FORSYTH BARR

Power Points

November 2019 — NZAS Investor Angst

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Rio Tinto's (RIO) announcement that it is undertaking a strategic review of NZAS has caused significant angst amongst investors, such that the market cap of the sector is down -12%. Whilst we believe that NZAS is unlikely to close (less than a 10% chance), the threat of closure is once again at the forefront of investors' minds. In our view the share price reaction has been overdone and so we have upgraded our Contact Energy (CEN) and Genesis Energy (GNE) ratings to OUTPERFORM and our Mercury (MCY) and Meridian Energy (MEL) ratings to NEUTRAL.

Sector target price and rating changes

We have lowered our target prices between -0.4% and -3.3% reflecting the downside risk associated with NZAS closing. Most of the downside is related to lower electricity wholesale prices and thus far, the futures curve has shown little negative reaction. However, investor reaction has been far greater for CEN and MEL in particular, down -15% and -12% respectively. We believe the market reaction is overdone, hence, the upgrade in our ratings. Further details of the target price changes and transmission implications can be found in our report *Tiwai Transmission Cure to Take Time*.

Electricity demand up, wholesale electricity prices remain elevated

October 2019 electricity demand was up +2.6%, with cooler weather and increased irrigation load the likely drivers. Wholesale electricity prices remain little changed, with Benmore (BEN) averaging $119/MWh (same as September) and Otahuhu (OTA) up +3% to $128/MWh. Hydro lake storage gradually improved but remains below average. However, we note that Lake Taupo storage is currently 125% of average and it is apparent that MCY is holding back water with an eye on potentially higher prices later in the financial year.

MSCI decision imminent

On Friday 8 November, the MSCI Index update will be announced. We expect MCY will enter the Index and there is an outside chance that CEN will also enter; but that requires the number of constituents to increase to eight and for MSCI to assess index membership on one of two days in the 10 day window

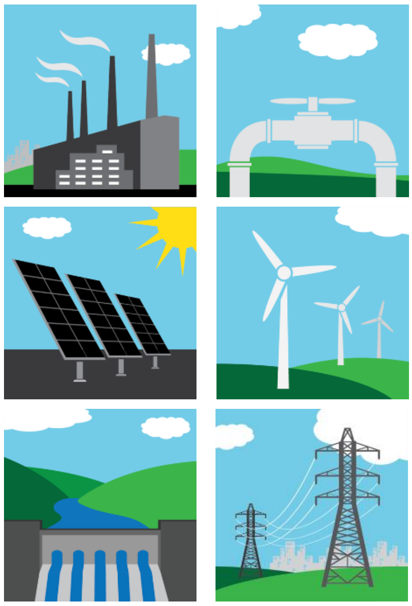


Figure 1. Summary company valuation metric | **Key changes (since October 2019 Power Points)**

Ticker	Price	Target Price	Target Return	Rating	FY20 EV/EBITDA	FY20 PE	FY20 Gr Yld*	EBITDAF NZ$m		EBITDAF		Target Price	Rating
CEN	$7.33	$8.03	14.9%	OUTPERFORM	13.3	21.1	6.6%	466	CEN	-$1m	-0.3%	-$0.19	▲
GNE	$3.16	$3.23	7.9%	OUTPERFORM	14.7	30.0	7.4%	365	GNE	-$2m	-0.5%	-$0.05	▲
MCY	$4.79	$4.53	-2.1%	NEUTRAL	14.7	26.2	4.6%	516	MCY	+$3m	0.5%	-$0.02	▲
MEL	$4.60	$4.11	-6.0%	NEUTRAL	16.2	24.7	5.8%	816	MEL	-$3m	-0.4%	-$0.14	▲
TLT	$2.96	$3.00	1.4%	OUTPERFORM	11.5	14.0	0.0%	156	TLT	+$0m	0.2%	+$0.00	-
TPW	$8.26	$8.20	3.4%	OUTPERFORM	15.0	24.5	5.6%	210	TPW	+$0m	0.0%	+$0.00	-

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

Investment View

The share price reaction to the potential closure of NZAS has created buying opportunities in the electricity sector. We believe the risk of closure is low (less than 10%) and that CEN, GNE and Trustpower (TPW) all offer good value at present (OUTPERFORM). We are NEUTRAL on MCY and MEL.

Power Points — November 2019

NZAS profitability update

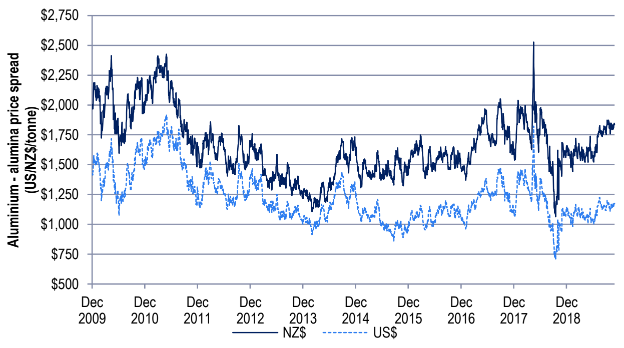
Strategic review announced

Following the surprise news that RIO is undertaking a strategic review of its NZAS smelter we update our analysis of the smelter's profitability. Profitability at the smelter continues to look good from our perspective, with alumina prices remaining low and the soft NZDUSD fx rate also aiding profitability. We estimate that the cash profit (pre-interest and pre-tax) for October 2019 was NZ$361/tonne ($121m on an annualised basis). That is up on the last 12-months.

Figure 2. Estimated NZAS profitability

Source: Bloomberg, IRESS, Forsyth Barr analysis

Figure 3. Aluminium-alumina spread



Source: Bloomberg, IRESS, Forsyth Barr analysis

The aluminium less alumina price in NZD is the key profit driver for NZAS. This is the most easily observable market data, with NZAS product premium in addition to the base aluminium price. Operating costs are largely fixed, hence, the smelter's profitability depends on a healthy spread between aluminium prices and alumina costs. The average aluminium less alumina spread is ~NZ$1,800/tonne over the past three months. In the last 10-years, 75% of the time it is less than ~NZ$1,800/tonne, highlighting that current smelter profitability is reasonable.

This analysis continues to support our view that NZAS is crying "wolf".

Figure 4. Breakdown of estimated NZAS cash profitability

		Spot	Oct-19	Rolling 12-mth
LME Aluminium price	US$/tonne	1,742	1,719	1,818
Japan product premium	US$/tonne	85	85	89
Value add premium	US$/tonne	174	172	182
Estimated revenue	**US$/tonne**	**2,001**	**1,976**	**2,089**
Alumina	US$/tonne	(566)	(567)	(715)
Gross profit	**US$/tonne**	**1,435**	**1,409**	**1,373**
	NZDUSD	0.640	0.634	0.664
Gross profit	NZ$/tonne	2,243	2,221	2,069
NZD opex/tonne	NZ$/tonne	(1,766)	(1,766)	(1,790)
EBITDA/tonne	**NZ$/tonne**	**477**	**456**	**280**
Capex/tonne	NZ$/tonne	(94)	(94)	(123)
(EBITDA - capex)/tonne	**NZ$/tonne**	**383**	**361**	**157**
(EBITDA - capex) (per annum)	NZ$m	128	121	53

Source: Bloomberg, IRESS, Forsyth Barr analysis

MSCI index changes to be announced on Friday — MCY is in, CEN an outside chance

Impacting on the generator/retailer share prices in recent months has been speculation about whether MCY and/or CEN will enter the New Zealand MSCI Index. The date where the MSCI undertakes its Index analysis was a random date in the 10-day period preceding 31 October.

Our analysis indicates that MCY is guaranteed to enter the MSCI Index. If the number of Index constituents increases from seven to eight (we believe that is more likely than not), CEN has a ~20% chance of replacing Fletcher Building (FBU) in the MSCI Index because for eight of the 10 days FBU was ahead of CEN.

MSCI will be announcing its Index changes on Friday 8 November, with changes to be implemented two weeks later.

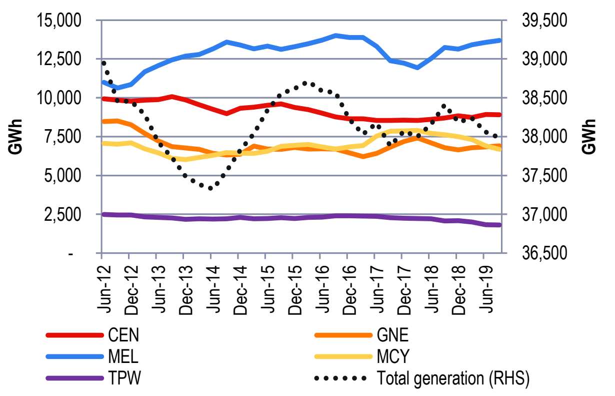
September 2019 quarterly statistics

During October, all of the generator/retailers published their operating statistics for the quarter ended September 2019. MEL once again had a very strong quarter, with most of its metrics moving in the right direction

Key points:

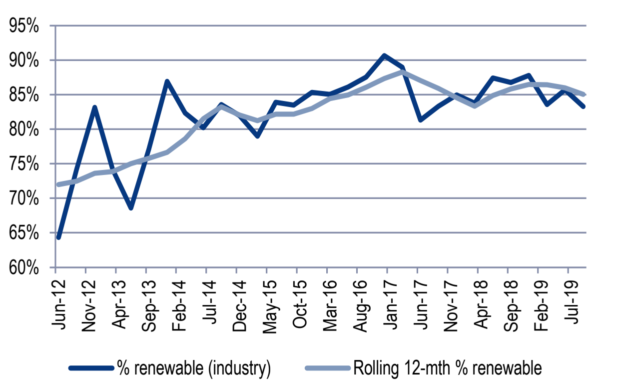
- South Island generators had a strong June 2019 quarter, with CEN reporting its highest quarterly hydro generation in the eight years all generators have been releasing operating statistics. MEL's hydro generation was the second highest.
- Renewable generation increased slightly on the past quarter to 86%.
- Mass market sales were down -3.8% vs. the pcp, predominantly due to the warm start to winter but also due to the incumbent retailers losing market share to Tier 2 retailers.
- Commercial sales volumes were flat, but it is noticeable which retailers have been active in this market over the past nine months, with MEL and MCY growing their commercial sales volumes more than +20%, whereas CEN's volumes fell -18%.
- Electricity customer numbers fell -5,000, with MCY dropping -6,000 customers. MCY was also the only retailer to lose gas customers.
- GNE showed strong electricity price growth (+4.4%). The declines in MEL and MCY retailer electricity price is due to mix changes in favour of commercial customers.
- LWAP/GWAP ratio for the sector was down (which is a positive) with both GNE and MCY below 1.00, a strong performance.

Figure 5. Rolling 12-month generation



Source: Company reports, Forsyth Barr analysis

Figure 6. Percentage of renewable generation



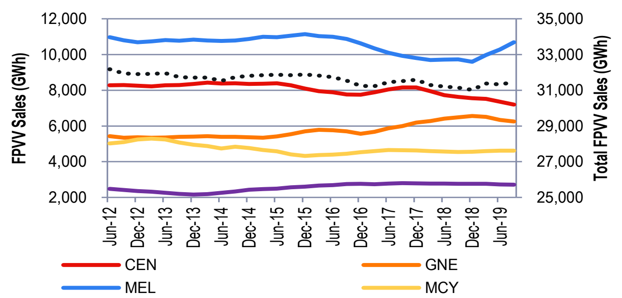
Source: Company reports, Forsyth Barr analysis

