

### AUSTRALIA

#### AGL AU

Price (at 06:10, 04 Aug 2015 GMT) **A\$16.78**

<b>Volatility Index</b>		<b>Low</b>
<b>GICS sector</b>		<b>Utilities</b>
<b>Market cap</b>	<b>A\$m</b>	<b>11,322</b>
<b>30-day avg turnover</b>	<b>A\$m</b>	<b>28.9</b>
<b>Number shares on issue</b>	<b>m</b>	<b>674.7</b>

#### Investment fundamentals

Year end 30 Jun		2014A	2015E	2016E	2017E
Revenue	m	10,490	8,524	8,858	9,450
EBIT	m	1,004	1,120	1,248	1,468
Reported profit	m	570	184	751	908
Adjusted profit	m	566	628	751	908
Gross cashflow	m	892	1,037	1,244	1,397
CFPS	¢	147.3	158.5	184.0	205.7
CFPS growth	%	-4.7	7.6	16.1	11.8
PGCFPS	x	11.4	10.6	9.1	8.2
PGCFPS rel	x	1.31	1.10	1.01	1.00
EPS adj	¢	93.4	96.0	111.0	133.7
EPS adj growth	%	-10.7	2.7	15.7	20.4
PER adj	x	18.0	17.5	15.1	12.6
PER rel	x	1.11	1.03	0.95	0.88
Total DPS	¢	60.4	63.0	78.0	104.0
Total div yield	%	3.6	3.8	4.6	6.2
Franking	%	100	100	100	100
ROA	%	7.3	7.5	8.1	9.5
ROE	%	7.6	7.7	8.4	9.8
EV/EBITDA	x	10.0	9.7	8.6	7.6
Net debt/equity	%	46.0	41.0	28.7	21.8
P/BV	x	1.3	1.3	1.3	1.2

#### AGL AU vs ASX 100



Source: FactSet, Macquarie Research, August 2015  
(all figures in AUD unless noted)

# AGL Energy

## Decarbonisation – some possibilities

### Event

- AGL acknowledges the need to decarbonise the economy. The focus on this need will emerge in Paris at the COP21 conference. Unknown is the methodology to achieve this outcome, either through an emission trading scheme or simply regulation. We consider the longer term implications for AGL, especially as Labor has suggested 50% renewable generation by 2030.

### Impact

- Currently 77% of generation is coal based, and this mix will increase by FY17 as gas is redirected to LNG exports. The weighted generation age is currently 31 years and ex Qld 35 years with Hazelwood already +50yrs. By 2030 the generation fleet will be ~45 years old (assuming retirements). Policy settings in Canada and the US are making these plants uneconomic particularly as new renewable energy is promoted. Importantly these settings are done via regulation namely restrictions on plant pollution after 2025 (US) or plant age Canada (50 years).
- We consider the implication for AGL if a similar policy was implemented in Australia. It provides the industry plenty of advanced warning, and ensures markets like Victoria, where price signals will not work, retire capacity in an orderly fashion. Overall we believe this type of policy will favour AGL within the context of its own decarbonisation ambitions. As the lowest cost producer in NSW and Victoria, AGL's plants are likely to be the last to retire. This provides the opportunity for AGL to capture value in the transition to a decarbonised economy. At the simplest level, electricity pricing will need to double to justify current wind projects without subsidy. AGL has ~30TWh of generation leverage.
- With price volatility likely to emerge (until low cost batteries are viable) as a result of renewable energy generation volatility, gentailers are likely to be in a stronger position to manage that volatility through demand shedding or its own portfolio of generation assets.
- Finally as a gentailer, AGL can in a low risk fashion with its retail base replace coal generation with wind, creating a material investment opportunity. For instance, replacing 50% of Liddell production with renewables would cost at least \$2.5bn, thus providing an avenue to invest a significant amount of capital over the next 15 years.

### Earnings and target price revision

- No change.

### Price catalyst

- Due to research restrictions, Macquarie cannot advise its valuation on AGL AU at present.

### Action and recommendation

- Restriction.

