drops are a result of both the huge rainfalls experienced in the South Island in November and early December, as well as a reaction to the UTS claim that was lodged against MEL and CEN. The average Benmore (BEN) wholesale electricity price in December 2019 was $44/MWh, -53% down on the prior month and -54% down on the pcp. The average Otahuhu (OTA) price was $56/MWh, -52% down on November 2019. December 2019 average prices are the lowest recorded since April 2017. Prices, however, have started to rebound following another unplanned Pohokura outage, as well as the planned outages for early January.

Figure 10. Average monthly wholesale electricity prices



Source: NZX Energy, Forsyth Barr analysis

Figure 11. Average daily wholesale electricity prices

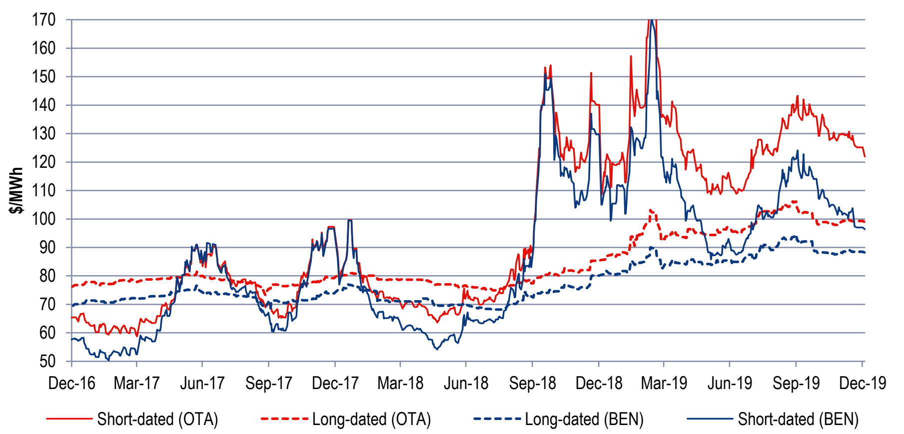


Source: NZX Energy, Forsyth Barr analysis

ASX futures begin to reflect rain event

- Both BEN and OTA short-dated prices have continued to react to the rain event in November, down -6% and -4% over December 2019 respectively. Short-dated BEN ended December 2019 at $97/MWh.
- Similar to last month, December 2019 long-dated prices were mostly unmoved during the month. BEN and OTA ended the month at $88/MWh and $99/MWh respectively.

Figure 12. ASX futures prices (last three years)



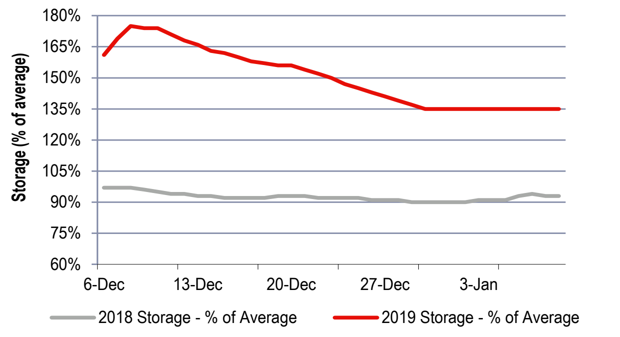
Source: Electricity Authority, Forsyth Barr analysis

Hydro storage volumes

All storage volumes up on prior year

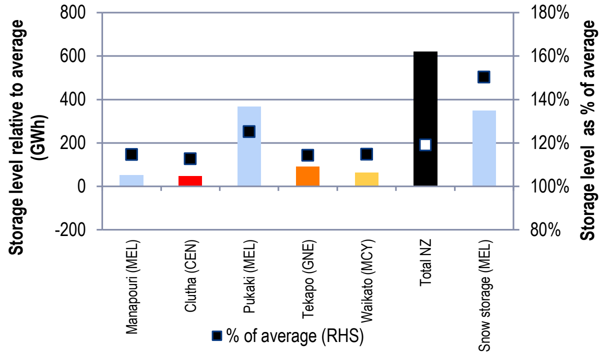
- Hydro inflows have returned to normal in the last two weeks of December following the massive rain inflows that were measured in early December. Energylink data as at 9 January has total NZ controlled hydro at 3,319GWh, +890GWh up on the same time last year. MEL's reported snow storage as at 4 January 2020, is 1,043 GWh, this is +150% higher than average for this time of year.
- All hydro storage levels continue to be above average in December 2019, with many dams spilling in December. Total South Island capacity is at 120% of average, with CEN's Clutha storage having the lowest at 113% of average.

Figure 13. Average lake storage levels



Source: NZX Energy, Forsyth Barr analysis

Figure 14. Key storage levels relative to average (as at 9 January)



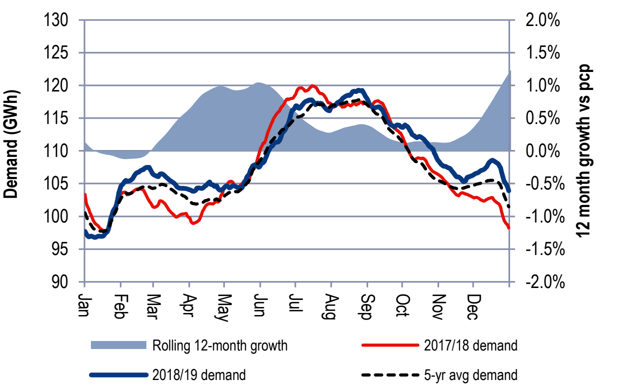
Source: EnergyLink, MEL, Forsyth Barr analysis

Demand and generation analysis

Strong demand growth continues

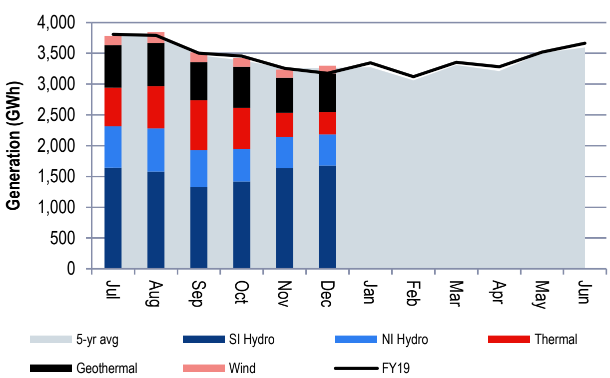
- Electricity demand for December 2019 was 105.9 GWh/day which is an +8% increase vs pcp, demand (excluding Tiwai) was up +10% on pcp. This increased demand is largely due to demand for irrigation, especially within the Canterbury region. NZAS demand was unchanged from November 2019 at 14.2 GWh/day, but was down ~-3% on December 2018.
- December 2019 total generation was up +4% on the pcp at 3,297GWh. South Island hydro was a main driver behind this, up +10% on December 2018 as lake storage volumes continue to be well above average for this time of year. Thermal was down -12% on the prior month and -25% on the pcp to reach 260GWh, the lowest thermal generation since December 2016.

Figure 15. Rolling 28-day average demand & rolling 12-mth growth



Source: Electricity Authority, Forsyth Barr analysis

Figure 16. NZ generation (by technology) – fiscal year to June



Source: EnergyLink, Forsyth Barr analysis

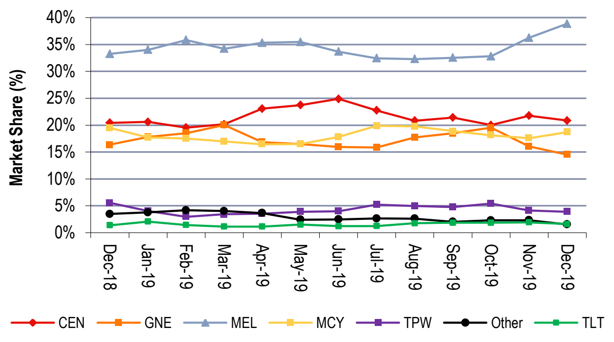
Generation market share — MEL market share at 5 year high

- MEL and MCY gained the most market share of generation in December 2019, up +2.7% and +1.1% respectively. At +38.9%, this is MEL's greatest market share since February 2014 as it continues to make gains as a result of the increased hydro levels in the South Island. GNE again lost the most market share, losing -2.5% from November 2019 to December 2019.

CEN — Hydro generation returns to normal

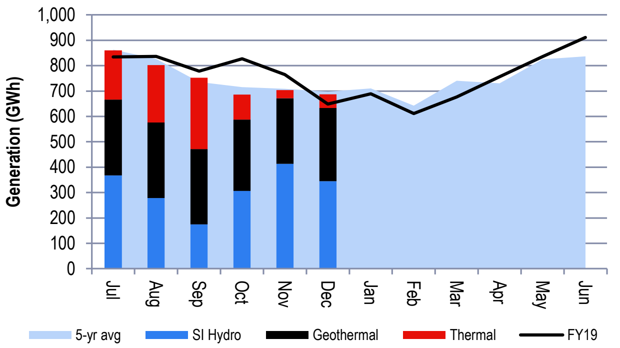
- CEN generation was down -2.4% from November to 687GWh in December 2019. This largely comes from its Clutha hydro generation, down -16.6% from a relatively high November. Thermal was up with CEN's TCC unit back online, generating 22GWh following its maintenance in November. Geothermal generation also increased over the month, up +11.6% from November, largely due to the Wairakei plant generating an extra +23GWh.

Figure 17. Monthly generation market share



Source: EnergyLink, Forsyth Barr analysis

Figure 18. CEN monthly generation mix (current, pcp and 5-yr avg.)