Figure 7. Quarterly statistics summary

	Quarter ending Sep-18						Quarter ending Sep-19						% Change					
	CEN	GNE	MEL	MCY	TPW *	Total	CEN	GNE	MEL	MCY	TPW *	Total	CEN	GNE	MEL	MCY	TPW *	Total
Generation (GWh)																		
Hydro	892	991	3,152	1,446	595	**7,076**	820	759	3,232	1,214	575	**6,600**	-8%	-23%	3%	-16%	-3%	**-7%**
Geothermal	859			733		**1,592**	854			739		**1,593**	-1%			1%		**0%**
Wind		6	331		169	**506**		6	377		181	**564**		0%	14%		7%	**11%**
Total renewable	*1,751*	*997*	*3,483*	*2,179*	*764*	***9,174***	*1,674*	*765*	*3,609*	*1,953*	*756*	***8,757***	*-4%*	*-23%*	*4%*	*-10%*	*-1%*	***-5%***
Thermal generation	615	784				**1,399**	670	1,086				**1,756**	9%	39%				**26%**
TOTAL generation	**2,366**	**1,781**	**3,483**	**2,179**	**764**	**10,573**	**2,344**	**1,851**	**3,609**	**1,953**	**756**	**10,513**	**-1%**	**4%**	**4%**	**-10%**	**-1%**	**-1%**
% Renewable	74%	56%	100%	100%	100%	87%	71%	41%	100%	100%	100%	83%	*-4%*	*-26%*	*0%*	*0%*	*0%*	***-4%***
GWAP ($/MWh)	**82.4**	**85.7**	**78.4**	**85.9**	**87.2**	**82.6**	**116.2**	**124.6**	**115.0**	**123.0**	**122.0**	**118.9**	**41%**	**45%**	**47%**	**43%**	**40%**	**44%**
Electricity sales (GWh)																		
Mass market	1,085	1,234	1,009	955	579	**4,862**	1,060	1,230	1,075	892	572	**4,829**	-2%	0%	7%	-7%	-1%	**-1%**
Commercial	790	490	538	297	218	**2,333**	603	488	735	348	208	**2,382**	-24%	0%	37%	17%	-5%	**2%**
TOTAL FPVV sales	**1,875**	**1,724**	**1,547**	**1,252**	**797**	**7,195**	**1,663**	**1,718**	**1,810**	**1,240**	**780**	**7,211**	**-11%**	**0%**	**17%**	**-1%**	**-2%**	**0%**
Gas sales (PJ)	1.08	2.70			0.38	**4.16**	1.06	2.81			0.37	**4.24**	-2%	4%			-4%	**2%**
LPG sales (tonnes)	21,722	10,522				**32,244**	-	13,122				**13,122**	-100%	25%				**-59%**
Customers added (000)																		
Electricity	(7)	(1)	3	(2)	-	**(7)**	1	6	7	(12)	-	**1**						
Gas	-	0		-	-	**0**	(1)	(1)		-	1	**(0)**						
LPG	2	(1)				**1**	-	2				**2**						
Customer numbers (000)																		
Electricity	407	502	293	386	270	**1,858**	411	502	309	361	266	**1,849**	1%	0%	5%	-6%	-1%	**0%**
Gas	65	106		48	38	**257**	66	106		47	40	**259**	2%	0%		-2%	5%	**1%**
LPG	91	64				**155**	-	70				**70**	-100%	10%				**-54%**
MM volume/customer																		
Electricity (MWh/customer)	2.6	2.5	3.5	2.5	2.1	**2.6**	2.6	2.5	3.5	2.4	2.2	**2.6**	-3%	0%	2%	-2%	0%	**0%**
Gas (GJ/customer)	16.6	25.4			10.1	**16.2**	16.0	26.3			9.4	**16.3**	-4%	4%			-7%	**1%**
LPG (kg/customer)	242.7	163.3				**209.5**		189.0				**189.0**	-100%	16%				**-10%**
FPVV prices ($/MWh)	238.3	209.8	110.2	116.5			238.8	217.7	112.9	117.4			0.2%	3.8%	2.4%	0.8%		
LWAP ($/MWh)	**87.6**	**88.1**	**84.2**	**91.5**	**87.7**	**87.7**	**122.2**	**125.7**	**119.9**	**128.1**	**125.5**	**123.8**	**39%**	**43%**	**42%**	**40%**	**43%**	**41%**
LWAP/GWAP	**1.064**	**1.029**	**1.073**	**1.066**	**1.005**	**1.061**	**1.052**	**1.009**	**1.043**	**1.041**	**1.029**	**1.042**	**-1%**	**-2%**	**-3%**	**-2%**	**2%**	**-2%**

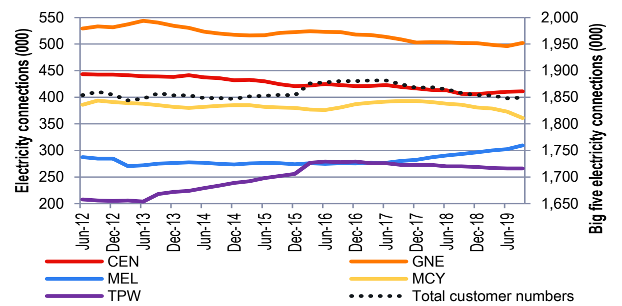
Source: Company reports, Forsyth Barr analysis

Figure 8. Fixed price variable sales volumes



Source: Company reports. Forsyth Barr analysis

Figure 9. Electricity connections

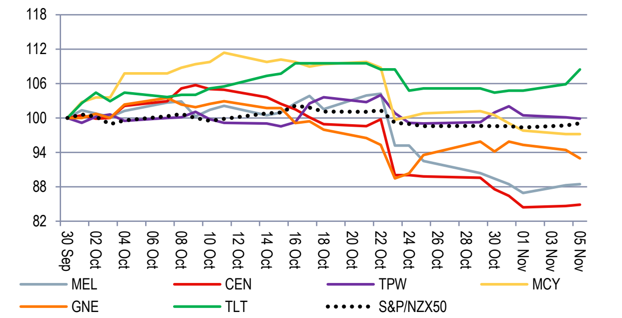


Source: Company reports, Forsyth Barr analysis

Share market performance: Oct 2019

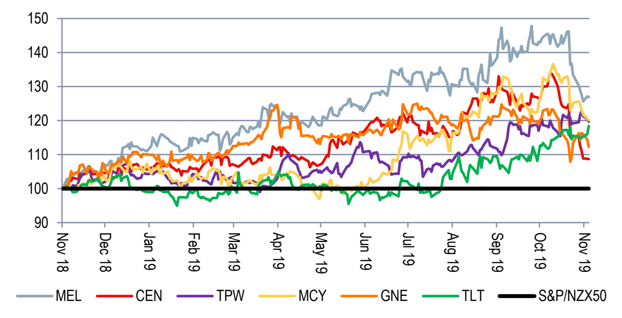
TPW and TLT were the only generators/retailers to outperform the S&P/NZX50 in October 2019 even though the benchmark was down (-0.9% to 5 November). CEN and MEL experienced the largest decreases down -15% and -12% respectively due to the NZAS strategic review

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



Source: Thomson Reuters, Forsyth Barr analysis

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



Source: Thomson Reuters, Forsyth Barr analysis

Market multiples and target returns

- Our electricity target prices are based on a combination of our DCF valuation (30%), market multiples (30%) and gross dividend yield (40%). We focus on year two earnings to avoid short-term hydrological conditions impacting the multiples. Whilst we like the medium-term outlook for the electricity sector, we believe the NZAS strategic review and views on interest rates are currently driving the share prices. We have a NEUTRAL rating on MCY and MEL, and an OUTPERFORM rating on CEN, GNE, TPW, and TLT.

Figure 12. EBITDAF multiples

			Target	Target		Mkt Cap	EBITDAF (x)		EBITDAF – capex (x)	
Company	**Code**	**Price**	**Price**	**Return**	**Rating**	**$m**	**FY20**	**FY21**	**FY20**	**FY21**
Contact Energy	CEN	$7.33	$8.03	14.9%	OUTPERFORM	5,245	13.3	12.8	15.8	15.2
Genesis Energy (excl Kupe)	GNE	$3.16	$3.23	7.9%	OUTPERFORM	2,855	14.7	12.5	18.1	14.8
Mercury	MCY	$4.79	$4.53	-2.1%	NEUTRAL	6,519	14.7	14.5	17.3	16.9
Meridian Energy	MEL	$4.60	$4.11	-6.0%	NEUTRAL	11,790	16.2	17.6	17.5	19.1
Trustpower	TPW	$8.26	$8.20	3.4%	OUTPERFORM	2,585	15.0	14.6	17.0	16.5
Compco Average							**14.8**	**14.3**	**17.1**	**16.4**
Tilt Renewables	TLT	$2.96	$3.00	1.4%	OUTPERFORM	1,390	11.5	8.9	12.3	9.3
Genesis Energy (incl Kupe)	GNE	$3.16	$3.23	7.9%	OUTPERFORM	3,248	12.1	10.8	14.3	12.5

Source: Forsyth Barr analysis

Figure 13. PE multiples and dividend yields

	PE (x)		Adjusted PE (x)		Cash Div Yield		Gross Div Yield		Free Cash Flow Yield	
Company	**FY20**	**FY21**	**FY20**	**FY21**	**FY20**	**FY21**	**FY20**	**FY21**	**FY20**	**FY21**
Contact Energy	33.5	31.2	21.1	20.3	5.3%	5.4%	6.6%	6.9%	4.8%	5.6%
Genesis Energy (excl Kupe)	113.6	46.4	30.0	20.2	3.8%	4.5%	5.1%	6.1%	3.4%	5.0%
Mercury	42.0	36.5	26.2	23.8	3.3%	3.4%	4.6%	4.7%	1.7%	2.9%
Meridian Energy	39.6	46.7	24.7	27.6	4.7%	4.7%	5.8%	5.9%	4.3%	3.9%
Trustpower	28.1	27.1	24.5	23.8	4.1%	4.2%	5.6%	5.8%	4.4%	5.5%
Compco Average	**44.7**	**36.7**	**25.2**	**23.0**	**4.2%**	**4.4%**	**5.5%**	**5.9%**	**3.7%**	**4.6%**
Tilt Renewables	30.8	21.9	14.0	11.2	0.0%	0.0%	0.0%	0.0%	4.1%	10.8%
Genesis Energy (incl Kupe)	71.5	37.2	20.6	16.1	5.5%	5.6%	7.4%	7.7%	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.

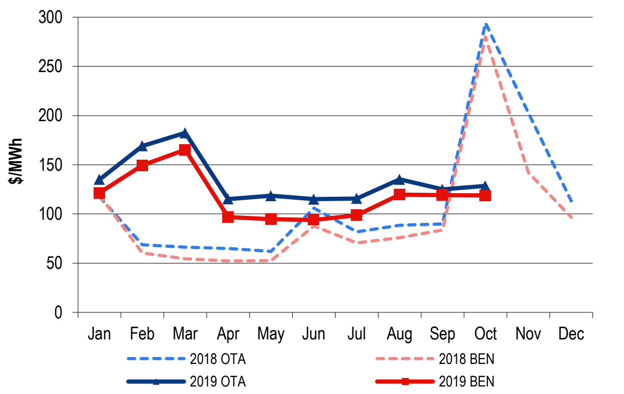
Electricity market: October 2019

Spot wholesale electricity prices and ASX futures

Average wholesale electricity prices flat in October vs. September

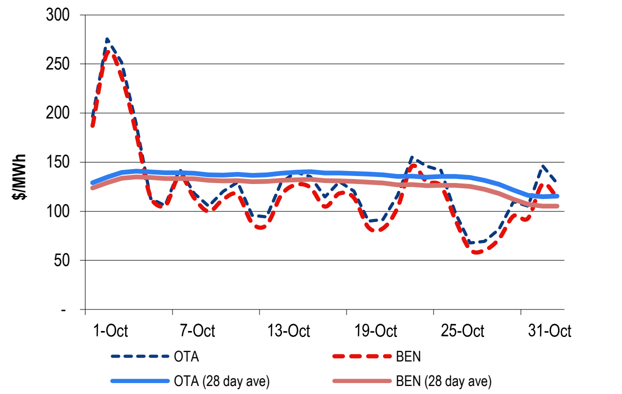
- The OTA average price in October 2019 was 128.4/MWh, +2.7% above the prior month. The BEN average price was $118.9/MWh, -0.1% below the prior month. Both were down ~-56% on October 2018 record high prices.
- Prices reached over $250/MWh early in October due to a cold snap and a spike in electricity demand. Both North Island and South Island lake levels were below the average for this time of year. The average gap in prices between OTA and BEN remained at -$6/MWh in October.

Figure 14. Average monthly wholesale electricity prices



Source: NZX Energy, Forsyth Barr analysis

Figure 15. Average daily wholesale electricity prices

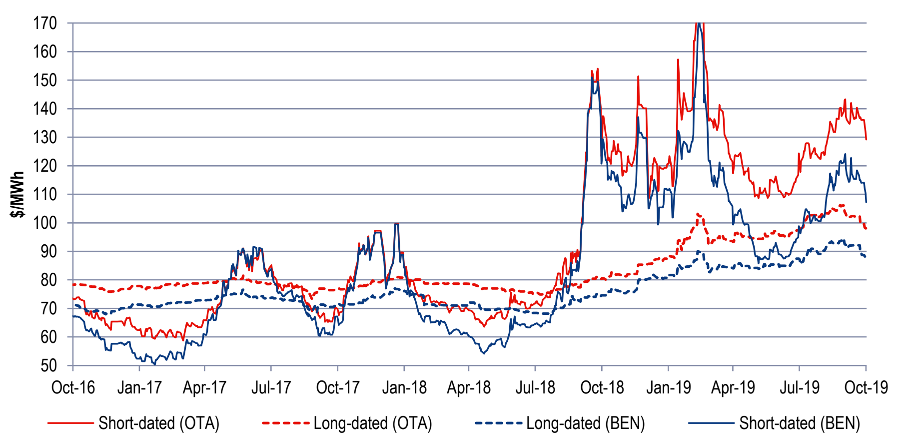


Source: NZX Energy, Forsyth Barr analysis

ASX futures down on NZAS announcement

- Long-dated ASX futures prices at BEN were down -6.9% to $88/MWh at month end while the long-dated price at OTA decreased -7.5% to $98/MWh. These decreases in futures prices are due to the announcement from Rio Tinto that the NZAS is undergoing a strategic review. However, compared to pcp, long-dated prices for BEN are up +$13.4/MWh (+18.0%) and OTA prices are up +$17.5/MWh (+21.7%).
- Short-dated ASX futures prices fell in October with OTA and BEN prices down -7.1% and -11.5% respectively. The decline is due to the partial recovery in lake storage.