7 August 2015

Macquarie Securities (Australia) Limited

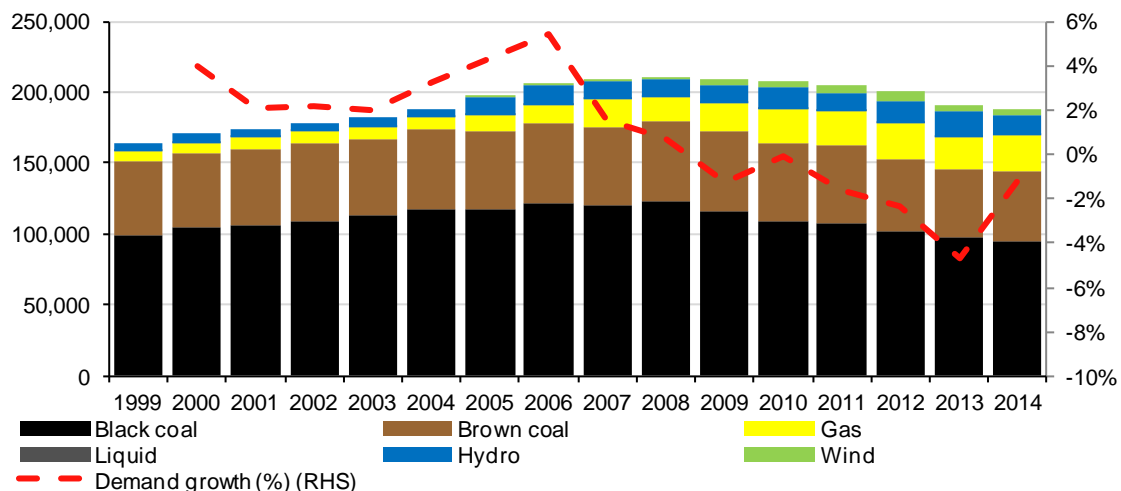
## AGL acknowledges the need to decarbonise the economy

- The focus on this need will emerge in Paris at the COP21 conference. Unknown is the methodology to achieve this outcome, either through an emission trading scheme, regulation or other means. Already we have seen China propose an emission trading scheme, and the US is using regulation and emission trading schemes to reduce carbon emissions. The US has established a target of 0.6kt/MWh for coal fired generation plants. In Canada a scheme for coal generators is either new fleet or fleet past working life of 50 years requires a performance standard of 0.4t/MWh (equivalent to gas) or Carbon Capture, with the latter exemption lasting until 2025.
- Australia's policy position is still uncertain post 2020 albeit the Labour party has proposed a renewable energy target of 50% in electricity by 2030 with a proposed emission trading scheme. Liberal policy is yet to be articulated and is somewhat dependent on the outcome of COP21. The final policy outcome will have an impact on both electricity prices and AGL. As a general theme, AGL is likely to favour regulation versus market distortions like REC.

### Where we are?

- Since 2000 the Australian generation fleet has progressively been transforming away from coal as gas emerged the primary alternative with dependence dropping from 91% to 77% over 14 years. Wind and large solar alternatives remain relatively small at 2-4% of the NEM generation. The end of the carbon tax and the emergence of LNG export opportunities which changed gas generation economics should see coal grow back to 80-85% by FY17. The current renewable energy target of ~20% requires ~10TWh of coal/gas production to be replaced with renewable (ie 3GW of construction). As a result with gas turning off anyway due to LNG, coal will remain at the current proportion of generation in the NEM ie 75-80%.

**Fig 1 NEM Production by fuel source (GWh)**



Source: [AEMO](#), Macquarie Research, August 2015

- At the same time that coal dominates the NEM, the average age of the current coal fleet is 31 years and ex Qld which has a relatively young fleet, it is 35 years. Already 10% of the existing fleet (Hazelwood) is over 50 years and by 2030 the average age of the NSW/Vic fleet assuming retirements (over 50 yrs) will be 45 years. The US in its current Clean Energy policy highlights a similar problem, that the generation fleet age is presently 39 yrs; thus by the time its Clean Energy plan is in place in 2025 the fleet would be ~54 years, 4 years past natural retirement. Canada fleet is in a similar situation to Australia and the US.