Source: EnergyLink, Forsyth Barr analysis

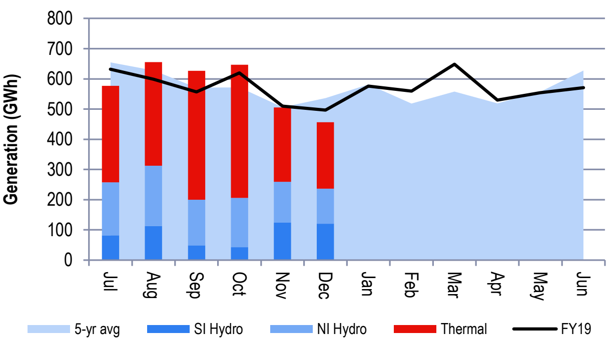
GNE — Rankine generation almost zero

- GNE generation was down again to 479GWh, its lowest since April 2018. Following the completion of Kupe maintenance, Huntly gas-fired generation increased materially to 213GWh (+86% from November) whilst Rankine generation decreased by -125GWh to just 8GWh.

MCY — Nga Awa Purua back online

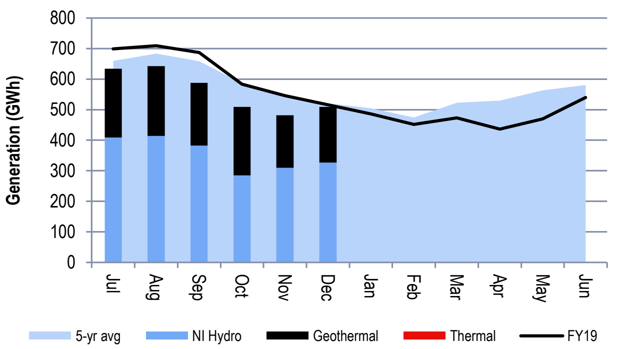
- MCY's generation of 509GWh for December 2019 was essentially equal to the same month last year as it bounced back from a weak November 2019. MCY's share of the Nga Awa Purua geothermal plant was up +68GWh following November's planned outages; this had a material impact on MCY's total generation. Hydro generation from MCY's Waikato plant was up again mom and +10.7% on the pcp.

Figure 19. GNE monthly generation mix (current, pcp and 5-yr avg.)



Source: EnergyLink, Forsyth Barr analysis

Figure 20. MCY monthly generation mix (current, pcp and 5-yr avg.)



Source: EnergyLink, Forsyth Barr analysis

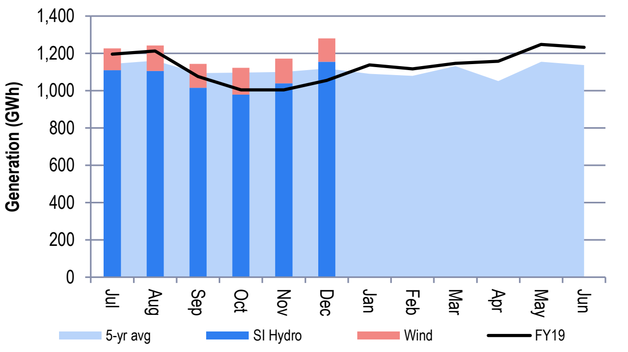
MEL — Record breaking December generation

- MEL had another record month in December 2019, generating 1,281GWh which is the highest generation in a December since we began storing this data in 2008 and the highest monthly generation since the sale of Tekapo in 2011. Both hydro and wind generation were higher than the pcp, up +19% and +49% respectively. Hydro growth is largely due to MEL's above average storage volumes in both its lake storage and snow storage values, with total MEL hydro storage currently sitting at 2,236GWh (123% of average).

TPW — Waipori hydro still out

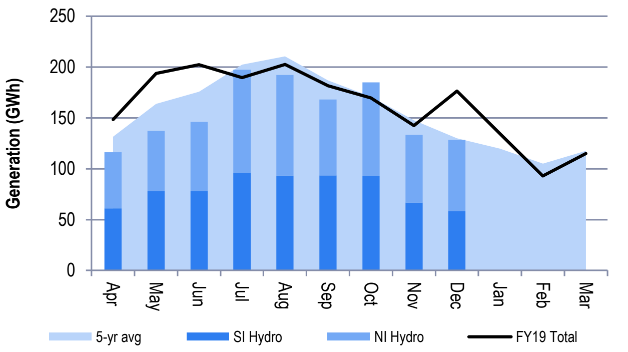
- We estimate TPW generation was 128GWh in December 2019; this is relatively unchanged from November but -27% down on the pcp. Waipori only produced ~10% of normal output as a result of an outage that began in November 2019.

Figure 21. MEL monthly generation mix (current, pcp and 5-yr avg.)



Source: EnergyLink, Forsyth Barr analysis

Figure 22. TPW monthly generation mix (current, pcp and 5-yr avg.)



Source: EnergyLink, EA, Forsyth Barr analysis

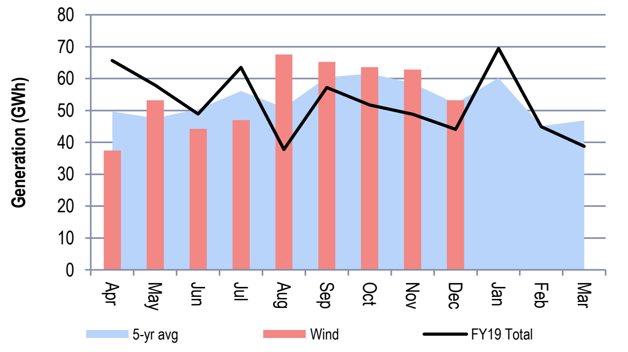
TLT — Generation levels remain stable

- Our estimate for TLT generation in December 2019 was 61GWh; this is another month of little change, down only -2GWh from November 2019 as TLT continued to have steady wind generation over the last five months.

Generation prices — Prices finally reflect hydro inflows

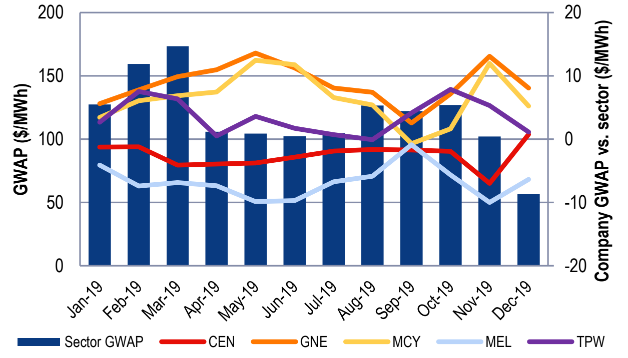
- The generation weighted average price (GWAP) was $57/MWh, which is -45% down on November 2019 and -45% down on the pcp. This comes as electricity prices finally began to reflect the record hydro levels that were not reflected in the market until mid-December. MEL had the lowest GWAP of $50/MWh due to its large South Island hydro exposure, and GNE had the highest with an average of $65/MWh.

Figure 23. TLT monthly generation mix (current, pcp and 5-yr avg.)



Source: EnergyLink, EA, Forsyth Barr analysis

Figure 24. Average generation weighted average price (GWAP)



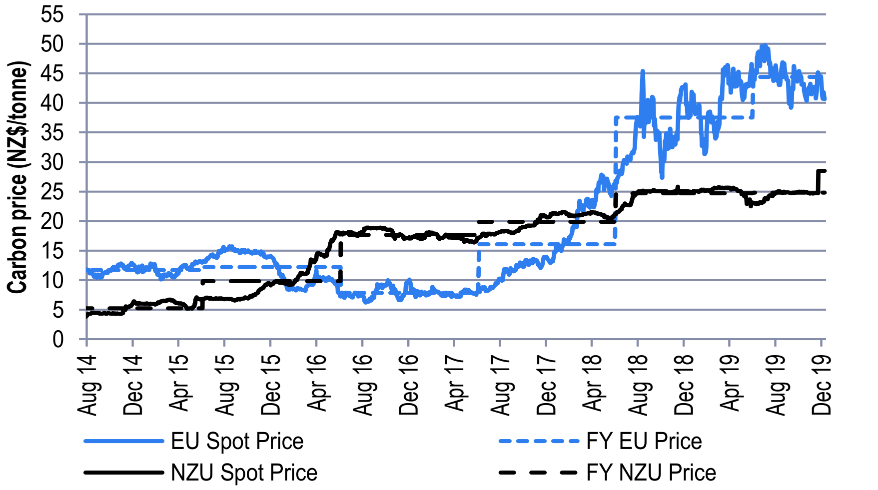
Source: EnergyLink, Forsyth Barr analysis

Carbon prices

NZ carbon prices — Government announces unit cap raise

- Prices for NZ carbon units ended December at $28.5/unit following the proposal to remove the $25/unit price cap. Before this, prices had traded around ~$24.7 for the month but since 20 December have stayed at the $28.5/unit high.
- EU units ended December at €24.6/unit (NZ$41.0/unit); this is slightly down from the end of November. However, the average EU unit price for December was NZ$43.0/unit, NZ$0.5/unit above the average for November.