Figure 16. ASX futures price curves (past three years)



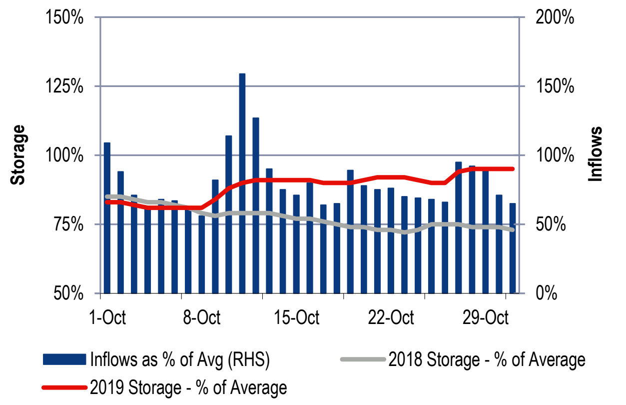
Source: Electricity Authority, Forsyth Barr analysis

Hydro storage volumes

National storage levels improve but remain below average

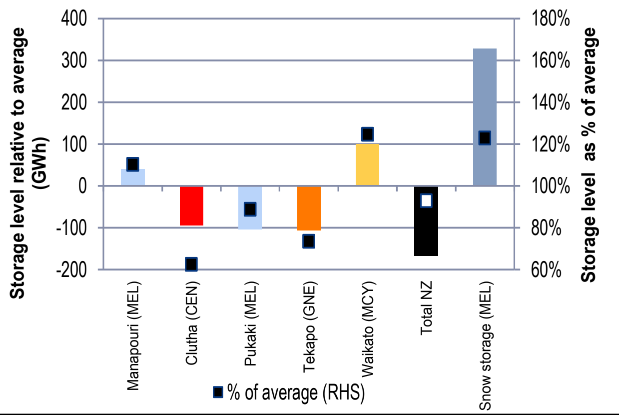
- National lake storage levels increased +12% in October 2019 and are now 93% of average as at 3 November. Following three days of steady inflows between 10 and 12 October, the storage level returned to above 90% of average and has remained above since.
- Manapouri levels rebounded and now sit at 110% of average, MCY's Taupo (Waikato) storage also sits well above average at 125%, otherwise all hydro storage levels remain below average. CEN's Clutha catchment has increased since bottoming out at ~33% of average in mid-September and is now at 63% of average. MEL's seasonal snow pack as at 2 November was 123% of average with an estimated 1,763GWh of storage.

Figure 17. Average lake storage levels and average inflow.



Source: NZX Energy, Forsyth Barr analysis

Figure 18. Key storage lakes relative to average (as at 5 Nov 2019)



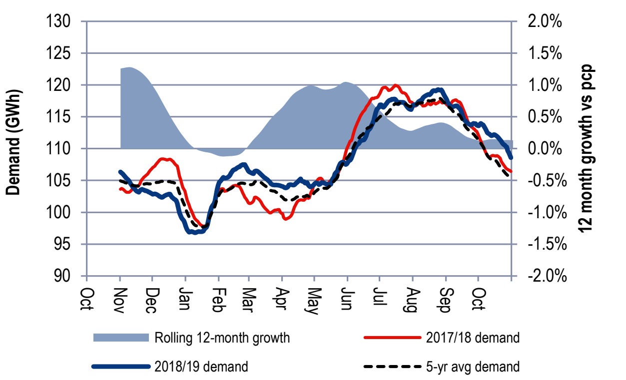
Source: Energylink, MEL, Forsyth Barr analysis

Demand and generation analysis

National demand increases

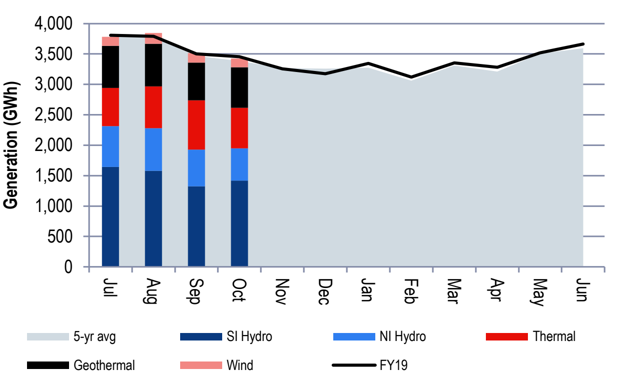
- October 2019 national electricity demand increased +2.6% compared to the pcp and averaged 109.7GWh/day (including Tiwai) in October 2019. Tiwai demand was unchanged and averaged 14.3GWh/day. Colder temperatures were likely the main contributing factor to increased demand, and possibly increased irrigation demand.
- Total New Zealand generation was 3,426GWh in October 2019, -0.8% below the pcp. South Island hydro and geothermal were up +7% mom, helping to lower thermal generation by -20% compared to September.

Figure 19. Rolling 28-day average demand & rolling 12-mth growth



Source: NZX Energy, Forsyth Barr analysis

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



Source: EnergyLink, Forsyth Barr analysis

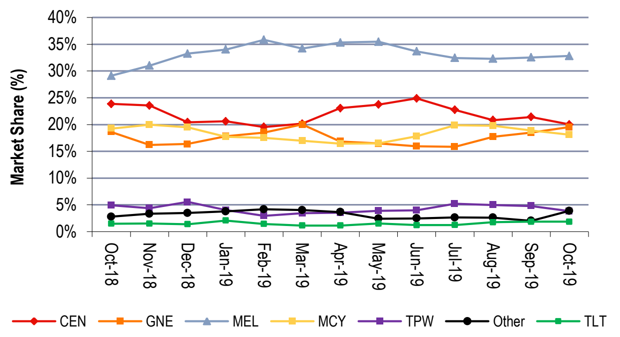
Generation market share — GNE overtakes MCY

- Generation market shares were stable in October 2019, GNE gained 1% in market share to overtake MCY which lost -0.8%; market share for GNE and MCY sits at 19.5% and 18.1% respectively.

CEN — Generation continues to decline

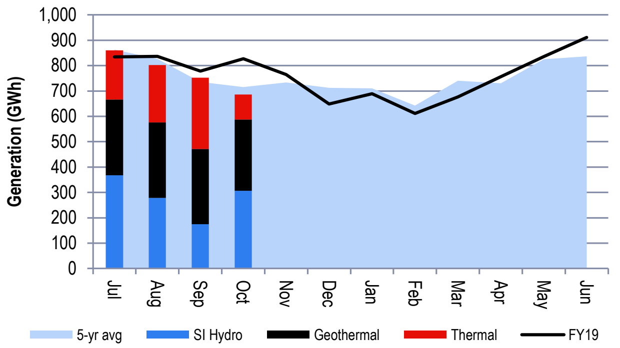
- CEN's hydro generation bounced back this month, up +74.8% from September to contribute 306GWh, albeit that is still below average. However, total generation for CEN was down for the fourth consecutive month and totalled 686GWh, -17% below the pcp. Hydro storage for CEN was 62.5% of average at the end of October.

Figure 21. Monthly generation market share.



Source: EnergyLink, Forsyth Barr analysis

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



Source: EnergyLink, Forsyth Barr analysis

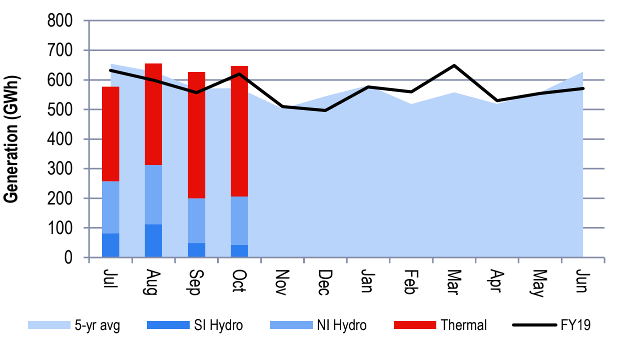
GNE — Thermal continues to be strong

- GNE's total generation was 647GWh, +4% higher than the pcp and +3% up on the previous month. Thermal generation was up +3% following a very strong thermal month in September. Hydro generation remains low and was -17% below the pcp but up +3.4% on last month. South Island hydro storage for GNE was 294GWh, 74% of average as of 31 October, this is up ~+15% from a month ago.

MCY — Hydro generation weak in October

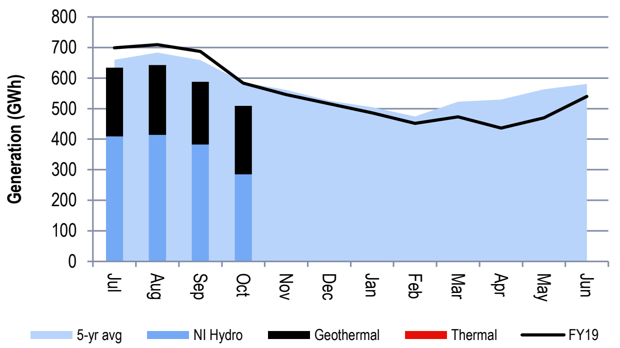
- MCY's generation was down -13% in October 2019 to total 510GWh. This was led by a -98GWh decrease in generation from hydro, although the MCY Waikato hydro storage levels remain well above average at 125% and increased during the month. This leads us to believe that MCY is withholding hydro output, with expected higher wholesale prices during the upcoming HDVC and Kupe outages later in the year.

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



Source: EnergyLink, Forsyth Barr analysis

Figure 24. MCY monthly generation mix (current, pcp and 5-yr avg)



Source: EnergyLink, Forsyth Barr analysis

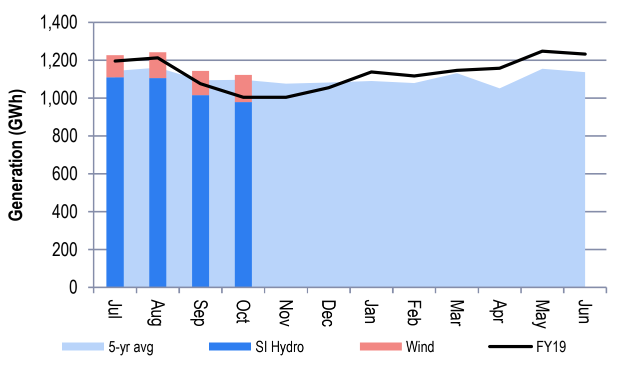
MEL — Wind increase helps make up for softer hydro

- MEL hydro generation was below 1,000GWh for the first time in 9 months at 980GWh, however, MEL wind generation was 144GWh in October 2019, the highest recorded since November 2016. MEL's overall hydro storage levels remain below average although Manapouri has increased to 110% of average.

TPW — NI hydro generation increases

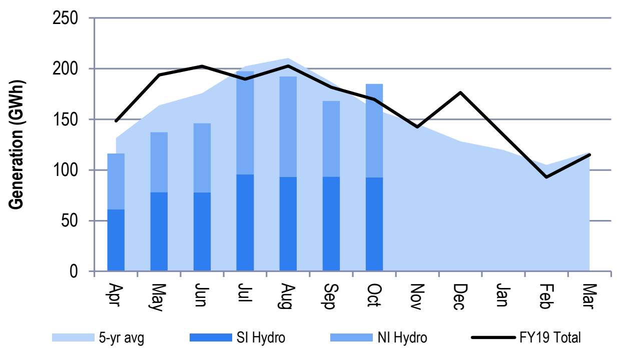
- October 2019 TPW generation was above the five year average and totalled 248GWh. South Island generation remained unchanged at 93GWh whilst North Island hydro was up ~+23% on last month and totalled 92GWh.

Figure 25. MEL monthly generation mix (current, pcp and 5-yr avg)



Source: EnergyLink, Forsyth Barr analysis

Figure 26. TPW monthly generation mix (current, pcp and 5-yr avg)



Source: EnergyLink, Forsyth Barr analysis

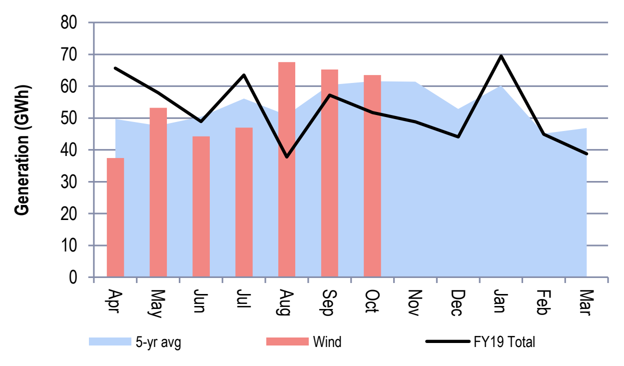
TLT — Mostly unchanged

- We estimate TLT's October 2019 generation was 64GWh, slightly down on last month but ~+3% above the 5-year average and +23% above the pcp. This is the third month in a row above average for TLT.