- There are numerous issues that start to emerge around a transition in Australia. It is not necessarily renewable energy entering the market, but creating an environment for the coal fleet to retire in an orderly fashion.
- ⇒ To date evidence supports the NSW and SA markets functioning where electricity price signals are providing encouragement for closure. In NSW Redbank and Wallerawang are closed or mothballed, and in SA Playford is closed and now Northern is closing (by 2018). Even with improving pricing, there is some speculation of further withdrawals, with questions around the economics of Vales Point/Mt Piper. Vales Point being sold by the NSW government raises this speculation. It has already failed to sell once. Its primary attraction is the legacy coal contracts which are priced below market levels. At the same time Eraring is short coal as its legacy contracts expire and faces a step up in costs. A logical/potential solution is Origin acquires the Vales Point coal contracts and shifts them to Eraring (proximity is good) and then close Vales Point, thus reducing coal production by up to 7TWh. The benefit for AGL and other market participants is an improvement in pricing or additional production.

Fig 2 NEM coal fired power stations

State	Power Station	Owner	FY15 Production (GWh)	FY15 VWAP (\$/MWh)	Estimated Retirement (Year)
NSW	Bayswater	AGL	17,191	\$ 36.01	2035
NSW	Eraring	ORG	14,290	\$ 37.57	2032
NSW	Liddell	AGL	8,119	\$ 35.20	2022
NSW	Mt Piper	EA	6,308	\$ 37.36	2043
NSW	Vales Point	Government	6,921	\$ 35.40	2029
<b>Total NSW (GWh)</b>			<b>52,830</b>	<b>\$ 36.39</b>	
QLD	Callide B	CS Energy	3,528	\$ 56.52	2038
QLD	Callide C	Callide Power Management	5,629	\$ 56.24	2051
QLD	Gladstone	Gladstone Power Station Participants	6,444	\$ 57.70	2026
QLD	Kogan Creek	CS Energy	5,718	\$ 54.21	2057
QLD	Millmerran	Millmerran Power Partners	6,636	\$ 49.91	2052
QLD	Stanwell	Stanwell Corporation Limited	8,714	\$ 54.35	2046
QLD	Tarong	Stanwell Corporation Limited	5,624	\$ 55.33	2036
QLD	Tarong North	Stanwell Corporation Limited	1,957	\$ 60.66	2053
<b>Total QLD (GWh)</b>			<b>44,250</b>	<b>\$ 54.97</b>	
SA	Northern*	Flinders Operating Services Pty Ltd	2,648	\$ 40.79	2018
<b>Total SA (GWh)</b>			<b>2,648</b>	<b>\$ 40.79</b>	
VIC	Anglesea Power Station**	Alcoa of Australia Limited	1,270	\$ 30.43	2015
VIC	Hazelwood	Hazelwood Power	11,003	\$ 30.33	2029 (50 yrs was 2014)
VIC	Loy Yang B	IPM Australia Limited	8,712	\$ 30.74	2037
VIC	Loy Yang A	AGL Energy	16,274	\$ 30.53	2037
VIC	Morwell/Energy Brix	Energy Brix Australia Corporation Pty Ltd	42	\$ 37.80	-
VIC	Yallourn	EnergyAustralia Holdings Pty Ltd	11,268	\$ 30.11	2032
<b>Total VIC (GWh)</b>			<b>48,567</b>	<b>\$ 30.43</b>	
<b>Total Coal Production (GWh)</b>			<b>148,2944</b>	<b>\$ 40.06</b>	

\* Scheduled to close by 2018; \*\* Closure schedule in FY16 post failure to divest