Figure 25. Price of carbon (NZ$/tonne)



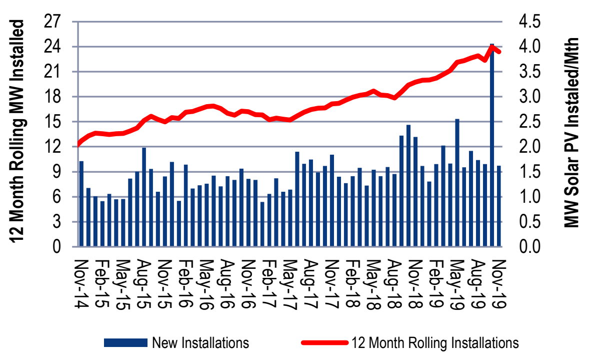
Source: Bloomberg, Forsyth Barr analysis

Solar PV installations

Solar installations return to normal

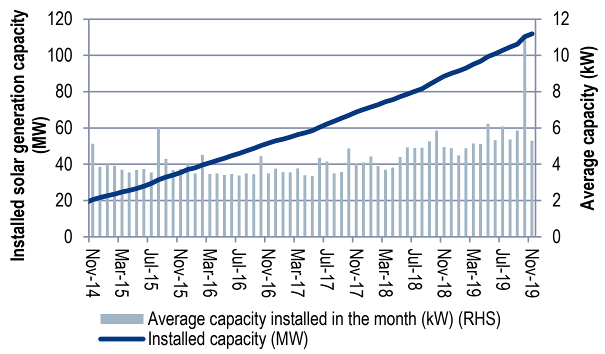
- In November 2019 there were only 315 new solar installations, -29% less than the pcp. There was 1.64MW installed, this follows a record 4.06MW installed in October 2019. Total installed capacity is now 112MW with 25,745 connections.
- Note: The EA has updated installed solar capacity for October 2019, the data shows a large spike in new capacity. We believe this is likely due to one or two large commercial installations.

Figure 26. Solar PV capacity installed



Source: Electricity Authority, Forsyth Barr analysis

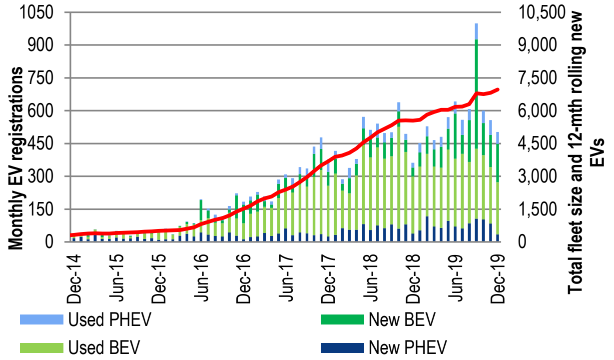
Figure 27. Average size of system and total capacity installed



Source: Electricity Authority, Forsyth Barr analysis

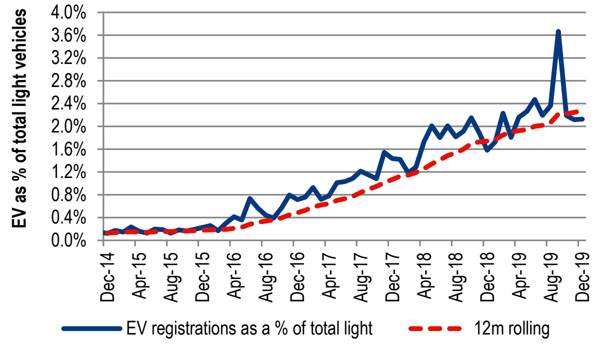
Electric vehicle (EV) registrations

Figure 28. EV registrations



Source: Ministry of Transport, Forsyth Barr analysis

Figure 29. EV registrations as % of total light vehicle registrations

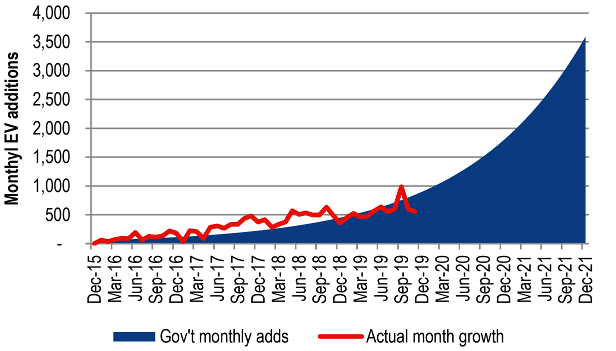


Source: Ministry of Transport, Forsyth Barr analysis

Gap above government target decreasing

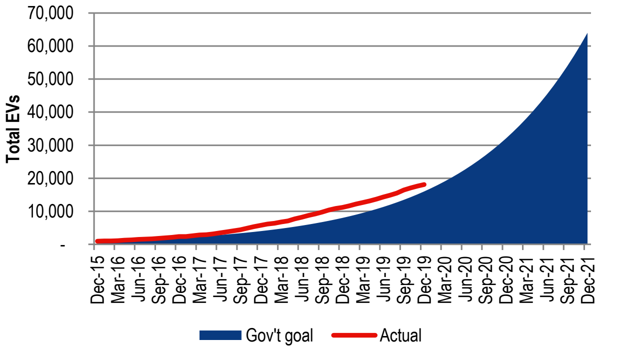
- In December 2019 there were 503 EVs registered of which 210 were new. There are now ~18,100 EVs registered in New Zealand. The number of EVs continues to be above the planned government level; however, the surplus gap of EVs above target is at its lowest point since April 2018 (~2,100).
- The percentage of EV registrations per total light vehicle registrations was unchanged from last month at ~2.1% which is below the 12m rolling average of ~2.8%.

Figure 30. Monthly EV registrations vs. government target



Source: Ministry of Transport, Forsyth Barr analysis

Figure 31. Total EVs registered vs. government target



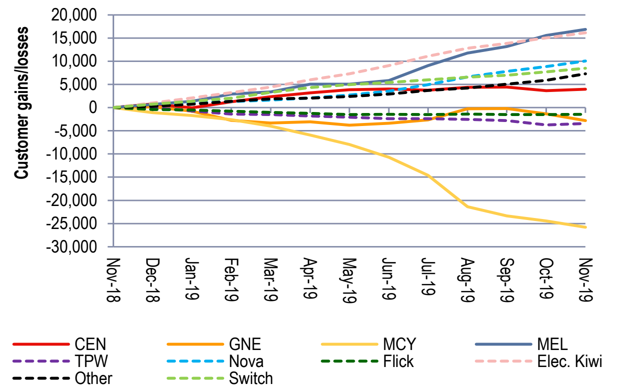
Source: Ministry of Transport, Forsyth Barr analysis

Retail electricity customers

MCY has another month of customer losses.

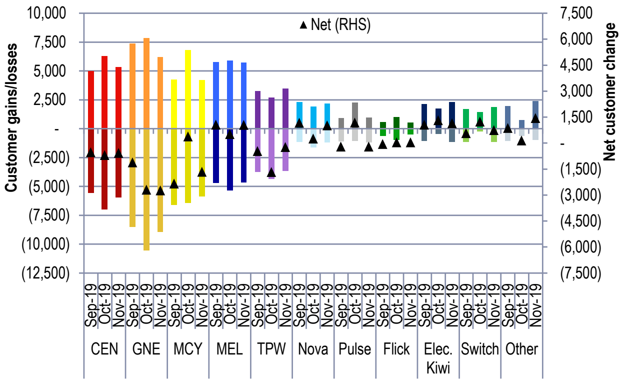
- MCY continues its run of losses, with -1,124 connections lost over November 2019. CEN and TPW were the only gainers out of the big five adding +291 and +295 connections respectively. MEL was relatively stable losing -101 connections following the gain of +2,380 in October 2019.
- All of the big five generator/retailers experienced losses in terms of customer switching. GNE was the worst having -2,140 customers switch to other retailers.

Figure 32. Cumulative 12-mth electricity customer gains/losses



Source: Forsyth Barr analysis

Figure 33. Customer switches (excludes market growth)

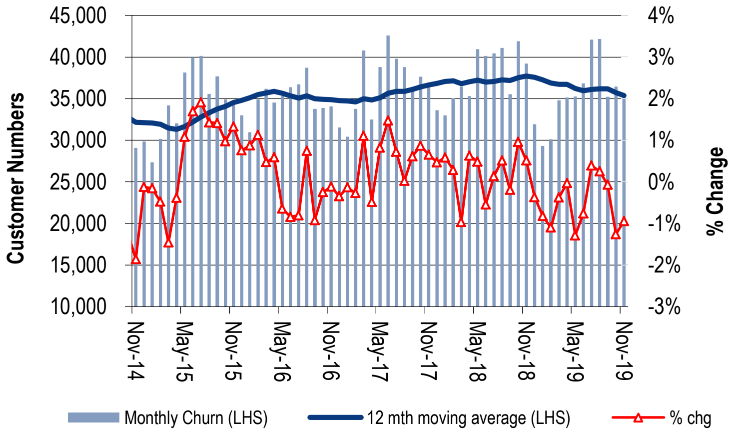


Source: Forsyth Barr analysis

Connection churn

- Customer switches continue to fall with ~35,200 in November 2019. This is -10% down on the pcp and at 19.8%, annual churn is at its lowest since September 2015.