Generation prices — GWAP up across the board

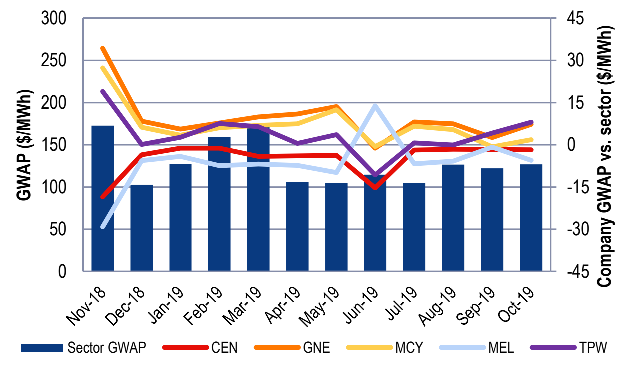
- The average generation weighted average price (GWAP) was ~$127/MWh in October 2019, a +4% increase from September. All the generators were up on the last month, but relative to pcp all generators were down ~-55% as a result of the record prices in October 2018. TPW again had the highest GWAP at $135/MWh, MEL recorded the lowest at $121/MWh.

Figure 27. TLT monthly generation mix (current, pcp and 5-yr avg)



Source: EnergyLink, Forsyth Barr analysis

Figure 28. Average generation weighted average price (GWAP)



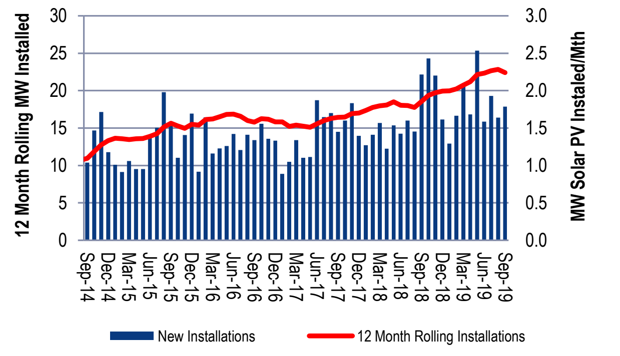
Source: EnergyLink, Forsyth Barr analysis

Solar PV installations

Solar installations fall in September

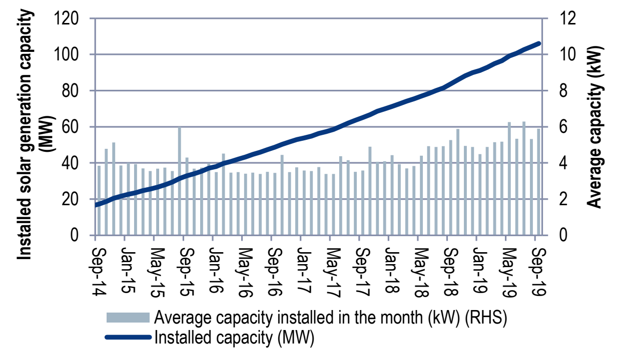
- Home solar installations were 289 in September 2019, down -31% on pcp and -14% on the prior month. The 12-month rolling average installations continued to slip this month, and October saw the rolling 12-month MW installed fall for the first time since August 2018.
- The total number of solar installations now sits just above 25,000 and the installed capacity is 106MW.

Figure 29. Solar PV capacity installed



Source: Electricity Authority, Forsyth Barr analysis

Figure 30. Solar capacity installed

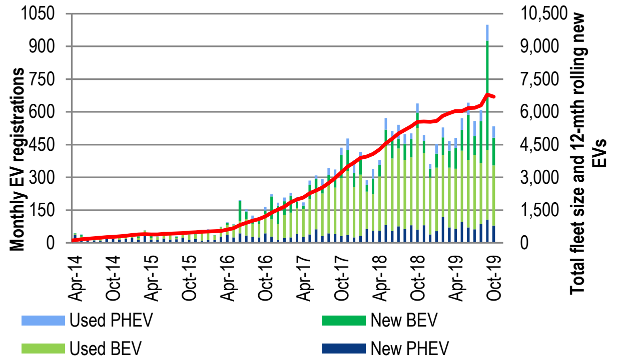


Source: Electricity Authority, Forsyth Barr analysis

EV registrations

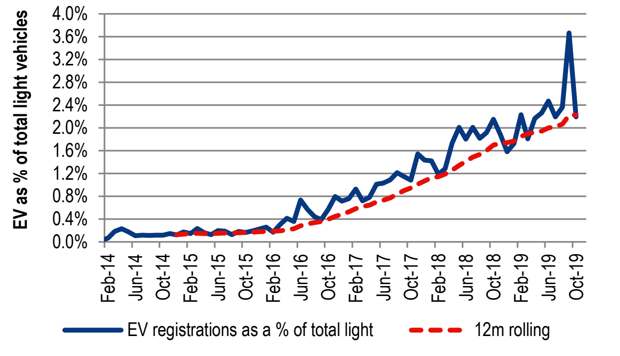
- October 2019 EV registrations were 534, down -47% compared to the record 999 registered in September. The total number of EVs is now nearly 17,000.
- New EV registrations in October were 1.7% of total new light vehicle registrations for the month. Total EV registrations were in line with the rolling 12-month average at 2.2%.

Figure 31. EV registrations



Source: Ministry of Transport, Forsyth Barr analysis

Figure 32. EV registrations as % of total light vehicle registrations



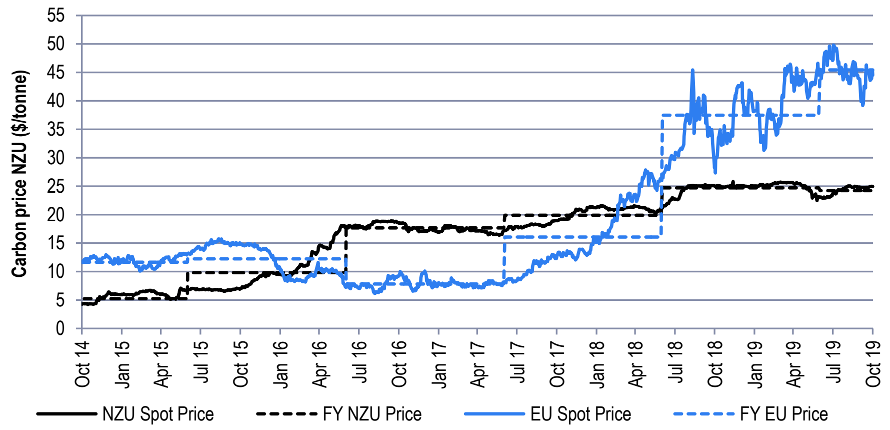
Source: Ministry of Transport, Forsyth Barr analysis

Carbon prices

NZ carbon prices stable

- Prices for NZ carbon units continue to trade around the $25/unit cap, with trading prices in October 2019 being between $24.75 and $25.00 per unit.
- EU units increased over October and are currently €25.6/unit as at 4 November, up +3.5% from €24.7 at the end of September.

Figure 33. Price of carbon (NZ$/tonne)



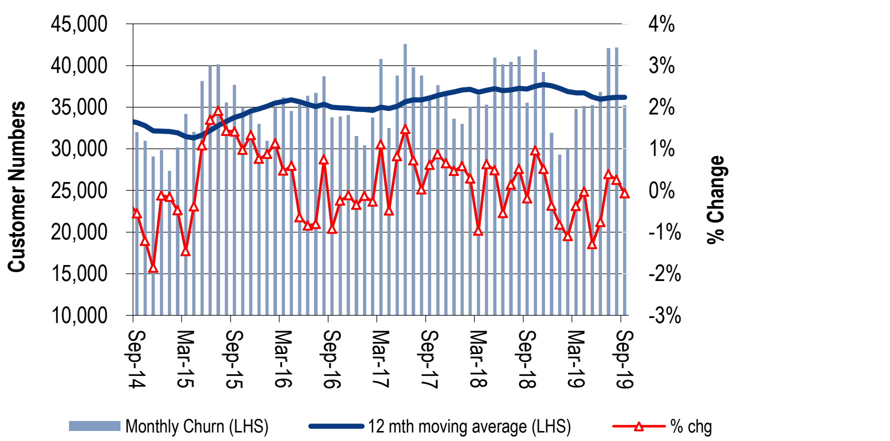
Source: Bloomberg, Forsyth Barr analysis

Retail electricity customers

Connection churn — Churn levels falls

- Customer switches were 35,246 in September 2019. This is the first month below the 12-month rolling average following three consecutive months above. The biggest decrease comes from trader switches which were down -31% from 18,674 in August to 12,807 in September. MCY's exit from Farm Source impacted switching numbers in August but appears to be largely completed.

Figure 34. Electricity connection churn

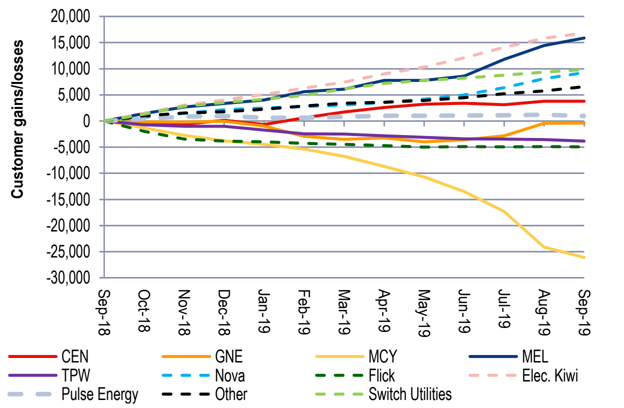


Source: Electricity Authority, Forsyth Barr analysis

Customer number changes — MCY decline still not over

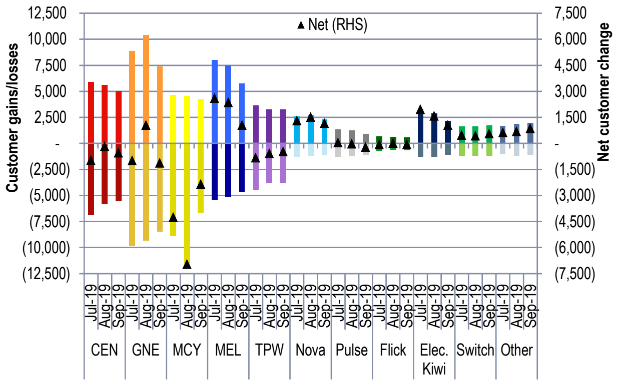
- MEL again had the largest net additions, adding +1431 connections. CEN and GNE were flat, and TPW lost ~-270 connections. Electric Kiwi and Nova both had another strong month of growth with +1,027 and +1,175 gains respectively, this is on the back of strong recent performances from them both in the retail market.
- Mercury (MCY) recorded yet another month of net losses, as its connections fell by -1,977. This follows nearly 2 years of consistent decreases with particularly large losses in the recent months (-6,787 and -3,861 in August and July respectively). It has lost ~-26,000 connections over the last year

Figure 35. Cumulative 12-mth electricity customer gains/losses



Source: Electricity Authority, Forsyth Barr analysis

Figure 36 Customer switches (excludes market growth)



Source: Electricity Authority, Forsyth Barr analysis

Retail gas customers

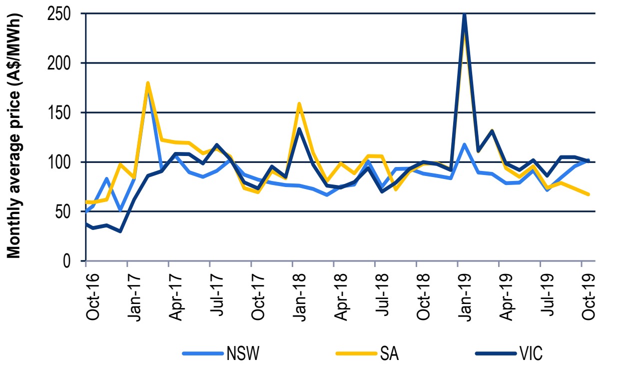
At the time of publishing retail gas numbers are not available for October 2019.

Australian electricity market

Futures prices experience a small lift

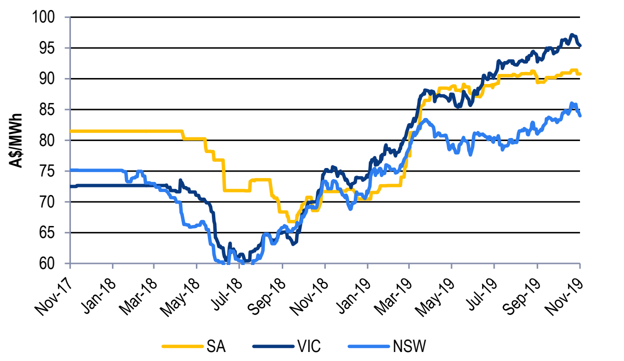
- NSW average wholesale electricity prices were A$102/MWh in October 2019, a +6% increase on the prior month. SA and VIC average wholesale prices both fell again, down -8% and -4% respectively. The October averages were A$67 in SA and A$106 for VIC.
- FY21 futures prices were up across the board in October, NSW had the largest increase of +1.5% and finished the month at A$84.8/MWh, SA and VIC futures prices finished A$90.8/MWh and A$95.9/MWh respectively at the end of October.