Source: AEMO, Macquarie Research, August 2015

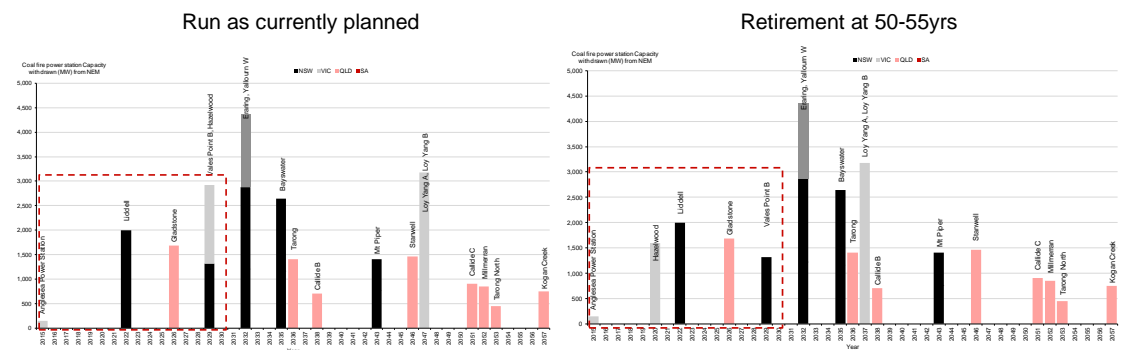
- ⇒ In Victoria the market will find it challenging to self-correct. Unlike NSW where the incremental tonne of coal reflects export parity, thus raw material costs are influencing behaviour, Victoria generators have their own mines with average coal costs of \$2-4/MWh. There is little incentive to cease production until there is a wholesale collapse in demand ie closure of Portland or generation asset failure. Recent problems like Yallourn flooding and Hazelwood fire demonstrate the economics are attractive to bring these plants back on line. In addition there is a barrier to exit as these plants will need significant amounts of site remediation.
- ⇒ Production concentration. Unlike wind, solar or gas where generation is incremental, the coal fire plants are individually major parts of the NEM. LYA/B collectively is 13% of the NEM, Bayswater 9% and Yallourn and Hazelwood each 6%. Thus replacing this capacity will need some planning ie replacing Hazelwood's 11TWh requires 3GW of wind investment ie ~\$6bn of capital investment. We expect the existing fleet (LYA, Bayswater) along with gas and hydro should be able to bridge the gap, albeit at higher electricity prices.

⇒ The renewable fleet needs some price signals. In Australian the last PPA was signed by the ACT at \$80-85/MWh over 20 years. Wind is replacing base load power which is averaging \$30-40/MWh. Without emission trading or a REC, underlying NEM pricing will need to increase significantly to send the correct economic signals for construction.

**Using regulation to limit coal**

- Adopting a strategy similar to Canada or the US would ensure a steady retirement of fleet. Currently Hazelwood is being depreciated with a 65 year life, and AGL even with their carbon policy of no coal fired plant by 2050, implies a life of LYA of ~65 years. This is 15 years in excess of the Canadian policy of 50 years for such plants without carbon capture.
- Adopting something similar to Canada, with an exception of Hazelwood which we assume operates to 55 years, sees a steady exit of capacity. It spreads retirement of the fleet especially in the next 15 years where 33TWh of capacity would retire, ie 17% of the current NEM production. The issue for such a policy is between 2032 and 2038, a further 73TWh would retire, ie 38% of the NEM. This may seem seem onerous but by this time the 4 aluminium plants will all be well past their 50 years asset life and retirement would eliminate ~25TWh of demand.

**Fig 3 Coal capacity withdrawal undercurrent schedules vs 50-55 yrs**



Source: Macquarie Research, August 2015

- Interestingly under a labour policy of a 50% renewable target, the present 33TWh combined with the capacity withdraws post 2020 of 33TWh, has the market potentially at ~35% renewable. Add the decentralised solar currently at 8TWh growing to ~20-25TWh the renewable mix may be as much as 41%. By 2032, under this policy renewable would increase to 53% and by 2037 77% with closure of the Victorian brown coal industry.

**Fig 4 Coal generation vs total**

	NSW	VIC	QLD	SA	TAS	NEM
FY15 Total demand (TWh)	69.77	45.40	52.35	11.98	9.75	189.27
FY15 Coal generation (TWh)*	52.83	48.57	44.25	2.65	0.00	148.30
% Coal	75.7%	107.0%	84.5%	22.1%	0.0%	78.4%
Coal Generation withdrawn by 2030 (TWh)	15.04	12.27	6.44	2.65		36.41
Remaining Coal Production (TWh) 2030	37.79	36.29	37.81			111.89
% Coal Withdrawn (%)	28.5%	25.3%	14.6%	100.0%		
% Coal (FY15 demand)						60.5%