Figure 34. Electricity connection churn



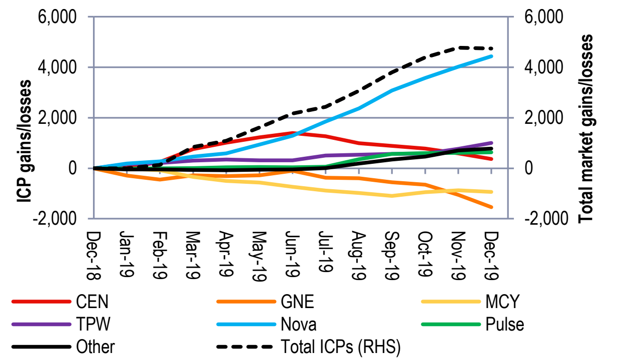
Source: Electricity Authority, Forsyth Barr analysis

Retail gas customers

GNE rebounds after Nov 19 losses

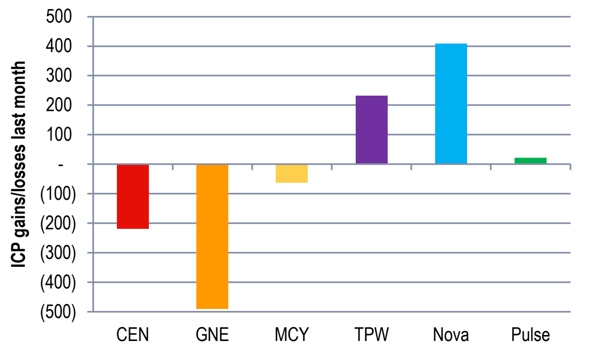
- GNE gained +408 gas connections in December, helping to make up for the loss of -396 in November. Nova continues to gain connections, adding +92 over the month. CEN had the most disappointing month losing -219 connections, MCY experienced little change (-9).
- Over the last year GNE has performed the worst, losing -1,538 connections, Nova has gained +4,432 over the 12 month period and TPW has been the best of the big five generator/retailers, gaining +1,005 gas connections.

Figure 35. Gas connection gains/losses over the past 12-months



Source: Gas Industry Council, Forsyth Barr analysis

Figure 36. Gas connection gains/losses in December 2019



Source: Gas Industry Council, Forsyth Barr analysis

Key statistics

Figure 37. Key operating statistics

	Dec-18	Nov-19	Dec-19	% Chg pcp	% Chg mom
Average Monthly Prices					
OTA avg ($/MWh)	$113.2	$116.4	$55.5	-51.0%	-52.3%
HAY avg ($/MWh)	$102.2	$101.5	$47.5	-53.5%	-53.2%
BEN avg ($/MWh)	$96.6	$93.5	$44.1	-54.3%	-52.9%
Avg Daily Generation (GWh)					
CEN	20.9	23.5	22.2	5.9%	-5.5%
% of NZ Generation	20.4%	21.8%	20.9%	2.0%	-4.2%
GNE	16.8	17.3	15.4	-8.0%	-10.6%
% of NZ Generation	16.4%	16.0%	14.5%	-11.3%	-9.4%
MCY	20.0	18.9	19.9	-0.3%	5.1%
% of NZ Generation	19.5%	17.6%	18.7%	-4.0%	6.6%
MEL	34.1	39.1	41.3	21.3%	5.7%
% of NZ Generation	33.2%	36.2%	38.8%	16.9%	7.2%
TPW	7.1	6.5	6.1	-14.0%	-6.4%
% of NZ Generation	6.9%	6.1%	5.8%	-17.1%	-5.1%
Daily Demand (GWh)					
Demand (excl Tiwai)	83.5	92.1	91.8	9.9%	-0.3%
NZAS demand	14.7	14.2	14.2	-3.3%	0.0%
Total NZ Demand	98.2	106.2	105.9	7.9%	-0.3%
Hydrology (% of average)					
Average hydro inflows	93%	110%	112%	20.3%	1.8%
Average hydro storage	94%	114%	115%	23.2%	1.0%
Month end hydro storage	95%	128%	135%	42.1%	5.5%
ASX futures as at:	**29-Nov-18**	**29-Nov-19**	**31-Dec-19**		
Short-dated OTA	$ 116.9	$ 129.7	$ 125.2	7.1%	-3.5%
Long-dated OTA	$ 81.4	$ 98.5	$ 99.3	21.9%	0.8%
Short-dated BEN	$ 104.2	$ 103.0	$ 97.0	-6.9%	-5.8%
Long-dated BEN	$ 75.4	$ 87.9	$ 88.5	17.4%	0.6%

Source: NZX Energy, EnergyLink, IRESS, Forsyth Barr analysis

Industry news — November 2019

Listed sector company news

Genesis (GNE)

- GNE will recertify Unit 2 for a back up role. The coal and gas fired 250 MW Rankine unit has been out of operation since October but will be available within 12 to 48 hours as a backup for Units 1 and 4, as well as the possibility to partially cover Unit 5 production. The 1Q20 outages are a key reason for ensuring that back up generation is available.

Mercury (MCY)

- Vince Hawksworth has been appointed as CEO of MCY and will start in this role in April 2020. Hawksworth is currently the CEO of TPW where he has been since 2010. MCY's CFO William Meek will assume the interim CEO role in the small gap between Fraser Whineray's departure in March and Hawksworth starting in April.

Trustpower (TPW)

- TPW has announced that as it searches for a new CEO to replace Vince Hawksworth, director David Prentice will serve as interim CEO for up to 12 months. Prentice is the former managing CEO of Opus International Consultants, and more recently, the Chair of the Interim Climate Change Commission. Prentice has been a director for TPW since August 2019.

Political / regulatory news

- The Electricity Authority (EA) has received a complaint from six companies alleging that MEL and CEN have breached standards trading (ICCC) by pricing large tranches of generation at high prices despite spilling water following the November rain event.
- The Government has put out two discussion documents for consultation that would see the removal of the $25/unit cap, and see it replaced with a $50/unit cap and a $20/unit price floor. The fixed price the government sells the credits for would also rise to $35/unit, up from the current $25/unit. These proposed changes are already having an impact on carbon unit prices.

Other industry news

- NZAS has asked Energy Minister Megan Woods to consider whether a prudent discount should apply to the smelter. A prudent discount is designed for a scenario where it would be cheaper for a company to build its own transmission rather than use the grid.
- MainPower has begun its pre-construction site works on what will be the largest wind farm in the South Island. The 93MW farm will be located on Mt. Cass in North Canterbury and will include 22 General Electric Typhoon-class turbines.
- Windflow Technology has been placed into voluntary liquidation, with opportunities failing to materialise being cited as the main reason for the company's failure. PwC has been appointed as liquidator and have said they expect all debts to be paid in the liquidation. NZ Windfarms use Windflow Technology turbines.
- OMV announced that on 8 January it started experiencing an unplanned outage at the Pohokura gas plant. The estimated cut in production from POW-2 being offline is 40 terajoules a day. This is in addition to the current planned production output of 25–35 terajoules a day. The two outages combined have cut production by ~-30%.
- Five companies from within the Major Electricity Users' Group (MEUG) have created a business plan which would see them combining their demand in order to encourage new renewable energy developments within the country. The businesses' have already been in discussions with generators and renewables developers and have said there is interest in the project. The companies involved are Pan Pac Forest Products, Refining NZ, NZ Steel, Fonterra, Oji Fibre Solutions and Balance Agri-nutrients (which isn't in MEUG but is involved in the project).

Contact Energy Limited (CEN)

Priced as at 14 Jan 2020 (NZ$)	**7.43**

12-month target price (NZ$)*	8.15
Expected share price return	9.7%
Net dividend yield	5.3%
Estimated 12-month return	15.0%

Spot valuations (NZ$)	
1. DCF	7.48
2. Market multiples	8.26
3. Dividend yield	8.54

Key WACC assumptions	
Risk free rate	2.00%
Equity beta	0.88
WACC	6.6%
Terminal growth	1.5%

DCF valuation summary (NZ$m)	
Total firm value	6,526
(Net debt)/cash	(1,108)
Less: Capitalised operating leases	
Value of equity	5,418

Profit and Loss Account (NZ	2018A	2019A	2020E	2021E	2022E
Sales revenue	2,275	2,519	2,278	2,291	2,210
Normalised EBITDA	**479**	**518**	**478**	**495**	**493**
Depreciation and amortisation	-	(205)	(202)	(201)	(199)
Normalised EBIT	**259**	**313**	**276**	**294**	**294**
Net interest	(84)	(70)	(58)	(58)	(57)
Depreciation capex adjustmen	99	104	100	98	96
Tax	(48)	(72)	(61)	(66)	(66)
Minority interests	-	-	-	-	-
Adjusted normalised NPAT	**227**	**280**	**258**	**268**	**266**
Abnormals/other	(97)	65	(100)	(98)	(96)
Reported NPAT	**130**	**345**	**157**	**170**	**170**
Normalised EPS (cps)	31.7	39.2	36.0	37.4	37.1
DPS (cps)	32.0	39.0	39.0	39.5	40.0

Valuation Ratios	2018A	2019A	2020E	2021E	2022E
EV/EBITDA (x)	14.2	12.6	13.1	12.7	12.7
EV/EBIT (x)	26.3	20.8	22.6	21.3	21.4
PE (x)	23.4	19.0	20.6	19.9	20.0
Price/NTA (x)	2.3	2.3	2.4	2.5	2.6
Free cash flow yield (%)	5.6	6.4	4.8	5.6	5.6
Net dividend yield (%)	4.3	5.2	5.2	5.3	5.4
Gross dividend yield (%)	5.1	6.6	6.6	6.8	7.0

Capital Structure	2018A	2019A	2020E	2021E	2022E
Interest cover EBIT (x)	3.3	4.8	5.2	5.5	5.6
Interest cover EBITDA (x)	5.7	7.4	8.3	8.5	8.6
Net debt/ND+E (%)	34.7	25.3	26.6	27.1	27.7
Net debt/EBITDA (x)	3.0	1.8	2.0	1.9	1.9

Growth Rates	2018A	2019A	2020A	2021A	2022A
Revenue (%)	9.4	10.7	-9.6	0.6	-3.5
EBITDA (%)	-4.4	8.1	-7.6	3.4	-0.4
EBIT (%)	-11.6	20.8	-11.7	6.3	0.0
Normalised NPAT (%)	9.1	23.4	-8.1	3.9	-0.7
Normalised EPS (%)	9.1	23.4	-8.1	3.9	-0.7
Ordinary DPS (%)	23.1	21.9	0.0	1.3	1.3