Figure 37. Australian wholesale electricity price (A$/MWh)



Source: AEMO, Forsyth Barr analysis

Figure 38. Australian FY21 futures price (A$/MWh)

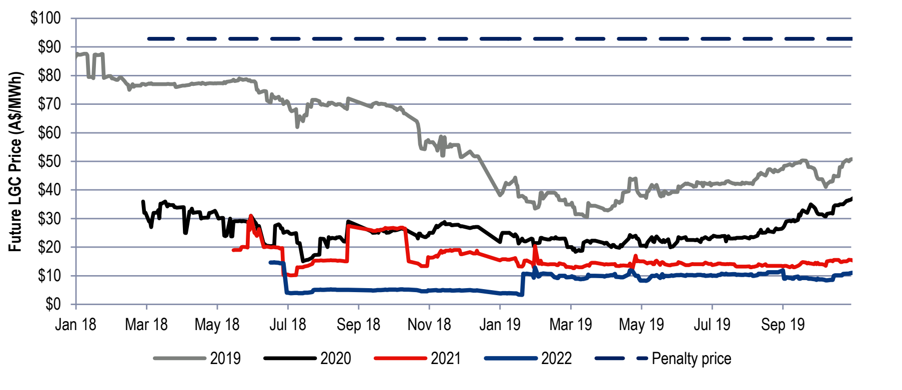


Source: Thomson Reuters, Forsyth Barr analysis

Renewable energy certificate (LGC) prices increase

- LGC prices rose again this month, rising from A$47/MWh at the end of September to A$50/MWh at the end of October 2019. Prices continued to show volatility fluctuating between A$42/MWh and A$51MWh.
- 2020 prices lifted +A$2.5/MWh from A$34.0/MWh at the end of September to A$36.5/MWh at the end of October. Long-dated LGC prices rose above A$15/MWh for the first time over the month.

Figure 39. Renewable energy certificate prices (LGCs)



Source: Bloomberg, Forsyth Barr analysis

Key statistics

New Zealand electricity market statistics

Figure 40. Key statistics – New Zealand

	Oct-18	Sep-19	Oct-19	% Chg pcp	% Chg mom
Average Monthly Prices					
OTA avg ($/MWh)	$294.2	$125.0	$128.4	-56.4%	2.7%
HAY avg ($/MWh)	$284.2	$120.4	$121.9	-57.1%	1.3%
BEN avg ($/MWh)	$280.0	$119.0	$118.9	-57.5%	-0.1%
Avg Daily Generation (GWh)					
CEN	26.7	25.1	22.1	-17.1%	-11.8%
% of NZ Generation	23.9%	21.4%	20.0%	-16.3%	-6.5%
GNE	20.7	21.7	21.6	4.0%	-0.4%
% of NZ Generation	18.6%	18.5%	19.5%	4.9%	5.5%
MCY	21.5	22.1	20.0	-6.7%	-9.5%
% of NZ Generation	19.3%	18.9%	18.1%	-5.9%	-4.1%
MEL	32.4	38.1	36.2	11.9%	-4.9%
% of NZ Generation	29.1%	32.5%	32.8%	12.9%	0.8%
TPW	7.1	7.8	6.3	-12.3%	-19.5%
% of NZ Generation	6.4%	6.6%	5.7%	-11.5%	-14.6%
Daily Demand (GWh)					
Demand (excl Tiwai)	93.0	99.1	95.4	2.6%	-3.7%
NZAS demand	13.9	14.3	14.3	2.4%	0.1%
Total NZ Demand	106.9	113.4	109.7	2.6%	-3.2%
Hydrology (% of average)					
Average hydro inflows	96%	69%	81%	-15.6%	17.9%
Average hydro storage	77%	90%	89%	14.8%	-0.9%
Month end hydro storage	73%	83%	95%	30.1%	14.5%
ASX futures as at:	**31-Oct-18**	**30-Sep-19**	**31-Oct-19**		
Short-dated OTA	$128.3	$139.0	$129.1	0.7%	-7.1%
Long-dated OTA	$80.6	$106.1	$98.1	21.7%	-7.5%
Short-dated BEN	$122.8	$121.2	$107.2	-12.7%	-11.5%
Long-dated BEN	$74.6	$94.5	$88.0	18.0%	-6.9%

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

Australian electricity market statistics

Figure 41. Key statistics - Australia

	Oct-18	Sep-19	Oct-19	% Chg pcp	% Chg mom
Average Monthly Prices					
NSW avg (A$/MWh)	$88.3	$95.6	$101.8	15.3%	6.5%
SA avg (A$/MWh)	$98.1	$73.0	$67.3	-31.4%	-7.8%
VIC avg (A$/MWh)	$99.8	$104.8	$100.7	0.9%	-3.9%
Electricity Futures for FY21:	**31-Oct-18**	**30-Sep-19**	**31-Oct-19**		
NSW avg (A$/MWh)	$72.8	$83.5	$84.8	16.4%	1.5%
SA avg (A$/MWh)	$71.7	$90.2	$90.8	26.7%	0.7%
VIC avg (A$/MWh)	$73.4	$94.4	$95.9	30.7%	1.7%
Spot and Future LGC Prices	**31-Oct-18**	**30-Sep-19**	**5-Nov-19**		
Spot (A$/MWh)	$61.0	$47.0	$50.8	-16.8%	8.0%
2019 (A$/MWh)	$57.0	$47.5	$50.8	-11.0%	6.8%
2020 (A$/MWh)	$24.0	$34.0	$37.5	56.3%	10.3%
2021 (A$/MWh)	$13.4	$14.0	$15.0	11.9%	7.1%

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

Industry news — October 2019

Listed sector company news

Contact Energy (CEN)

- CEN continues to postpone its drilling operations at the Tauhara geothermal field. This delay is caused by yet to be completed repair work on its Rig-32, which will be used to develop two production wells and two reinjection wells. Following completion of the wells a final investment decision will be made on the potential for further generation at Tauhara.
- The Ahuroa gas storage facility, previously owned by CEN, will undergo a full shut down between 8 and 24 February 2020 due to regulatory requirements. The shutdown will limit CEN's operational flexibility during that time.

Genesis Energy (GNE)

- GNE has agreed to lease two floors in a new building under construction on the Auckland waterfront, and aims to move in to the building in October 2020. The Wynyard Quarter site will house around 300 Genesis staff and coincides with the lease of one of its two current Auckland buildings ending.
- GNE intends to complete a roll out of advanced gas meters to its residential customers by early 2022. The 18 month project will be completed by Vector's metering business and installation is due to start in the middle of 2020.
- GNE CFO, Chris Jewell, said at the GasNZ Industry Forum that GNE is exploring PPAs with geothermal and solar developers in order to replace thermal plant that is likely to close. GNE has committed to stop using coal by 2030, but said 100 per-cent renewable is unlikely in the near future due to the need for back-up supply.

Mercury NZ (MCY)

- Chief Executive Fraser Whineray announced on 8 October that he will be taking up a role as the Chief Operation officer of Fonterra, starting in early 2020. Whineray has been with Mercury for eleven years and will remain with MCY until his move to the new role.
- MCY has begun drilling a reinjection well at the Kawerau geothermal field. The rig will also be used to drill a new production well, which aims to support fuel supply flexibility to its 107MW Kawerau power station. The operation is set to finish in early March 2020.

Meridian Energy (MEL)

- MEL announced that Lisa Hannifin has been appointed as the Chief Customer Officer effective immediately. Hannifin had previously led the sales and service teams at MEL.
- MEL Australia has been offered a grant by the New South Wales Government to look into options for increasing capacity by up to 50MW at the 28MW Burrinjuck hydro power station. The Burrinjuck station generates around 81GWh per year on average.

TILT Renewables Limited (TLT)

- TLT announced that it has refinanced its Snowtown II Wind Farm asset into a standalone project finance structure. This comes as TLT seeks to sell Snowtown II and the refinancing should make the asset more attractive to potential buyers.
- On 1 November TLT officially started the construction of its Waipipi Wind Farm. The project is set to be completed in March 2021 and the site will produce 133MW from 31 turbines.

Political / regulatory news

- The Electricity Authority (EA) has submitted a proposal that would ban retailers from initiating any saves or win-backs for 180 days following a customer switching providers. The EA cites equal opportunity for all retailers as the driver behind the proposal. This proposal comes after the Electricity Price Review that was completed in September also suggested a ban of these tactics. The EA board is to deliver a final decision on the proposal early next year.

Other industry news

- Rio Tinto (RIO) announced on 23 October that it would conduct a strategic review of the NZAS, citing high electricity and transmission costs as contributing factors. The review would consider closure amongst other options. On the 30 October RIO sent a closure team to Tiwai to conduct an investigation around potential costs involved with closing the aluminium smelter. For further details refer to our report *RIO Cries Wolf* released on the 25 October 2019.
- The Board of Refining NZ (RNZ) has approved construction of a 31 hectare 26.7MW solar farm at its Marsden Point oil refinery. Construction is set to start by the end of the year and completion of the $37m wind farm is due December 2020. Funding for the solar farm will be provided with both non-recourse project debt and equity.
- ReAmped is an Australian retailer that is 80 per-cent owned by Electric Kiwi. The retailer currently has around 3,000 customers across New South Wales and Queensland. Co-founder of Electric Kiwi, Philip Anderson, has indicated that ReAmped may hold more potential for growth than Electric Kiwi due to the higher hedge market liquidity and larger Australian market compared to New Zealand.

Sources: Energy News, Energy and Environment, EV talk

Contact Energy Limited (CEN)	Priced as at 06 Nov 2019: NZ$7.33	June year end

Forsyth Barr valuation

Valuation methodology	Blend of spot valuations, weighted to multiples

12-month target price (NZ$)*	**8.22**	**Spot valuations (NZ$)**	
Expected share price return	12.1%	1. DCF	7.46
Net dividend yield	5.3%	2. Market multiples	8.28
Estimated 12-month return	17.5%	3. Dividend yield	9.01
Key WACC assumptions		**DCF valuation summary (NZ$m)**	
Risk free rate	2.00%	Total firm value	6,443
Equity beta	0.88	(Net debt)/cash	(1,108)
WACC	6.6%	Value of equity	5,335
Terminal growth	1.5%	Shares (m)	716

Profit and Loss Account (NZ$m)	**2018A**	**2019A**	**2020E**	**2021E**	**2022E**
Sales revenue	2,275	2,519	2,371	2,292	2,272
Normalised EBITDA	**479**	**518**	**467**	**491**	**502**
Depreciation and amortisation	(220)	(205)	(202)	(201)	(199)
Normalised EBIT	**259**	**313**	**265**	**290**	**303**
Net interest	(84)	(70)	(58)	(58)	(58)
Depreciation capex adjustment	99	104	100	98	96
Tax	(48)	(72)	(58)	(65)	(69)
Minority interests	-	-	-	-	-
Adjusted normalised NPAT	**227**	**280**	**249**	**265**	**272**
Abnormals/other	(97)	65	(100)	(98)	(96)
Reported NPAT	**130**	**345**	**149**	**167**	**177**
Normalised EPS (cps)	31.7	39.2	34.8	37.0	38.1
DPS (cps)	32.0	39.0	39.0	39.5	40.0

Growth Rates	**2018A**	**2019A**	**2020E**	**2021E**	**2022E**
Revenue (%)	9.4	10.7	-5.9	-3.3	-0.9
EBITDA (%)	-4.4	8.1	-9.9	5.3	2.3
EBIT (%)	-11.6	20.8	-15.4	9.7	4.4
Normalised NPAT (%)	9.1	23.4	-11.2	6.4	2.8
Normalised EPS (%)	9.1	23.4	-11.2	6.4	2.8
DPS (%)	23.1	21.9	0.0	1.3	1.3

Cash Flow (NZ$m)	**2018A**	**2019A**	**2020E**	**2021E**	**2022E**
EBITDA	**479**	**518**	**467**	**491**	**502**
Working capital change	38	(19)	(6)	(7)	(1)
Interest & tax paid	(111)	(112)	(118)	(128)	(134)
Other	(27)	14	-	-	-
Operating cash flow	**379**	**401**	**343**	**357**	**368**
Capital expenditure	(82)	(63)	(93)	(65)	(66)
(Acquisitions)/divestments	6	382	-	-	-
Other	(7)	-	-	-	-
Funding available/(required)	**296**	**720**	**250**	**292**	**301**
Dividends paid	(201)	(251)	(279)	(279)	(283)
Equity raised/(returned)	1	-	-	-	-
Increase/(decrease) in net debt	**(96)**	**(469)**	**29**	**(13)**	**(19)**