\* Generation does not include network losses

Source: Macquarie Research, August 2015

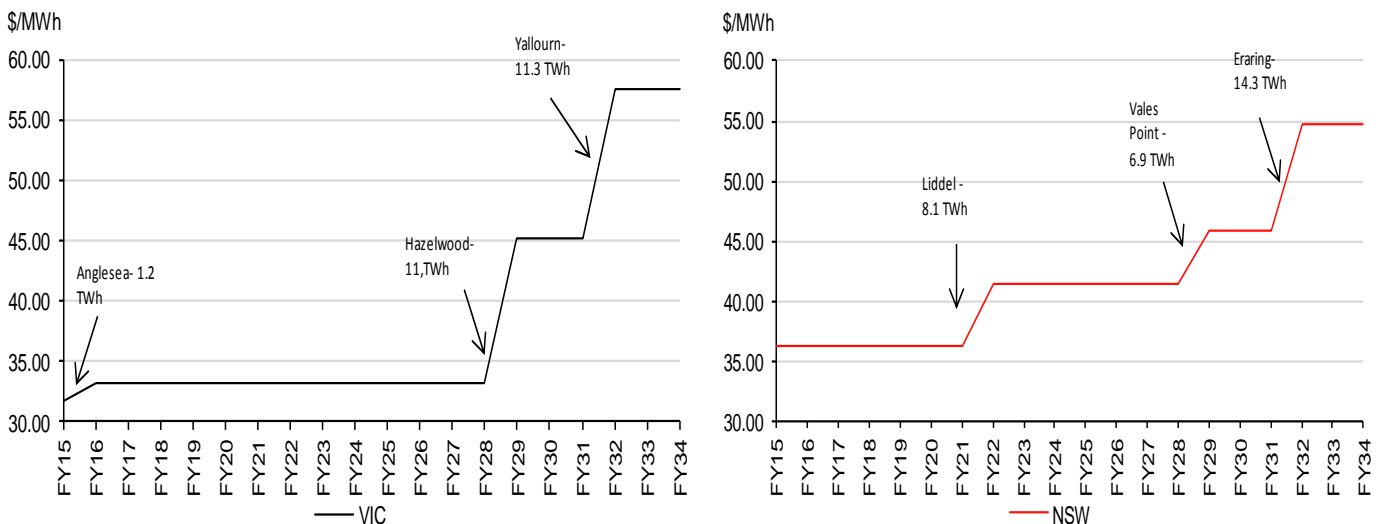
- In short the regulatory framework which is being adopted in the US and Canada would achieve a massive shift to renewable by 2032 and a virtual transition by 2037.

**But what happens to pricing**

- Without a material step down in wind generation costs or solar costs the outcome of the above policy is electricity pricing will need to move up significantly namely to the current black energy price + REC is \$80-90/MWh. The industry will need ~\$18bn of investment in renewable energy to replace the coal generation in the next 15 years and ~\$40-45bn over 25 years. The latest PPA price with ACT implies ~\$80/MWh is required to justify construction.

- However the problem with progressing to wind and solar is marginal cost of energy is zero, yet investors need to get ~\$80/MWh from the plant. The NEM pricing is established at the price the highest price bids clear demand. The bid stack in the traditional market becomes problematic as:
  - ⇒ In a stable market where renewables are producing normally the clearing pricing is likely to be around the residual coal plants.
  - ⇒ Where wind is not performing as expected, or it's cold and wet (no solar), the bid stack pricing is set at the peaker gas pricing, ie the market is dipping into the reserve generation, thus the price will be in excess of \$80/MWh.
  - ⇒ Evidence of this is emerging in SA where coal and gas have shrunk and the market has become reliant on wind and importing power. With wind performance of different farms closely correlated this is leading to additional volatility (ie on large power plant 'wind' accounting for 30-40% of demand going off line). AGL wind farms obtained ~\$40/MWh in July, yet AGL's Torrens Island gas achieved +\$100/MWh
- As a wind/solar producer the above scenario is problematic without some form of REC credit or other instrument to ensure the wind farms can actually reach economic breakeven. Nonetheless there is a dramatic impact in the black price, which will favour the young coal producers.
- The charts below are simplistic namely an assumption that coal is replaced by wind at \$80/MWh. The impact of a regulatory policy is:
  - ⇒ NSW. Liddell closure lifts the price by ~\$7/MWh, Vales Point ~\$5/MWh and Bayswater by \$10/MWh. For AGL, the step down in production from Liddell is offset by the price increase. Currently we expect this pricing will be even steeper reflecting the increase in coal costs for rival producers.
  - ⇒ Victoria. Closure of Hazelwood will see ~\$12/MWh average price increase; Yallourn would see a similar increase of \$12/MWh. AGL would benefit to the extent its LYA plant will run to at least 2037. Closure of Hazelwood potentially provides 10-17 years of elevated pricing, whilst Yallourn 5-6 years. Longer term AGL has 10TWh unhedged.
  - ⇒ Long term contracts to Alcoa and Tomago at ~\$40-45/MWh and \$60-65/MWh respectively look reasonable for the aluminium smelters.