Key Ratios	2018A	2019A	2020E	2021E	2022E
Return on assets (%)	4.9	9.8	5.7	6.2	6.4
Return on equity (%)	4.7	6.3	5.9	6.6	6.9
Return on funds employed (%	4.5	9.4	5.5	6.0	6.2
EBITDA margin (%)	21.1	20.6	21.0	21.6	22.3
EBIT margin (%)	11.4	12.4	12.1	12.8	13.3
Capex to sales (%)	3.6	2.5	4.1	2.8	3.0
Capex to depreciation (%)	n/a	31	46	32	33
Imputation (%)	48	64	65	70	75
Pay-out ratio (%)	101	100	108	106	108

Cash Flow (NZ$m)	2018A	2019A	2020E	2021E	2022E
EBITDA	**479**	**518**	**478**	**495**	**493**
Working capital change	38	(19)	(9)	(5)	(1)
Interest & tax paid	(111)	(112)	(121)	(129)	(131)
Other	(27)	14	-	-	-
Operating cash flow	**379**	**401**	**349**	**361**	**362**
Capital expenditure	(82)	(63)	(93)	(65)	(66)
(Acquisitions)/divestments	6	382	-	-	-
Other	(7)	-	-	-	-
Funding available/(required)	**296**	**720**	**256**	**296**	**295**
Dividends paid	(201)	(251)	(279)	(279)	(283)
Equity raised/(returned)	1	-	-	-	-
(Increase)/decrease in net d	**96**	**469**	**(23)**	**17**	**13**

Operating Performance	2018A	2019A	2020E	2021E	2022E
Hydro generation (GWh)	3,479	4,232	4,117	3,887	3,887
Geothermal generation (GWh	3,323	3,257	3,346	3,346	3,346
Thermal generation (GWh)	1,812	1,422	1,508	1,704	1,784
Total Generation (GWh)	**8,614**	**8,911**	**8,971**	**8,937**	**9,018**
GWAP ($/MWh)	85	129	112	101	87
Gas consumed (PJ)	17.5	13.9	14.4	16.1	16.9
Gas price ($/GJ)	6.1	7.1	7.2	7.3	7.4
Retail electricity volumes (GW	6,997	6,554	5,948	6,188	6,183
Electricity customers (000)	413	411	411	408	406
Average usage/customer (MW	8.7	8.6	8.6	8.6	8.6
Average retail price ($/MWh)	242	244	247	252	257
LWAP ($/MWh)	91	138	122	110	94
LWAP/GWAP	1.07	1.07	1.09	1.09	1.08
Retail gas volumes (PJ)	2.9	3.1	3.2	3.2	3.2
Gas customers (000)	65	67	67	68	68
Average gas sales price ($/GJ	24.6	23.6	25.5	26.0	26.5

Balance Sheet (NZ$m)	2018A	2019A	2020E	2021E	2022E
Working capital	(22)	(3)	6	10	11
Fixed assets	4,253	4,126	4,017	3,881	3,748
Intangibles	441	425	425	425	425
Right of use asset	-	-	-	-	-
Other assets	404	132	132	132	132
Total funds employed	**5,076**	**4,680**	**4,580**	**4,448**	**4,316**
Net debt/(cash)	1,448	943	966	949	936
Lease liability	-	-	-	-	-
Other liabilities	901	955	950	941	931
Shareholder's funds	2,727	2,782	2,664	2,558	2,449
Minority interests	-	-	-	-	-
Total funding sources	**5,076**	**4,680**	**4,580**	**4,448**	**4,316**

Genesis Energy Limited (GNE)

Priced as at 14 Jan 2020 (NZ$)	**3.17**

12-month target price (NZ$)*	**3.23**
Expected share price return	1.9%
Net dividend yield	5.5%
Estimated 12-month return	7.4%

Spot valuations (NZ$)	
1. DCF	2.87
2. Market multiple	3.17
3. Dividend yield	3.60

Key WACC assumptions	
Risk free rate	2.00%
Equity beta	0.88
WACC	6.8%
Terminal growth	1.5%

DCF valuation summary (NZ$m)	
Total firm value	4,265
(Net debt)/cash	(1,255)
Less: Capitalised operating leases	
Value of equity	3,010

Profit and Loss Account (NZ$m)	**2018A**	**2019A**	**2020E**	**2021E**	**2022E**
Sales revenue	2,305	2,701	2,657	2,434	2,399
Normalised EBITDA	**361**	**363**	**366**	**410**	**456**
Depreciation and amortisation	(206)	(197)	(210)	(214)	(231)
Normalised EBIT	**155**	**167**	**155**	**197**	**225**
Net interest	(74)	(73)	(73)	(66)	(61)
Associate income	-	-	-	-	-
Tax	(22)	(27)	(23)	(37)	(46)
Deprecation capex adjustment	71	92	98	107	134
Adjusted normalised NPAT	**129**	**159**	**158**	**202**	**252**
Abnormals/other	(109)	(100)	(98)	(107)	(134)
Reported NPAT	**20**	**59**	**59**	**95**	**118**
Normalised EPS (cps)	12.8	15.5	15.2	19.3	24.0
DPS (cps)	16.9	17.1	17.4	17.7	18.0

Valuation Ratios	**2018A**	**2019A**	**2020E**	**2021E**	**2022E**
EV/EBITDA (x)	12.4	12.2	12.2	10.9	9.9
EV/EBIT (x)	28.8	26.6	28.8	22.8	20.0
PE (x)	24.8	20.4	20.8	16.4	13.2
Price/NTA (x)	2.0	1.8	1.9	2.0	2.1
Free cash flow yield (%)	4.9	5.0	5.6	6.6	8.0
Net dividend yield (%)	5.3	5.4	5.5	5.6	5.7
Gross dividend yield (%)	7.0	7.1	7.4	7.6	7.8

Capital Structure	**2018A**	**2019A**	**2020E**	**2021E**	**2022E**
Interest cover EBIT (x)	1.4	2.1	2.1	3.0	3.7
Interest cover EBITDA (x)	4.9	5.0	5.0	6.3	7.5
Net debt/ND+E (%)	37.7	35.5	37.3	36.7	35.4
Net debt/EBITDA (x)	3.3	3.3	3.4	2.9	2.4

Growth Rates	**2018A**	**2019A**	**2020A**	**2021A**	**2022A**
Revenue (%)	18.1	17.2	-1.6	-8.4	-1.5
EBITDA (%)	5.9	0.8	0.6	12.3	11.1
EBIT (%)	-2.0	7.8	-7.1	26.9	14.1
Normalised NPAT (%)	-18.9	23.5	-0.8	28.0	24.9
Normalised EPS (%)	-19.6	21.7	-1.9	26.7	24.3
Ordinary DPS (%)	1.8	0.9	1.8	1.7	1.7

Key Ratios	**2018A**	**2019A**	**2020E**	**2021E**	**2022E**
Return on assets (%)	2.4	3.4	3.4	4.5	5.3
Return on equity (%)	3.0	3.1	2.9	4.7	6.0
Return on funds employed (%)	3.6	3.6	3.4	4.4	5.3
EBITDA margin (%)	15.6	13.5	13.8	16.9	19.0
EBIT margin (%)	6.7	6.2	5.8	8.1	9.4
Capex to sales (%)	4.7	2.5	2.8	2.6	2.4
Capex to depreciation (%)	52	35	35	30	25
Imputation (%)	80	80	90	95	95
Pay-out ratio (%)	132	110	114	91	75

Cash Flow (NZ$m)	**2018A**	**2019A**	**2020E**	**2021E**	**2022E**
EBITDA	**361**	**363**	**366**	**410**	**456**
Working capital change	33	(27)	(1)	(12)	(9)
Interest & tax paid	(120)	(123)	(109)	(118)	(130)
Other	(7)	17	-	-	-
Operating cash flow	**266**	**231**	**256**	**280**	**317**
Capital expenditure	(108)	(69)	(74)	(64)	(57)
(Acquisitions)/divestments	0	(0)	-	-	-
Other	-	-	-	-	-
Funding available/(required)	**159**	**162**	**182**	**216**	**260**
Dividends paid	(148)	(132)	(139)	(143)	(167)
Equity raised/(returned)	(1)	(1)	-	-	-
(Increase)/decrease in net debt	**10**	**29**	**43**	**73**	**93**

Operating Performance	**2018A**	**2019A**	**2020E**	**2021E**	**2022E**
Renewable generation	3,084	2,835	2,611	2,717	2,717
Gas generation	3,392	2,586	2,836	2,783	2,783
Coal generation	657	1,410	1,121	876	876
Total GNE generation (GWh)	**7,133**	**6,831**	**6,568**	**6,377**	**6,377**
GWAP ($/MWh)	92	143	132	108	97
Retail electricity					
Electricity customers (000)	504	499	499	494	492
MM/SME volumes	4,169	4,077	4,067	4,057	4,036
TOU volumes	1,811	1,992	2,061	2,082	2,102
Total fixed price volumes (GWh	**5,980**	**6,068**	**6,128**	**6,139**	**6,138**
Average MM usage/cust (kWh/yr)	8,240	8,126	8,122	8,162	8,191
Average FPVV price ($/MWh)	206	207	212	214	217
LWAP ($/MWh)	92	139	133	109	97
LWAP/GWAP	1.01	0.97	1.01	1.01	1.01
Line losses (%)	5.3	5.4	5.6	5.6	5.6
Kupe production					
Gas production (PJ)	11.8	11.8	10.5	10.0	11.5
Oil production (k barrels)	532.8	472.9	381.1	355.0	564.2
LPG production (k tonnes)	45.9	50.6	45.2	42.4	47.8
Kupe EBITDAF ($m)	115.3	108.8	98.6	94.9	124.9
Energy EBITDAF ($m)	245.2	254.6	266.9	315.4	331.2
GNE EBITDAF ($m)	**360.5**	**363.4**	**365.6**	**410.4**	**456.1**