Balance Sheet (NZ$m)	**2018A**	**2019A**	**2020E**	**2021E**	**2022E**
Working capital	(22)	(3)	3	10	11
Fixed assets	4,253	4,126	4,017	3,881	3,748
Intangibles	441	425	425	425	425
Other assets	404	132	132	132	132
Total funds employed	**5,076**	**4,680**	**4,577**	**4,448**	**4,316**
Net debt/(cash)	1,448	943	972	960	941
Other non current liabilities	901	955	950	941	931
Shareholder's funds	2,727	2,782	2,655	2,547	2,444
Minority interests	-	-	-	-	-
Total funding sources	**5,076**	**4,680**	**4,577**	**4,448**	**4,316**

Valuation Ratios	**2018A**	**2019A**	**2020E**	**2021E**	**2022E**
EV/EBITDA (x)	14.1	12.4	13.3	12.6	12.4
EV/EBIT (x)	26.0	20.6	23.4	21.4	20.5
PE (x)	23.1	18.7	21.1	19.8	19.3
Price/NTA (x)	2.3	2.2	2.4	2.5	2.6
Free cash flow yield (%)	5.7	6.4	4.8	5.6	5.7
Net dividend yield (%)	4.4	5.3	5.3	5.4	5.5
Gross dividend yield (%)	5.2	6.6	6.6	6.9	7.0
Imputation (%)	48	64	60	70	75
Pay-out ratio (%)	101	100	112	107	105

Capital Structure	**2018A**	**2019A**	**2020E**	**2021E**	**2022E**
Interest cover EBIT (x)	3.3	4.8	5.0	5.4	5.7
Interest cover EBITDA (x)	5.7	7.4	8.0	8.4	8.7
Net debt/ND+E (%)	34.7	25.3	26.8	27.4	27.8
Net debt/EBITDA (x)	3.0	1.8	2.1	2.0	1.9

Key Ratios	**2018A**	**2019A**	**2020E**	**2021E**	**2022E**
Return on assets (%)	4.9	9.8	5.5	6.2	6.6
Return on equity (%)	4.7	6.3	5.6	6.6	7.2
Return on funds employed (%)	4.5	9.4	5.3	6.0	6.4
EBITDA margin (%)	21.1	20.6	19.7	21.4	22.1
EBIT margin (%)	11.4	12.4	11.2	12.7	13.4
Capex to sales (%)	3.6	2.5	3.9	2.8	2.9
Capex to depreciation (%)	37	31	46	32	33

Operating Performance	**2018A**	**2019A**	**2020E**	**2021E**	**2022E**
Divisional Revenue ($m)					
Wholesale electricity	1,157	1,463	1,344	1,234	1,186
Retail electricity	883	863	873	890	905
Retail gas sales	71	73	81	83	86
LPG sales	121	58	-	-	-
Other	31	32	33	33	33
Total Revenue	**2,263**	**2,489**	**2,331**	**2,240**	**2,210**
Operating Statistics					
Hydro generation (GWh)	3,479	4,232	3,722	3,887	3,887
Geothermal generation (GWh)	3,323	3,257	3,346	3,346	3,346
Thermal generation (GWh)	1,812	1,422	1,694	1,704	1,784
Total Generation (GWh)	**8,614**	**8,911**	**8,763**	**8,937**	**9,018**
GWAP ($/MWh)	85	129	122	100	93
Gas consumed (PJ)	17.5	13.9	16.1	16.1	16.9
Gas price ($/GJ)	6.1	7.1	7.2	7.3	7.4
Retail electricity volumes (GWh)	6,997	6,554	6,108	6,234	6,229
Electricity customers (000)	413	411	411	408	406
Average usage/customer (MWh)	8.7	8.6	8.6	8.6	8.7
Average retail price ($/MWh)	242	244	247	252	257
LWAP ($/MWh)	91	138	133	109	101
LWAP/GWAP	1.07	1.07	1.09	1.09	1.09
Retail gas volumes (PJ)	2.9	3.1	3.2	3.2	3.2
Gas customers (000)	65	67	67	68	68
Average gas sales price ($/GJ)	24.6	23.6	25.5	26.0	26.5

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

Genesis Energy Limited (GNE) Priced as at 06 Nov 2019: NZ$3.15 June year end

Forsyth Barr valuation			
Valuation methodology		Mix of market multiple and DCF	
12-month target price (NZ$)*	**3.28**	**Spot valuations (NZ$)**	
Expected share price return	4.0%	1. DCF	2.96
Net dividend yield	5.5%	2. Market multiple	3.25
Estimated 12-month return	9.5%	3. Dividend yield	3.66
Key WACC assumptions		**DCF valuation summary (NZ$m)**	
Risk free rate	2.00%	Total firm value	4,283
Equity beta	0.88	(Net debt)/cash	(1,256)
WACC	6.7%	Value of equity	3,027
Terminal growth	1.5%	Shares (m)	1,022

Profit and Loss Account (NZ$m)	**2018A**	**2019A**	**2020E**	**2021E**	**2022E**
Sales revenue	2,305	2,701	2,513	2,408	2,399
Normalised EBITDA	**361**	**363**	**367**	**406**	**446**
Depreciation and amortisation	(206)	(197)	(210)	(214)	(231)
Normalised EBIT	**155**	**167**	**156**	**193**	**215**
Net interest	(74)	(73)	(72)	(65)	(61)
Associate income	-	-	-	-	-
Tax	(22)	(27)	(24)	(36)	(43)
Deprecation capex adjustment	71	92	98	107	134
Adjusted normalised NPAT	**129**	**159**	**159**	**199**	**245**
Abnormals/other	(109)	(100)	(98)	(107)	(134)
Reported NPAT	**20**	**59**	**60**	**92**	**111**
Normalised EPS (cps)	5.8	6.5	5.9	8.8	10.6
DPS (cps)	16.9	17.1	17.4	17.7	18.0

Growth Rates	**2018A**	**2019A**	**2020E**	**2021E**	**2022E**
Revenue (%)	18.1	17.2	-6.9	-4.2	-0.4
EBITDA (%)	8.4	0.8	1.0	10.7	9.9
EBIT (%)	-2.0	7.8	-6.3	23.2	11.5
Normalised NPAT (%)	-18.9	23.5	-0.1	25.4	23.2
Normalised EPS (%)	-19.6	21.8	-1.2	24.0	22.6
DPS (%)	1.8	0.9	1.8	1.7	1.7

Cash Flow (NZ$m)	**2018A**	**2019A**	**2020E**	**2021E**	**2022E**
EBITDA	**361**	**363**	**367**	**406**	**446**
Working capital change	33	(27)	(2)	(10)	(8)
Interest & tax paid	(120)	(123)	(109)	(117)	(128)
Other	(7)	17	-	-	-
Operating cash flow	**266**	**231**	**256**	**279**	**311**
Capital expenditure	(108)	(69)	(74)	(64)	(57)
(Acquisitions)/divestments	0	(0)	-	-	-
Other	-	-	-	-	-
Funding available/(required)	**159**	**162**	**182**	**215**	**254**
Dividends paid	(148)	(132)	(139)	(143)	(167)
Equity raised/(returned)	(1)	(1)	-	-	-
Increase/(decrease) in net debt	**(10)**	**(29)**	**(43)**	**(72)**	**(87)**

Balance Sheet (NZ$m)	**2018A**	**2019A**	**2020E**	**2021E**	**2022E**
Working capital	90	111	113	123	131
Fixed assets	3,430	3,717	3,664	3,536	3,371
Intangibles	364	364	368	362	355
Other assets	84	121	121	121	121
Total funds employed	**3,968**	**4,313**	**4,266**	**4,142**	**3,978**
Net debt/(cash)	1,206	1,228	1,272	1,216	1,130
Other non current liabilities	806	934	921	905	881
Shareholder's funds	1,956	2,151	2,073	2,022	1,966
Minority interests	-	-	-	-	-
Total funding sources	**3,968**	**4,313**	**4,266**	**4,142**	**3,978**

Valuation Ratios	**2018A**	**2019A**	**2020E**	**2021E**	**2022E**
EV/EBITDA (x)	12.3	12.1	12.1	11.0	10.0
EV/EBIT (x)	28.6	26.4	28.3	23.1	20.7
PE (x)	24.7	20.3	20.5	16.6	13.5
Price/NTA (x)	2.0	1.8	1.9	2.0	2.1
Free cash flow yield (%)	4.9	5.0	5.6	6.7	7.9
Net dividend yield (%)	5.4	5.4	5.5	5.6	5.7
Gross dividend yield (%)	7.0	7.5	7.6	7.7	7.8
Imputation (%)	80	100	100	95	95
Pay-out ratio (%)	132	110	113	93	77

Capital Structure	**2018A**	**2019A**	**2020E**	**2021E**	**2022E**
Interest cover EBIT (x)	1.4	2.1	2.2	2.9	3.5
Interest cover EBITDA (x)	4.9	5.0	5.1	6.2	7.3
Net debt/ND+E (%)	37.7	35.5	37.2	36.7	35.6
Net debt/EBITDA (x)	3.3	3.3	3.4	2.9	2.4

Key Ratios	**2018A**	**2019A**	**2020E**	**2021E**	**2022E**
Return on assets (%)	2.4	3.4	3.4	4.4	5.1
Return on equity (%)	3.0	3.1	2.9	4.5	5.6
Return on funds employed (%)	3.6	3.6	3.4	4.3	5.1
EBITDA margin (%)	15.6	13.5	14.6	16.9	18.6
EBIT margin (%)	6.7	6.2	6.2	8.0	9.0
Capex to sales (%)	4.7	2.5	2.9	2.7	2.4
Capex to depreciation (%)	52	35	35	30	25

Operating Performance	**2018A**	**2019A**	**2020E**	**2021E**	**2022E**
Renewable generation	3,084	2,835	2,683	2,717	2,717
Gas generation	3,392	2,586	2,791	2,783	2,783
Coal generation	657	1,410	900	876	876
Total GNE generation (GWh)	**7,133**	**6,831**	**6,375**	**6,377**	**6,377**
GWAP ($/MWh)	92	143	115	107	101
Coal used (tonnes)	348	720	466	453	453
Coal price ($/tonne)	120	139	135	125	126
Gas used (PJ)	26.7	20.2	20.6	20.5	20.5
Gas price ($/GJ)	7.9	8.6	8.4	8.2	8.3
Electricity customers (000)	503.7	499.5	494.5	489.6	487.1
MM/SME volumes	4,169	4,077	4,069	4,048	4,027
TOU volumes	1,811	1,992	2,011	2,032	2,052
Total fixed price volumes (GWh)	**5,980**	**6,068**	**6,080**	**6,080**	**6,079**
Average MM usage/cust (kWh/yr)	8,240	8,126	8,186	8,227	8,257
Average FPVV price ($/MWh)	206	207	211	213	215
LWAP ($/MWh)	92	139	116	108	101
LWAP/GWAP	1.01	0.97	1.01	1.01	1.01
Line losses (%)	5.3	5.4	5.5	5.5	5.5
Retail gas customers (000)	106.2	107.1	107.7	108.2	108.7
Retail gas volumes (PJ)	7.5	8.2	8.3	8.4	8.4
Gas volume/cust (GJ/yr)	70.5	76.7	77.1	77.5	77.9
LPG retail sales (tonnes)	35,005	38,507	41,954	45,536	48,014
Kupe production					
Gas production (PJ)	11.8	11.8	10.5	10.0	11.5
Oil production (k barrels)	533	473	381	355	564
LPG production (k tonnes)	45.9	50.6	45.2	42.4	47.8
Kupe EBITDAF ($m)	115	109	99	95	121
Energy EBITDAF ($m)	245	255	268	311	325
GNE EBITDAF ($m)	**361**	**363**	**367**	**406**	**446**

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

Mercury NZ Limited (MCY)	Priced as at 06 Nov 2019: NZ$4.79	June year end

Forsyth Barr valuation			
Valuation methodology			Mix of market multiple and DCF
12-month target price (NZ$)*	4.55	Spot valuations (NZ$)	
Expected share price return	-5.0%	1. DCF	4.17
Net dividend yield	3.3%	2. Market multiple	5.04
Estimated 12-month return	-1.7%	3. Dividend yield	4.52
Key WACC assumptions		DCF valuation summary (NZ$m)	
Risk free rate	2.00%	Total firm value	6,897
Equity beta	0.88	(Net debt)/cash	(1,223)
WACC	6.6%	Value of equity	5,674
Terminal growth	1.5%	Shares (m)	1,361

Profit and Loss Account (NZ$m)	2018A	2019A	2020E	2021E	2022E
Sales revenue	1,798	2,000	1,943	1,830	1,793
Normalised EBITDA	**566**	**505**	**514**	**528**	**549**
Depreciation and amortisation	(201)	(204)	(205)	(208)	(212)
Normalised EBIT	**365**	**301**	**309**	**320**	**337**
Net interest	(91)	(75)	(66)	(69)	(71)
Associate income	2	1	3	3	3
Tax	(91)	(73)	(71)	(73)	(78)
Depreciation capex adj	58	78	71	95	95
Adjusted normalised NPAT	**256**	**239**	**247**	**276**	**287**
Abnormals/other	(7)	118	(71)	(95)	(95)
Reported NPAT	**249**	**357**	**176**	**181**	**192**
Normalised EPS (cps)	18.8	17.6	18.1	20.3	21.1
DPS (cps)	15.1	15.5	15.8	16.2	22.1