**Fig 5 VIC and NSW price rises**



Source: Macquarie Research. August 2015

**Implications for AGL**

- AGL is actively lobbying for policy outcomes which see the orderly retirement of coal generation. Regulation is arguably the simplest which can match both government and opposition policies. For AGL the strategic position is:
  - ⇒ Lowest cost producer in both states of NSW and Victoria. Its plants are some of the youngest and are likely to bridge the gap.
  - ⇒ In Victoria it is likely to be the last coal fired power station with LYB. In NSW whilst Mt Piper is younger, we anticipate it will also be the last power station (Mt Piper issue is with cost of supply). The attraction of this position is AGL will sacrifice production to ensure the pricing closes at +\$80/MWh namely the gas fired peak generators. So whilst there may be a reduction in generation the offset is a 70-100% price increase.
  - ⇒ Managing the wind/solar transitions. ORG, AGL and EA as major PPA writers can influence the timing of new projects to lag the supply step downs. Putting capacity in early undermines the returns for both wind farms and coal generators.
  - ⇒ The pricing pressure this places on the wholesale market accelerates the development of batteries. AGL as a leading retailer is in a strong position to facilitate this. Likewise we do not see batteries undermining demand for base load generation, more peaking capacity.
- There is an obvious risk that emerges, namely how politicians seek to avoid the general price increase of black energy. The simplest approach is the extension of the REC scheme for new projects instead of terminating the scheme in 2030.

Fig 6 Investment fundamentals (\$m)