Balance Sheet (NZ$m)	**2018A**	**2019A**	**2020E**	**2021E**	**2022E**
Working capital	90	111	112	124	132
Fixed assets	3,430	3,717	3,664	3,536	3,371
Intangibles	364	364	368	362	355
Right of use asset	-	-	-	-	-
Other assets	84	121	121	121	121
Total funds employed	**3,968**	**4,313**	**4,264**	**4,143**	**3,979**
Net debt/(cash)	1,206	1,228	1,272	1,215	1,123
Lease liability	-	-	-	-	-
Other liabilities	806	934	921	905	881
Shareholder's funds	1,956	2,151	2,072	2,024	1,975
Minority interests	-	-	-	-	-
Total funding sources	**3,968**	**4,313**	**4,264**	**4,143**	**3,979**

Mercury NZ Limited (MCY)

Priced as at 14 Jan 2020 (NZ$)	5.20

12-month target price (NZ$)*	4.62
Expected share price return	-11.2%
Net dividend yield	3.1%
Estimated 12-month return	-8.1%

Spot valuations (NZ$)	
1. DCF	4.20
2. Market multiple	5.01
3. Dividend yield	4.49

Key WACC assumptions	
Risk free rate	2.00%
Equity beta	0.88
WACC	6.8%
Terminal growth	1.5%

DCF valuation summary (NZ$m)	
Total firm value	7,029
(Net debt)/cash	(1,223)
Less: Capitalised operating leases	
Value of equity	5,806

Profit and Loss Account (NZ$m)	2018A	2019A	2020E	2021E	2022E
Sales revenue	1,798	2,000	1,963	1,805	1,762
Normalised EBITDA	**566**	**505**	**516**	**524**	**551**
Depreciation and amortisation	(201)	(204)	(197)	(200)	(203)
Normalised EBIT	**365**	**301**	**319**	**323**	**348**
Net interest	(91)	(75)	(66)	(69)	(74)
Associate income	2	1	3	3	3
Tax	(91)	(73)	(74)	(74)	(80)
Depreciation capex adj	58	78	67	91	91
Adjusted normalised NPAT	**256**	**239**	**250**	**275**	**289**
Abnormals/other	(7)	118	(67)	(91)	(91)
Reported NPAT	**249**	**357**	**183**	**184**	**198**
Normalised EPS (cps)	18.8	17.6	18.3	20.2	21.2
DPS (cps)	15.1	15.5	15.8	16.2	18.6

Valuation Ratios	2018A	2019A	2020E	2021E	2022E
EV/EBITDA (x)	14.3	15.8	15.3	15.2	14.4
EV/EBIT (x)	22.0	26.4	24.5	24.4	22.7
PE (x)	27.7	29.6	28.4	25.7	24.5
Price/NTA (x)	2.2	2.0	2.1	2.1	2.1
Free cash flow yield (%)	3.5	2.9	1.6	1.1	3.0
Net dividend yield (%)	2.9	3.0	3.0	3.1	3.6
Gross dividend yield (%)	4.0	4.1	4.2	4.3	4.9

Capital Structure	2018A	2019A	2020E	2021E	2022E
Interest cover EBIT (x)	4.7	6.7	4.9	4.8	4.8
Interest cover EBITDA (x)	6.2	6.7	7.8	7.6	7.5
Net debt/ND+E (%)	70.8	61.8	64.9	68.5	69.7
Net debt/EBITDA (x)	2.2	2.2	2.3	2.5	2.4

Growth Rates	2018A	2019A	2020A	2021A	2022A
Revenue (%)	12.6	11.2	-1.9	-8.0	-2.4
EBITDA (%)	8.2	-10.8	2.2	1.4	5.3
EBIT (%)	7.9	-17.7	6.7	1.3	7.5
Normalised NPAT (%)	1.8	-6.5	4.4	10.2	5.0
Normalised EPS (%)	2.9	-6.4	4.4	10.2	5.0
Ordinary DPS (%)	3.4	2.6	1.9	2.5	14.8

Key Ratios	2018A	2019A	2020E	2021E	2022E
Return on assets (%)	7.1	7.8	4.9	4.9	5.3
Return on equity (%)	6.0	4.6	5.2	5.3	5.7
Return on funds employed (%)	5.8	4.7	4.9	4.8	5.2
EBITDA margin (%)	31.5	25.3	26.3	29.0	31.3
EBIT margin (%)	20.4	15.1	16.4	18.1	19.9
Capex to sales (%)	7.1	6.1	15.3	13.5	8.5
Capex to depreciation (%)	69	67	164	131	79
Imputation (%)	100	100	100	100	95
Pay-out ratio (%)	80	88	86	80	88

Cash Flow (NZ$m)	2018A	2019A	2020E	2021E	2022E
EBITDA	**566**	**505**	**516**	**524**	**551**
Working capital change	4	2	52	(39)	(20)
Interest & tax paid	(192)	(148)	(158)	(161)	(172)
Other	(4)	(33)	-	-	-
Operating cash flow	**374**	**326**	**410**	**323**	**359**
Capital expenditure	(127)	(122)	(299)	(244)	(150)
(Acquisitions)/divestments	(139)	215	-	-	-
Other	1	12	1	1	1
Funding available/(required)	**109**	**431**	**111**	**80**	**209**
Dividends paid	(273)	(208)	(212)	(218)	(225)
Equity raised/(returned)	(50)	-	-	-	-
(Increase)/decrease in net debt	**(214)**	**223**	**(101)**	**(137)**	**(15)**

Operating Performance	2018A	2019A	2020E	2021E	2022E
Hydro	4,947	4,006	4,088	4,016	4,016
Geothermal	2,757	2,894	2,810	2,829	2,829
Wind	-	-	-	181	562
Total MCY Generation (GWh)	**7,704**	**6,900**	**6,898**	**7,026**	**7,407**
GWAP ($/MWh)	86	139	132	104	93
Electricity sales					
Electricity customers (000)	388	373	354	351	347
MM volumes	3,278	3,182	2,972	2,908	2,885
TOU volumes	1,200	1,319	1,526	1,616	1,624
Total Fixed Price volumes (GWh	**4,478**	**4,501**	**4,498**	**4,524**	**4,509**
Spot Sales	891	780	731	734	738
Net CFD's	2,110	1,624	1,563	1,563	1,563
Total Sales (GWh)	**7,479**	**6,905**	**6,791**	**6,821**	**6,810**
Average usage per cust (MWh/yr)	11.4	11.8	12.5	12.8	12.9
LWAP ($/MWh)	92	144	138	110	98
LWAP/GWAP	1.06	1.04	1.05	1.05	1.06
Average FPVV price ($/MWh)	113	113	114	116	118
Line losses (%)	5.6	5.1	5.4	5.3	5.3
Energy margin ($m)	730	667	700	706	741
Operating costs ($m)	(205)	(199)	(203)	(202)	(210)
Other revenue ($m)	41	37	19	20	20
MCY EBITDAF ($m)	**566**	**505**	**516**	**524**	**551**

Balance Sheet (NZ$m)	2018A	2019A	2020E	2021E	2022E
Working capital	63	63	11	50	71
Fixed assets	5,370	5,528	5,635	5,686	5,640
Intangibles	85	62	59	57	55
Right of use asset	-	-	-	-	-
Other assets	385	521	523	526	529
Total funds employed	**5,903**	**6,174**	**6,229**	**6,319**	**6,294**
Net debt/(cash)	1,264	1,096	1,197	1,334	1,350
Lease liability	-	-	-	-	-
Other liabilities	1,306	1,498	1,482	1,468	1,455
Shareholder's funds	3,333	3,580	3,550	3,516	3,490
Minority interests	-	-	-	-	-
Total funding sources	**5,903**	**6,174**	**6,229**	**6,319**	**6,294**

Meridian Energy Limited (MEL)

Priced as at 14 Jan 2020 (NZ$) **5.15**

12-month target price (NZ$)*	4.25
Expected share price return	-17.5%
Net dividend yield	4.2%
Estimated 12-month return	-13.3%

Spot valuations (NZ$)	
1. DCF	3.74
2. Market multiple	4.39
3. Dividend yield	4.49

Key WACC assumptions	
Risk free rate	2.00%
Equity beta	0.84
WACC	6.7%
Terminal growth	1.5%

DCF valuation summary (NZ$m)	
Total firm value	11,350
(Net debt)/cash	(1,761)
Less: Capitalised operating leases	
Value of equity	9,589

Profit and Loss Account (NZ$m)	2018A	2019A	2020E	2021E	2022E
Sales revenue	3,297	4,104	3,620	3,566	3,391
Normalised EBITDA	**666**	**838**	**852**	**778**	**768**
Depreciation and amortisation	(21)	(276)	(309)	(302)	(296)
Normalised EBIT	**398**	**562**	**543**	**476**	**471**
Net interest	(81)	(83)	(78)	(78)	(81)
Associate income & other	(19)	(14)	(17)	(19)	(19)
Tax	(95)	(133)	(125)	(106)	(104)
Minority interests	-	-	-	-	-
Reported NPAT	**203**	**332**	**322**	**273**	**267**
Abnormals/other	158	149	183	177	171
Adjusted normalised NPAT	**361**	**481**	**505**	**449**	**439**
Normalised EPS (cps)	14.1	18.8	19.7	17.5	17.1
DPS (cps)	19.2	21.3	21.5	21.8	20.6