Growth Rates	2018A	2019A	2020E	2021E	2022E
Revenue (%)	12.6	11.2	-2.8	-5.8	-2.1
EBITDA (%)	8.2	-10.8	1.7	2.7	4.0
EBIT (%)	7.9	-17.7	3.5	3.3	5.5
Normalised NPAT (%)	1.8	-6.5	3.1	12.0	4.0
Normalised EPS (%)	2.9	-6.4	3.1	12.0	4.0
Ordinary DPS (%)	3.4	2.6	1.9	2.5	36.4

Cash Flow (NZ$m)	2018A	2019A	2020E	2021E	2022E
EBITDA	**566**	**505**	**514**	**528**	**549**
Working capital change	4	2	52	(62)	(3)
Interest & tax paid	(192)	(148)	(158)	(161)	(166)
Other	(4)	(33)	-	-	-
Operating cash flow	**374**	**326**	**408**	**305**	**381**
Capital expenditure	(127)	(122)	(301)	(111)	(80)
(Acquisitions)/divestments	(139)	215	-	-	-
Other	6	5	1	1	1
Funding available/(required)	**114**	**424**	**108**	**195**	**301**
Dividends paid	(273)	(208)	(212)	(218)	(225)
Equity raised/(returned)	(55)	7	-	-	-
Increase/(decrease) in net debt	**214**	**(223)**	**104**	**23**	**(76)**

Balance Sheet (NZ$m)	2018A	2019A	2020E	2021E	2022E
Working capital	63	63	11	73	75
Fixed assets	5,370	5,528	5,629	5,539	5,410
Intangibles	85	62	59	57	55
Other assets	385	521	523	526	529
Total funds employed	**5,903**	**6,174**	**6,223**	**6,194**	**6,069**
Net debt/(cash)	1,264	1,096	1,200	1,224	1,147
Other non current liabilities	1,306	1,498	1,480	1,464	1,448
Shareholder's funds	3,333	3,580	3,543	3,507	3,474
Minority interests	-	-	-	-	-
Total funding sources	**5,903**	**6,174**	**6,223**	**6,194**	**6,069**

Valuation Ratios	2018A	2019A	2020E	2021E	2022E
EV/EBITDA (x)	13.3	14.7	14.3	14.0	13.5
EV/EBIT (x)	20.5	24.6	23.5	22.9	21.7
PE (x)	25.5	27.3	26.4	23.6	22.7
Price/NTA (x)	2.0	1.9	1.9	1.9	1.9
Free cash flow yield (%)	3.8	3.1	1.6	3.0	4.6
Net dividend yield (%)	3.2	3.2	3.3	3.4	4.6
Gross dividend yield (%)	4.4	4.5	4.6	4.7	6.1
Imputation (%)	100	100	100	100	85
Pay-out ratio (%)	80	88	87	80	105

Capital Structure	2018A	2019A	2020E	2021E	2022E
Interest cover EBIT (x)	4.7	6.7	4.7	4.7	4.8
Interest cover EBITDA (x)	6.2	6.7	7.8	7.7	7.8
Net debt/ND+E (%)	27.8	23.7	25.5	26.1	25.1
Net debt/EBITDA (x)	2.2	2.2	2.3	2.3	2.1

Key Ratios	2018A	2019A	2020E	2021E	2022E
Return on assets (%)	7.1	7.8	4.7	5.0	5.4
Return on equity (%)	6.0	4.6	5.0	5.2	5.6
Return on funds employed (%)	5.8	4.7	4.7	4.9	5.3
EBITDA margin (%)	31.5	25.3	26.4	28.8	30.6
EBIT margin (%)	20.4	15.1	16.1	17.6	19.0
Capex to sales (%)	7.1	6.1	15.5	6.1	4.5
Capex to depreciation (%)	69	67	158	57	40

Operating Statistics	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	469
Total MCY Generation (GWh)	**7,704**	**6,900**	**6,898**	**7,026**	**7,314**
GWAP ($/MWh)	86.3	138.7	128.5	108.2	99.0
Electricity customers (000)	388	373	354	351	347
MM volumes	3,278	3,182	2,972	2,908	2,885
TOU volumes	1,200	1,319	1,526	1,616	1,624
Total Fixed Price volumes (GWh)	**4,478**	**4,501**	**4,498**	**4,524**	**4,509**
Spot Sales	891	780	731	734	738
Net CFD's	2,110	1,624	1,563	1,563	1,563
Total Sales (GWh)	**7,479**	**6,905**	**6,791**	**6,821**	**6,810**
Average usage per cust (MWh/yr)	11.4	11.8	12.5	12.8	12.9
LWAP ($/MWh)	91.6	144.2	134.7	113.6	104.3
LWAP/GWAP	1.06	1.04	1.05	1.05	1.05
Average FPVV price ($/MWh)	112.5	113.4	114.3	116.4	118.4
Line losses (%)	5.6	5.1	5.4	5.3	5.3
Retail gas customers (000)	48	47	46	46	47
Retail gas volumes (PJ)	1.1	1.1	1.0	1.0	1.0
Gas volume/cust (GJ/yr)	22.5	22.5	22.5	22.5	22.5
Energy margin ($m)	730	667	698	710	738
Operating costs ($m)	(205)	(199)	(203)	(202)	(208)
Other revenue ($m)	41	37	19	20	20
MCY EBITDAF ($m)	**566**	**505**	**514**	**528**	**549**

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

Meridian Energy Limited (MEL)	Priced as at 06 Nov 2019: NZ$4.60	June year end

Forsyth Barr valuation			
Valuation methodology		Mix of market multiple and DCF	
12-month target price (NZ$)*	**4.25**	**Spot valuations (NZ$)**	
Expected share price return	-7.6%	1. DCF	3.85
Net dividend yield	4.7%	2. Market multiple	4.39
Estimated 12-month return	-2.9%	3. Dividend yield	4.58
Key WACC assumptions		**DCF valuation summary (NZ$m)**	
Risk free rate	2.00%	Total firm value	11,640
Equity beta	0.84	(Net debt)/cash	(1,761)
WACC	6.7%	Value of equity	9,879
Terminal growth	1.5%	Shares (m)	2,563

Profit and Loss Account (NZ$m)	2018A	2019A	2020E	2021E	2022E
Sales revenue	3,297	4,104	3,746	3,546	3,504
Normalised EBITDA	**666**	**838**	**820**	**769**	**786**
Depreciation and amortisation	(268)	(276)	(309)	(302)	(296)
Normalised EBIT	**398**	**562**	**510**	**467**	**490**
Net interest	(81)	(83)	(81)	(83)	(86)
Associate income & other	(19)	(14)	(17)	(19)	(19)
Tax	(95)	(133)	(115)	(102)	(108)
Minority interests	-	-	-	-	-
Reported NPAT	**203**	**332**	**297**	**263**	**277**
Abnormals/other	158	149	183	177	171
Adjusted normalised NPAT	**361**	**481**	**480**	**440**	**449**
Adjusted normalised EPS (cps)	14.1	18.8	18.7	17.2	17.5
DPS (cps)	19.2	21.3	21.6	21.8	20.9

Growth Rates	2018A	2019A	2020E	2021E	2022E
Revenue (%)	16.7	24.5	-8.7	-5.3	-1.2
EBITDA (%)	1.4	25.8	-2.2	-6.2	2.3
EBIT (%)	1.3	41.2	-9.2	-8.5	4.9
Normalised NPAT (%)	-3.1	33.4	-0.3	-8.3	2.0
Normalised EPS (%)	-3.1	33.4	-0.3	-8.3	2.0
DPS (%)	1.5	10.9	1.2	1.1	-3.9

Cash Flow (NZ$m)	2018A	2019A	2020E	2021E	2022E
EBITDA	**666**	**838**	**820**	**769**	**786**
Working capital change	(34)	(36)	7	13	16
Interest & tax paid	(186)	(200)	(238)	(226)	(235)
Other	(19)	33	(17)	(19)	(19)
Operating cash flow	**427**	**635**	**572**	**537**	**548**
Capital expenditure	(247)	(69)	(75)	(76)	(58)
(Acquisitions)/divestments	23	-	-	-	-
Other	-	-	-	-	-
Funding available/(required)	**203**	**566**	**496**	**461**	**490**
Dividends paid	(486)	(500)	(552)	(558)	(570)
Equity raised/(returned)	(2)	(2)	-	-	-
Increase/(decrease) in net debt	**285**	**(64)**	**56**	**98**	**80**

Balance Sheet (NZ$m)	2018A	2019A	2020E	2021E	2022E
Working capital	(17)	(24)	(14)	(8)	(5)
Fixed assets	7,941	8,825	8,599	8,377	8,139
Intangibles	60	59	51	47	47
Other assets	291	383	366	347	328
Total funds employed	**8,275**	**9,243**	**9,002**	**8,763**	**8,509**
Net debt/(cash)	1,461	1,424	1,480	1,578	1,658
Other non current liabilities	1,991	2,362	2,321	2,280	2,238
Shareholder's funds	4,823	5,457	5,201	4,906	4,613
Minority interests	-	-	-	-	-
Total funding sources	**8,275**	**9,243**	**9,002**	**8,763**	**8,509**

Valuation Ratios	2018A	2019A	2020E	2021E	2022E
EV/EBITDA (x)	19.7	15.8	16.2	17.3	16.9
EV/EBIT (x)	32.9	23.5	26.0	28.4	27.1
PE (x)	32.7	24.5	24.6	26.8	26.3
Price/NTA (x)	2.5	2.2	2.3	2.4	2.6
Free cash flow yield (%)	1.5	4.8	4.2	3.9	4.2
Net dividend yield (%)	4.2	4.6	4.7	4.7	4.6
Gross dividend yield (%)	5.3	5.8	5.9	5.9	5.8
Imputation (%)	68	66	65	65	70
Pay-out ratio (%)	136	113	115	127	120

Capital Structure	2018A	2019A	2020E	2021E	2022E
Interest cover EBIT (x)	4.7	6.6	6.1	5.4	5.5
Interest cover EBITDA (x)	8.2	10.1	10.1	9.3	9.2
Net debt/ND+E (%)	23.2	20.7	22.2	24.3	26.4
Net debt/EBITDA (x)	2.2	1.7	1.8	2.1	2.1

Key Ratios	2018A	2019A	2020E	2021E	2022E
Return on assets (%)	4.4	5.7	5.3	4.9	5.3
Return on equity (%)	4.3	6.1	5.7	5.4	6.0
Return on funds employed (%)	4.6	5.9	5.5	5.2	5.6
EBITDA margin (%)	20.2	20.4	21.9	21.7	22.4
EBIT margin (%)	12.1	13.7	13.6	13.2	14.0
Capex to sales (%)	7.5	1.7	2.0	2.2	1.7
Capex to depreciation (%)	100	28	27	27	21

Operating Statistics	2018A	2019A	2020E	2021E	2022E
Hydro generation	11,266	12,326	11,967	11,701	11,701
Wind generation	1,263	1,244	1,470	1,474	1,474
Total NZ generation (GWh)	**12,528**	**13,570**	**13,436**	**13,175**	**13,175**
GWAP ($/MWh)	83.0	123.3	115.4	99.2	90.7
Overseas generation (GWh)	581	730	725	800	800
Overseas GWAP ($/MWh) (NZD)	151	100	137	105	96
Overseas customer numbers (000)	97	110	127	143	153
Powershop customers (000)	66	74	80	82	83
Meridian branded customers (000)	225	228	235	240	245
NZ electricity customers (000)	**291**	**302**	**315**	**321**	**328**
Average usage per cust (MWh/yr)	13.5	13.2	12.9	12.9	12.9
Mass market volumes	3,824	3,901	3,989	4,094	4,180
Time of use volumes	2,157	2,338	2,721	2,742	2,764
Total fixed price volumes (GWh)	**5,981**	**6,239**	**6,710**	**6,836**	**6,944**
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**	**12,202**	**12,511**	**12,619**
Average FPVV price ($/MWh)	105.2	104.8	106.8	108.7	110.5
LWAP ($/MWh)	88	132	124	106	98
LWAP/GWAP	1.06	1.07	1.08	1.07	1.08
Lines losses (%)	5.3	5.9	5.5	5.5	5.5
New Zealand Energy Margin ($m)	944	1,108	1,080	1,019	1,023
Overseas Energy Margin ($m)	86	118	118	114	114
Meridian Energy Margin ($m)	**1,030**	**1,226**	**1,199**	**1,133**	**1,137**