Valuation Ratios	2018A	2019A	2020E	2021E	2022E
EV/EBITDA (x)	21.8	17.5	17.2	18.8	19.1
EV/EBIT (x)	36.5	26.1	27.0	30.8	31.1
PE (x)	36.6	27.4	26.1	29.4	30.1
Price/NTA (x)	2.8	2.4	2.5	2.7	2.9
Free cash flow yield (%)	1.4	4.3	3.9	3.6	3.6
Net dividend yield (%)	3.7	4.1	4.2	4.2	4.0
Gross dividend yield (%)	4.7	5.2	5.2	5.3	5.1

Capital Structure	2018A	2019A	2020E	2021E	2022E
Interest cover EBIT (x)	4.7	6.6	6.7	5.8	5.6
Interest cover EBITDA (x)	8.2	10.1	10.9	9.9	9.5
Net debt/ND+E (%)	71.3	76.9	87.8	105.5	130.0
Net debt/EBITDA (x)	2.2	1.7	1.7	2.0	2.1

Growth Rates	2018A	2019A	2020A	2021A	2022A
Revenue (%)	16.7	24.5	-11.8	-1.5	-4.9
EBITDA (%)	1.4	25.8	1.7	-8.7	-1.3
EBIT (%)	1.3	41.2	-3.4	-12.3	-1.0
Normalised NPAT (%)	-3.1	33.4	5.0	-11.1	-2.4
Normalised EPS (%)	-3.1	33.4	5.0	-11.1	-2.4
Ordinary DPS (%)	1.5	10.9	1.0	1.4	-5.6

Key Ratios	2018A	2019A	2020E	2021E	2022E
Return on assets (%)	4.4	5.7	5.6	5.0	5.1
Return on equity (%)	4.3	6.1	6.2	5.5	5.7
Return on funds employed (%)	4.6	5.9	5.8	5.3	5.4
EBITDA margin (%)	20.2	20.4	23.5	21.8	22.6
EBIT margin (%)	12.1	13.7	15.0	13.4	13.9
Capex to sales (%)	7.5	1.7	2.1	2.1	1.7
Capex to depreciation (%)	n/a	28	27	27	21
Imputation (%)	68	66	65	65	70
Pay-out ratio (%)	136	113	109	124	120

Cash Flow (NZ$m)	2018A	2019A	2020E	2021E	2022E
EBITDA	**666**	**838**	**852**	**778**	**768**
Working capital change	(34)	(36)	(3)	24	13
Interest & tax paid	(186)	(200)	(245)	(226)	(227)
Other	(19)	33	(17)	(19)	(19)
Operating cash flow	**427**	**635**	**588**	**557**	**535**
Capital expenditure	(247)	(69)	(75)	(76)	(58)
(Acquisitions)/divestments	23	-	-	-	-
Other	-	-	-	-	-
Funding available/(required)	**203**	**566**	**513**	**481**	**477**
Dividends paid	(486)	(500)	(548)	(555)	(561)
Equity raised/(returned)	(2)	(2)	-	-	-
(Increase)/decrease in net debt	**(285)**	**64**	**(36)**	**(74)**	**(84)**

Operating Performance	2018A	2019A	2020E	2021E	2022E
Hydro generation	11,266	12,326	12,761	11,880	11,701
Wind generation	1,263	1,244	1,495	1,474	1,474
Total NZ generation (GWh)	**12,528**	**13,570**	**14,256**	**13,354**	**13,175**
GWAP ($/MWh)	83	123	100	99	84
Overseas generation (GWh)	581	730	725	800	800
Overseas GWAP ($/MWh) (NZD)	151	100	146	102	93
Overseas customer numbers (00(	97	110	130	147	157
NZ electricity customers (000)	**291**	**302**	**315**	**321**	**328**
Average usage per cust (MWh/yr)	13.5	13.2	13.1	13.0	13.0
Mass market volumes	3,824	3,901	4,031	4,137	4,224
Time of use volumes	2,157	2,338	2,838	2,861	2,883
Total fixed price volumes (GWh	**5,981**	**6,239**	**6,869**	**6,997**	**7,107**
NZAS sales	5,011	5,310	5,464	5,449	5,449
Sell CFDs	2,278	2,239	1,967	1,967	1,967
Buy CFDs	(2,222)	(1,965)	(1,938)	(1,740)	(1,740)
Total Sales (GWh)	**11,047**	**11,823**	**12,361**	**12,672**	**12,782**
Average FPVV price ($/MWh)	105	105	107	110	111
LWAP ($/MWh)	88	132	110	107	91
LWAP/GWAP	1.06	1.07	1.10	1.07	1.08
Lines losses (%)	5.3	5.9	5.5	5.5	5.5

Balance Sheet (NZ$m)	2018A	2019A	2020E	2021E	2022E
Working capital	(17)	(24)	(4)	(9)	(3)
Fixed assets	7,941	8,825	8,599	8,377	8,139
Intangibles	60	59	51	47	47
Right of use asset	-	-	-	-	-
Other assets	291	383	366	347	328
Total funds employed	**8,275**	**9,243**	**9,012**	**8,762**	**8,511**
Net debt/(cash)	1,461	1,424	1,460	1,534	1,617
Lease liability	-	-	-	-	-
Other liabilities	1,991	2,362	2,321	2,280	2,238
Shareholder's funds	4,823	5,457	5,231	4,949	4,656
Minority interests	-	-	-	-	-
Total funding sources	**8,275**	**9,243**	**9,012**	**8,762**	**8,511**

Tilt Renewables Limited (TLT)

Priced as at 14 Jan 2020 (NZ$)	**3.35**

12-month target price (NZ$)*	**3.70**
Expected share price return	10.4%
Net dividend yield	0.0%
Estimated 12-month return	10.4%

Key WACC assumptions	
Risk free rate	2.00%
Equity beta	0.94
WACC	7.4%
Terminal growth	1.5%

Profit and Loss Account (A$m)	**2018A**	**2019A**	**2020E**	**2021E**	**2022E**
Sales revenue	158	193	186	169	198
Normalised EBITDA	**104**	**135**	**125**	**103**	**117**
Depreciation and amortisation	(77)	(84)	(56)	(43)	(74)
Normalised EBIT	**27**	**51**	**524**	**60**	**42**
Net interest	(29)	(30)	(9)	(10)	(26)
Other	26	(2)	(10)	-	-
Tax	(7)	(7)	(14)	(15)	(5)
Depreciation capex adjustment	49	57	36	26	49
Normalised NPAT	**47**	**70**	**79**	**61**	**60**
Abnormals/other	(30)	(58)	413	(26)	(49)
Reported NPAT	**17**	**12**	**491**	**35**	**12**
Normalised EPS (cps)	15.1	14.9	16.7	13.0	12.9
DPS (cps)	3.1	1.1	-	-	-

Growth Rates	**2018A**	**2019A**	**2020A**	**2021A**	**2022A**
Revenue (%)	n/a	n/a	n/a	n/a	n/a
EBITDA (%)	n/a	n/a	n/a	n/a	n/a
EBIT (%)	n/a	n/a	n/a	n/a	n/a
Normalised NPAT (%)	3.9	-52.3	>100	-92.9	-66.5
Normalised EPS (%)	-41.9	-47.5	-100.0	n/a	n/a
Ordinary DPS (%)	n/a	n/a	n/a	n/a	n/a

Cash Flow (A$m)	**2018A**	**2019A**	**2020E**	**2021E**	**2022E**
EBITDA	**104**	**135**	**125**	**103**	**117**
Working capital change	(19)	1	(0)	(1)	2
Interest & tax paid	(42)	(42)	(23)	3	(12)
Other	14	(9)	(47)	-	-
Operating cash flow	**57**	**85**	**55**	**105**	**107**
Capital expenditure	(84)	(91)	(387)	(406)	(7)
(Acquisitions)/divestments	-	-	1,056	-	-
Other	-	-	-	-	-
Funding available/(required)	**(27)**	**(6)**	**724**	**(302)**	**100**
Dividends paid	(11)	(11)	-	-	-
Equity raised/(returned)	(0)	260	(1)	-	-
(Increase)/decrease in net debt	**(38)**	**243**	**723**	**(302)**	**100**

Balance Sheet (A$m)	**2018A**	**2019A**	**2020E**	**2021E**	**2022E**
Working capital	18	14	15	16	15
Fixed assets	1,171	1,067	916	1,280	1,212
Intangibles	1	1	1	1	1
Right of use asset	-	-	-	-	-
Other assets	101	114	74	74	74
Total funds employed	**1,290**	**1,196**	**1,005**	**1,370**	**1,301**
Net debt/(cash)	593	369	(335)	(33)	(133)
Lease liability	-	-	-	-	-
Other liabilities	186	171	219	247	265
Shareholder's funds	510	656	1,122	1,157	1,169
Minority interests	-	-	-	-	-
Total funding sources	**1,290**	**1,196**	**1,005**	**1,370**	**1,301**

* Forsyth Barr target prices reflect valuation rolled forward at cost of equity less the next 12-months dividend

Spot valuations (NZ$)	
1. DCF	3.42
2. Multiple	3.72
3. n/a	n/a

DCF valuation summary (NZ$m)	
Total firm value	2,024
(Net debt)/cash	(419)
Less: Capitalised operating leases	
Value of equity	1,605

Valuation Ratios	**2018A**	**2019A**	**2020E**	**2021E**	**2022E**
EV/EBITDA (x)	19.4	14.4	12.0	11.2	9.7
EV/EBIT (x)	75.3	37.9	2.9	19.1	26.8
PE (x)	20.5	20.9	18.9	24.2	24.4
Price/NTA (x)	n/a	5.8	5.7	5.7	5.6
Free cash flow yield (%)	3.0	5.1	3.1	6.3	6.3
Net dividend yield (%)	1.0	0.3	0.0	0.0	0.0
Gross dividend yield (%)	1.0	0.3	0.0	0.0	0.0

Capital Structure	**2018A**	**2019A**	**2020E**	**2021E**	**2022E**
Interest cover EBIT (x)	0.9	1.7	57.5	5.9	1.6
Interest cover EBITDA (x)	3.5	4.5	13.7	10.0	4.5
Net debt/ND+E (%)	53.8	36.0	-42.6	-3.0	-12.8
Net debt/EBITDA (x)	5.7	2.7	n/a	n/a	n/a

Key Ratios	**2018A**	**2019A**	**2020E**	**2021E**	**2022E**
Return on assets (%)	2.0	3.3	25.7	2.5	1.8
Return on equity (%)	9.3	10.7	7.0	5.3	5.2
Return on funds employed (%)	1.7	3.5	6.2	3.8	2.9
EBITDA margin (%)	65.7	69.7	67.1	60.8	59.0
EBIT margin (%)	16.9	26.5	282.1	35.6	21.4
Capex to sales (%)	52.9	47.0	208.4	240.8	3.5
Capex to depreciation (%)	108	109	686	956	9
Imputation (%)	0	0	0	0	0
Pay-out ratio (%)	20	7	0	0	0

Operating Performance	**2018A**	**2019A**	**2020E**	**2021E**	**2022E**
Australia installed capacity (MW)	386	440	305	506	506
NZ installed capacity (MW)	197	197	197	197	330
TLT installed capacity (MW)	**583**	**637**	**502**	**703**	**836**
Australia wind generation (GWh)	1,225	1,395	1,208	1,350	1,771
NZ wind generation (GWh)	571	658	665	672	1,119
TLT wind generation (GWh)	**1,796**	**2,053**	**1,874**	**2,022**	**2,890**
Price assumptions					
Australia REC price (A$/MWh)	83	78	55	25	12
SA wholesale price (A$/MWh)	69	87	89	77	61
VIC wholesale price (A$/MWh)		105	110	91	71
Australia PPA price (A$/MWh)	98	94	93	58	58
NZ PPA price (NZ$/MWh)	65	65	64	65	66
Australia spot sales (GWh)	23	155	428	657	524
Australia PPA sales (GWh)	1,202	1,239	780	693	1,247
Australia spot revenue (A$m)	3	34	72	87	56
Australia PPA revenue (A$m)	118	117	72	40	72
Australia revenue (A$m)	**122**	**151**	**144**	**127**	**128**
NZ revenue (A$m)	**36**	**42**	**42**	**42**	**70**
Australia EBITDAF (A$m)	**82**	**109**	**100**	**78**	**71**
NZ EBITDAF (A$m)	**22**	**25**	**25**	**25**	**46**

Trustpower Ltd (TPW)

Priced as at 14 Jan 2020 (NZ$)	**7.25**

12-month target price (NZ$)*	**7.75**
Expected share price return	6.9%
Net dividend yield	4.7%
Estimated 12-month return	11.6%

Spot valuations (NZ$)	
1. DCF	7.35
2. Market multiples	7.58
3. Dividend Yield	7.92

Key WACC assumptions	
Risk free rate	2.00%
Equity beta	0.88
WACC	6.6%
Terminal growth	1.5%

DCF valuation summary (NZ$m)	
Total firm value	2,975
(Net debt)/cash	(634)
Less: Capitalised operating leases	
Value of equity	2,325

Profit and Loss Account (NZ$m)	**2018A**	**2019A**	**2020E**	**2021E**	**2022E**
Sales revenue	979	1,030	1,000	994	994
Normalised EBITDA	**270**	**222**	**203**	**209**	**220**
Depreciation and amortisation	(16)	(47)	(39)	(40)	(40)
Normalised EBIT	**223**	**175**	**164**	**169**	**179**
Net interest	(34)	(28)	(35)	(35)	(35)
Depreciation capex adjustment	8	19	9	11	11
Tax	(55)	(48)	(40)	(42)	(44)
Minority interests	(1)	(2)	(2)	(2)	(2)
Normalised NPAT	**141**	**117**	**96**	**103**	**109**
Abnormals/other/depn adj	(13)	(26)	(17)	(8)	(8)
Reported NPAT	**128**	**91**	**79**	**94**	**101**
Normalised EPS (cps)	44.9	37.1	30.5	32.7	34.9
DPS (cps)	34.0	74.0	34.0	34.0	35.0

Valuation Ratios	**2018A**	**2019A**	**2020E**	**2021E**	**2022E**
EV/EBITDA (x)	10.6	12.6	14.2	14.0	13.3
EV/EBIT (x)	12.8	16.0	17.6	17.3	16.3
PE (x)	16.2	19.5	23.8	22.2	20.8
Price/NTA (x)	1.6	1.9	2.0	2.1	2.1
Free cash flow yield (%)	7.3	3.9	3.0	4.9	5.4
Net dividend yield (%)	4.7	10.2	4.7	4.7	4.8
Gross dividend yield (%)	6.5	12.4	6.5	6.5	6.7

Capital Structure	**2018A**	**2019A**	**2020E**	**2021E**	**2022E**
Interest cover EBIT (x)	7.0	6.8	5.0	5.2	5.4
Interest cover EBITDA (x)	7.9	7.9	5.9	6.0	6.2
Net debt/ND+E (%)	48.9	58.6	66.9	67.6	67.6
Net debt/EBITDA (x)	1.7	2.5	3.2	3.1	2.9

Growth Rates	**2018A**	**2019A**	**2020A**	**2021A**	**2022A**
Revenue (%)	4.2	5.2	-2.9	-0.6	0.0
EBITDA (%)	15.0	-17.6	-8.6	3.0	5.0
EBIT (%)	19.3	-21.6	-6.5	3.6	5.8
Normalised NPAT (%)	8.5	-17.3	-17.8	7.1	6.7
Normalised EPS (%)	8.5	-17.3	-17.8	7.1	6.7
Ordinary DPS (%)	3.0	0.0	0.0	0.0	2.9

Key Ratios	**2018A**	**2019A**	**2020E**	**2021E**	**2022E**
Return on assets (%)	9.2	7.2	6.6	7.6	8.1
Return on equity (%)	9.9	9.7	8.5	9.3	9.9
Return on funds employed (%)	8.5	7.2	6.5	6.6	7.1
EBITDA margin (%)	27.5	21.6	20.3	21.0	22.1
EBIT margin (%)	22.8	17.0	16.4	17.0	18.0
Capex to sales (%)	4.2	3.0	3.1	2.9	2.9
Capex to depreciation (%)	n/a	98	104	97	99
Imputation (%)	100	55	100	100	100
Pay-out ratio (%)	76	199	111	104	100

Cash Flow (NZ$m)	**2018A**	**2019A**	**2020E**	**2021E**	**2022E**
EBITDA	**270**	**222**	**203**	**209**	**220**
Working capital change	25	(47)	(41)	3	9
Interest & tax paid	(64)	(75)	(83)	(73)	(76)
Other	(23)	20	20	-	-
Operating cash flow	**208**	**120**	**99**	**140**	**152**
Capital expenditure	(42)	(31)	(31)	(28)	(29)
(Acquisitions)/divestments	118	8	-	-	-
Other	4	(2)	-	-	-
Funding available/(required)	**288**	**96**	**68**	**111**	**123**
Dividends paid	(110)	(190)	(154)	(106)	(108)
Equity raised/(returned)	(0.5)	-	-	-	-
(Increase)/decrease in net debt	**178**	**(95)**	**(85)**	**5**	**15**

Operating Performance	**2018A**	**2019A**	**2020E**	**2021E**	**2022E**
NZ electricity revenue	810	861	828	822	814
Gas revenue	29	29	30	32	34
Telecommunication revenue	81	88	92	96	103
Other revenue	60	52	50	45	44
Total revenue	**979**	**1,030**	**1,000**	**994**	**994**
Generation (GWh)	2,235	1,995	1,815	1,896	1,896
NZ GWAP ($/MWh)	88	125	118	106	86
Mass market sales (GWh)	1,887	1,845	1,794	1,791	1,782
TOU sales (GWh)	842	880	866	869	872
Spot sales (GWh)	1,086	1,021	1,034	1,037	1,041
Total Sales (GWh)	**3,815**	**3,746**	**3,693**	**3,696**	**3,694**
LWAP ($/MWh)	91	131	124	113	93
LWAP/GWAP	1.04	1.04	1.05	1.07	1.07
Electricity customers (000)	273	267	265	264	263
Usage/customer (MWh)	6.9	6.8	6.7	6.8	6.8
Revenue/MWh sold ($)	212	230	224	222	220
Gas customers (000)	37	39	41	42	43
Volume/customer (GJ)	27.5	26.5	24.5	24.5	24.5
Telco customers (000)	87	96	104	111	116
Revenue/customer ($)	991	963	959	968	978

Balance Sheet (NZ$m)	**2018A**	**2019A**	**2020E**	**2021E**	**2022E**
Working capital	(28)	(0)	24	24	25
Fixed assets	2,102	1,925	1,913	1,899	1,884
Intangibles	44	37	40	43	46
Right of use asset	-	-	-	-	-
Other assets	60	115	173	170	161
Total funds employed	**2,178**	**2,076**	**2,151**	**2,136**	**2,116**
Net debt/(cash)	467	557	646	641	626
Lease liability	-	-	-	-	-
Other liabilities	276	270	314	315	315
Shareholder's funds	1,413	1,224	1,165	1,153	1,147
Minority interests	22	25	25	27	28
Total funding sources	**2,178**	**2,076**	**2,151**	**2,136**	**2,116**