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

Tilt Renewables Limited (TLT)		Priced as at 06 Nov 2019: NZ$2.96		March year end

Forsyth Barr valuation			
Valuation methodology	Mix of market multiple (33%) and DCF (67%)		
12-month target price (NZ$)*	**3.00**	**Spot valuations (NZ$)**	
Expected share price return	1.4%	1. DCF	2.73
Net dividend yield	0.0%	2. Multiple	3.10
Estimated 12-month return	1.4%	3. n/a	n/a
Key WACC assumptions		**DCF valuation summary (NZ$m)**	
Risk free rate	2.0%	Total firm value	1,713
Equity beta	0.94	(Net debt)/cash	(433)
WACC	7.3%	Value of equity	1,279
Terminal growth	1.5%	Shares (m)	469

Profit and Loss Account (A$m)	**2018A**	**2019A**	**2020E**	**2021E**	**2022E**
Sales revenue	158	193	200	255	288
Normalised EBITDA	**104**	**135**	**135**	**172**	**191**
Depreciation and amortisation	(77)	(84)	(79)	(87)	(108)
Normalised EBIT	**27**	**51**	**56**	**86**	**83**
Net interest	(29)	(30)	(9)	(18)	(25)
Other	26	(2)	(10)	-	-
Tax	(7)	(7)	(10)	(20)	(17)
Deprecation capex adjustment	49	57	52	58	73
Normalised NPAT	**47**	**70**	**86**	**106**	**114**
Abnormals/other	(30)	(58)	(59)	(58)	(73)
Reported NPAT	**17**	**12**	**27**	**48**	**41**
Normalised EPS (cps)	15.1	14.9	18.4	22.5	24.2
DPS (cps)	3.1	1.1	-	-	-

Growth Rates	**2018A**	**2019A**	**2020E**	**2021E**	**2022E**
Revenue (%)	n/a	n/a	n/a	n/a	n/a
EBITDA (%)	-46.6	91.7	9.7	52.6	-3.7
EBIT (%)	n/a	n/a	n/a	n/a	n/a
Normalised NPAT (%)	3.9	-52.3	>100	79.1	-14.7
Normalised EPS (%)	-41.9	-47.5	-100.0	n/a	n/a
DPS (%)	n/a	n/a	n/a	n/a	n/a

Cash Flow (A$m)	**2018A**	**2019A**	**2020E**	**2021E**	**2022E**
EBITDA	**104**	**135**	**135**	**172**	**191**
Working capital change	(19)	1	(3)	(7)	2
Interest & tax paid	(42)	(42)	(23)	(15)	(26)
Other	14	(9)	(47)	-	-
Operating cash flow	**57**	**85**	**61**	**151**	**167**
Capital expenditure	(84)	(91)	(387)	(406)	(7)
(Acquisitions)/divestments	-	-	-	-	-
Other	-	-	-	-	-
Funding available/(required)	**(27)**	**(6)**	**(326)**	**(255)**	**160**
Dividends paid	(11)	(11)	-	-	-
Equity raised/(returned)	-	260	(0)	-	-
Increase/(decrease) in net debt	**38**	**(243)**	**327**	**255**	**(160)**

Balance Sheet (NZ$m)	**2018A**	**2019A**	**2020E**	**2021E**	**2022E**
Working capital	18	14	18	25	24
Fixed assets	1,171	1,067	1,493	1,813	1,712
Intangibles	1	1	1	1	1
Other assets	101	114	74	74	74
Total funds employed	**1,290**	**1,196**	**1,586**	**1,913**	**1,810**
Net debt/(cash)	593	369	714	970	810
Other non current liabilities	186	171	214	238	254
Shareholder's funds	510	656	657	705	746
Minority interests	-	-	-	-	-
Total funding sources	**1,290**	**1,196**	**1,586**	**1,913**	**1,810**

Valuation Ratios	**2018A**	**2019A**	**2020E**	**2021E**	**2022E**
EV/EBITDA (x)	17.8	13.1	13.7	11.6	10.5
EV/EBIT (x)	69.0	34.6	32.9	23.3	24.4
PE (x)	18.1	18.5	15.1	12.2	11.4
Price/NTA (x)	n/a	5.1	4.9	5.0	5.0
Free cash flow yield (%)	3.4	5.8	4.0	10.4	11.5
Net dividend yield (%)	1.1	0.4	0.0	0.0	0.0
Gross dividend yield (%)	1.1	0.4	0.0	0.0	0.0
Imputation (%)	0	0	0	0	0
Pay-out ratio (%)	20	7	0	0	0

Capital Structure	**2018A**	**2019A**	**2020E**	**2021E**	**2022E**
Interest cover EBIT (x)	0.9	1.7	6.1	4.8	3.4
Interest cover EBITDA (x)	3.5	4.5	14.7	9.7	7.8
Net debt/ND+E (%)	53.8	36.0	52.1	57.9	52.1
Net debt/EBITDA (x)	5.7	2.7	5.3	5.6	4.2

Key Ratios	**2018A**	**2019A**	**2020E**	**2021E**	**2022E**
Return on assets (%)	2.0	3.3	3.6	4.5	4.6
Return on equity (%)	9.3	10.7	13.1	15.0	15.3
Return on funds employed (%)	1.7	3.5	2.9	3.6	3.8
EBITDA margin (%)	65.7	69.7	67.5	67.6	66.2
EBIT margin (%)	16.9	26.5	28.1	33.6	28.6
Capex to sales (%)	52.9	47.0	193.4	159.4	2.4
Capex to depreciation (%)	108	109	490	469	6

Operating Performance	**2018A**	**2019A**	**2020E**	**2021E**	**2022E**
Australia installed capacity (MW)	386	440	440	776	776
NZ installed capacity (MW)	197	197	197	197	330
TLT installed capacity (MW)	**583**	**637**	**637**	**973**	**1,106**
Australia wind generation (GWh)	1,225	1,395	1,405	2,209	2,653
NZ wind generation (GWh)	571	658	665	672	1,119
TLT wind generation (GWh)	**1,796**	**2,053**	**2,071**	**2,881**	**3,772**
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	94	82	76
NZ PPA price (NZ$/MWh)	65	65	64	65	66
Australia spot sales (GWh)	23	155	353	668	535
Australia PPA sales (GWh)	1,202	1,239	1,052	1,541	2,118
Australia spot revenue (A$m)	3	34	60	88	56
Australia PPA revenue (A$m)	118	117	99	126	162
Australia revenue (A$m)	122	151	159	214	218
NZ revenue (A$m)	36	42	41	41	70
Australia EBITDAF (A$m)	82	109	111	148	145
NZ EBITDAF (A$m)	22	25	24	24	46

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

Trustpower Ltd (TPW)	Priced as at 06 Nov 2019: NZ$8.26			March year end

Forsyth Barr valuation

Valuation methodology	Blend of spot valuations, weighted to multiples

12-month target price (NZ$)*	**8.20**	**Spot valuations (NZ$)**	
Expected share price return	-0.7%	1. DCF	8.11
Net dividend yield	4.2%	2. Market multiples	8.16
Estimated 12-month return	3.5%	3. Dividend Yield	8.00

Key WACC assumptions		**DCF valuation summary (NZ$m)**	
Risk free rate	2.00%	Total firm value	3,112
Equity beta	0.88	(Net debt)/cash	(557)
WACC	6.7%	Value of equity	2,538
Terminal growth	1.5%	Shares (m)	313

Profit and Loss Account (NZ$m)	**2018A**	**2019A**	**2020E**	**2021E**	**2022E**
Sales revenue	979	1,030	1,005	1,023	1,023
Normalised EBITDA	**270**	**222**	**210**	**216**	**226**
Depreciation and amortisation	(47)	(47)	(44)	(43)	(43)
Normalised EBIT	**223**	**175**	**166**	**172**	**183**
Net interest	(34)	(28)	(31)	(32)	(32)
Depreciation capex adjustment	8	19	16	15	14
Tax	(55)	(48)	(43)	(44)	(47)
Minority interests	(1)	(2)	(2)	(2)	(2)
Normalised NPAT	**141**	**117**	**106**	**109**	**116**
Abnormals/other/depn adj	(13)	(26)	(11)	(11)	(10)
Reported NPAT	**128**	**91**	**94**	**98**	**106**
Normalised EPS (cps)	44.9	37.1	33.6	34.6	36.9
DPS (cps)	34.0	34.0	34.0	35.0	36.0

Growth Rates	**2018A**	**2019A**	**2020E**	**2021E**	**2022E**
Revenue (%)	4.2	5.2	-2.4	1.8	0.0
EBITDA (%)	15.0	-17.6	-5.4	2.7	4.9
EBIT (%)	19.3	-21.6	-4.9	3.5	6.2
Normalised NPAT (%)	8.5	-17.3	-9.4	2.9	6.9
Normalised EPS (%)	8.5	-17.3	-9.4	2.9	6.9
DPS (%)	3.0	0.0	0.0	2.9	2.9

Cash Flow (NZ$m)	**2018A**	**2019A**	**2020E**	**2021E**	**2022E**
EBITDA	**270**	**222**	**210**	**216**	**226**
Working capital change	25	(47)	(11)	12	9
Interest & tax paid	(64)	(75)	(68)	(71)	(75)
Other	(23)	20	-	-	-
Operating cash flow	**208**	**120**	**131**	**156**	**160**
Capital expenditure	(42)	(31)	(28)	(29)	(29)
(Acquisitions)/divestments	118	8	-	-	-
Other	4	(2)	-	-	-
Funding available/(required)	**288**	**96**	**103**	**128**	**131**
Dividends paid	(110)	(190)	(153)	(106)	(113)
Equity raised/(returned)	(0)	-	-	-	-
Increase/(decrease) in net debt	**(178)**	**95**	**50**	**(21)**	**(18)**

Balance Sheet (NZ$m)	**2018A**	**2019A**	**2020E**	**2021E**	**2022E**
Working capital	(28)	(0)	11	8	11
Fixed assets	2,102	1,925	1,910	1,896	1,882
Intangibles	44	37	36	35	35
Other assets	60	115	115	106	94
Total funds employed	**2,178**	**2,076**	**2,072**	**2,045**	**2,022**
Net debt/(cash)	467	557	608	587	569
Other non current liabilities	276	270	272	273	273
Shareholder's funds	1,413	1,224	1,165	1,157	1,150
Minority interests	22	25	27	29	31
Total funding sources	**2,178**	**2,076**	**2,072**	**2,045**	**2,022**

Valuation Ratios	**2018A**	**2019A**	**2020E**	**2021E**	**2022E**
EV/EBITDA (x)	11.8	14.0	15.2	14.9	14.2
EV/EBIT (x)	14.2	17.8	19.1	18.6	17.5
PE (x)	18.4	22.3	24.6	23.9	22.4
Price/NTA (x)	1.8	2.2	2.3	2.3	2.3
Free cash flow yield (%)	6.4	3.4	4.0	4.9	5.1
Net dividend yield (%)	4.1	4.1	4.1	4.2	4.4
Gross dividend yield (%)	5.7	5.0	5.6	5.8	6.1
Imputation (%)	100	55	90	95	100
Pay-out ratio (%)	76	92	101	101	97

Capital Structure	**2018A**	**2019A**	**2020E**	**2021E**	**2022E**
Interest cover EBIT (x)	7.0	6.8	5.8	5.8	6.2
Interest cover EBITDA (x)	7.9	7.9	6.7	6.7	7.1
Net debt/ND+E (%)	24.8	31.3	34.3	33.6	33.1
Net debt/EBITDA (x)	1.7	2.5	2.9	2.7	2.5

Key Ratios	**2018A**	**2019A**	**2020E**	**2021E**	**2022E**
Return on assets (%)	9.2	7.2	7.6	8.0	8.6
Return on equity (%)	9.9	9.7	9.3	9.6	10.3
Return on funds employed (%)	8.5	7.2	6.6	7.0	7.5
EBITDA margin (%)	27.5	21.6	20.9	21.1	22.1
EBIT margin (%)	22.8	17.0	16.6	16.8	17.9
Capex to sales (%)	4.2	3.0	2.8	2.8	2.8
Capex to depreciation (%)	134	98	96	98	100

Divisional Revenue	**2018A**	**2019A**	**2020E**	**2021E**	**2022E**
NZ electricity revenue	810	861	840	848	839
Australia electricity revenue	33	-	-	-	-
Gas revenue	29	29	29	31	33
Telecommunication revenue	81	88	94	102	109
Other revenue	27	52	43	42	42
Total revenue	**979**	**1,030**	**1,005**	**1,023**	**1,023**

Operating Statistics	**2018A**	**2019A**	**2020E**	**2021E**	**2022E**
NZ generation (GWh)	2,235	1,995	1,815	1,896	1,896
Australian generation (GWh)	284	-	-	-	-
Total generation (GWh)	**2,519**	**1,995**	**1,815**	**1,896**	**1,896**
NZ GWAP $/MWh	88	125	119	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 $/MWh	91	131	128	113	93
LWAP/GWAP	1.04	1.04	1.08	1.07	1.07
Electricity customers (000)	273	267	265	264	263
Usage/customer (MWh)	6.9	6.8	6.7	6.8	6.8
Revenue/MWh sold ($)	212	230	227	229	227
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	972	982	992

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