AGL Energy		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
<b>Valuation</b>												
Retail	\$m	3,533	3,503	3,413	3,286	3,403	3,472	3,353	3,234	3,107	2,967	2,815
Merchant	\$m	6,023	6,340	10,063	10,266	10,607	12,505	12,232	11,832	11,398	10,854	10,272
Upstream Gas	\$m	-387	-352	-265	-96	13	592	635	628	621	616	610
New Energy	\$m						91	194	293	375	468	526
Energy Investments	\$m	117	97	83	66	154	160	154	147	140	134	128
Head office	\$m	-1,797	-1,798	-1,765	-1,730	-1,707	-1,701	-1,631	-1,596	-1,556	-1,508	-1,454
Net Debt	\$m	-420	-418	-2,748	-3,067	-3,487	-3,595	-2,607	-2,061	-1,663	-1,242	-815
<b>Valuation</b>	<b>\$m</b>	<b>7,069</b>	<b>7,372</b>	<b>8,783</b>	<b>8,724</b>	<b>8,983</b>	<b>11,524</b>	<b>12,331</b>	<b>12,476</b>	<b>12,423</b>	<b>12,288</b>	<b>12,081</b>
per share	\$	15.71	15.98	16.09	15.74	16.05	17.08	18.20	18.31	18.11	17.78	17.48
<b>Profit and Loss</b>												
			2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
<b>Revenue</b>												
Retail	\$m	3,260	3,664	4,733	5,569	5,781	5,593	5,372	5,466	5,558	5,640	5,724
Merchant	\$m	6,403	6,595	6,699	6,889	6,564	4,573	4,937	5,349	5,460	5,527	5,647
Upstream Gas	\$m	78	73	80	84	73	77	72	90	92	90	92
Energy Investments	\$m	6	0	0	0	-1	7	25	25	24	24	23
Eliminations	\$m	-3,135	-3,266	-1,775	-2,507	-1,927	-1,625	-1,619	-1,638	-1,654	-1,668	-1,685
Adjustment	\$m	-1										
<b>Total Revenue</b>	<b>\$m</b>	<b>6,611</b>	<b>7,074</b>	<b>9,736</b>	<b>10,034</b>	<b>10,490</b>	<b>8,525</b>	<b>8,858</b>	<b>9,450</b>	<b>9,708</b>	<b>9,925</b>	<b>10,117</b>
Growth	%	9%	7%	38%	3%	5%	-19%	4%	7%	3%	2%	2%
<b>EBITDA (operating)</b>	<b>\$m</b>	<b>782</b>	<b>802</b>	<b>904</b>	<b>1,335</b>	<b>1,330</b>	<b>1,532</b>	<b>1,741</b>	<b>1,957</b>	<b>2,014</b>	<b>2,031</b>	<b>2,043</b>
<b>EBIT (operating)</b>												
Retail	\$m	248	305	333	355	318	320	309	314	320	325	332
Merchant	\$m	453	453	550	869	899	1,062	1,199	1,324	1,348	1,340	1,342
Upstream Gas	\$m	6	14	1	0	-13	-13	-16	0	1	-2	-2
Energy Investments	\$m	82	41	25	26	22	7	25	25	24	24	23
Centrally managed expenses	\$m	-144	-157	-177	-202	-223	-253	-223	-183	-186	-190	-194
One offs	\$m	-239	163	-529	-382	-25	-619	0	0	0	0	0
<b>EBIT (operating)</b>	<b>\$m</b>	<b>644</b>	<b>656</b>	<b>730</b>	<b>1,048</b>	<b>1,004</b>	<b>1,122</b>	<b>1,248</b>	<b>1,468</b>	<b>1,516</b>	<b>1,524</b>	<b>1,538</b>
<b>EBIT (statutory)</b>	<b>\$m</b>	<b>406</b>	<b>819</b>	<b>201</b>	<b>666</b>	<b>979</b>	<b>503</b>	<b>1,248</b>	<b>1,468</b>	<b>1,516</b>	<b>1,524</b>	<b>1,538</b>
Net Interest	\$m	-36	-26	-39	-203	-219	-226	-178	-173	-159	-142	-130
<b>Profit Before Tax</b>	<b>\$m</b>	<b>370</b>	<b>794</b>	<b>163</b>	<b>463</b>	<b>760</b>	<b>278</b>	<b>1,069</b>	<b>1,295</b>	<b>1,357</b>	<b>1,382</b>	<b>1,408</b>
Tax Expense	\$m	-22	-235	-48	-75	-190	-93	-319	-386	-405	-413	-420
<b>Net Profit After Tax</b>	<b>\$m</b>	<b>348</b>	<b>559</b>	<b>115</b>	<b>388</b>	<b>570</b>	<b>184</b>	<b>751</b>	<b>908</b>	<b>952</b>	<b>969</b>	<b>987</b>
Attributed Profit	\$m	348	559	115	388	570	184	751	908	952	969	987
<b>Underlying profit</b>	<b>\$m</b>	<b>504</b>	<b>439</b>	<b>483</b>	<b>597</b>	<b>562</b>	<b>628</b>	<b>751</b>	<b>908</b>	<b>952</b>	<b>969</b>	<b>987</b>
EPS (Underlying)	¢	1119	951	103.5	106.3	96.8	96.0	1110	133.7	139.3	140.8	142.9
growth	%	-14.4%	-15.1%	8.9%	2.7%	-8.9%	-0.9%	15.6%	20.4%	4.2%	1.7%	15%
PE	x	14.3	16.8	15.5	14.7	16.5	16.7	14.4	12.0	11.5	11.4	11.2
PE (ex upstream value)	x	15.2	18.0	15.9	15.2	16.2	15.5	13.4	11.3	10.8	10.7	10.6
DPS	¢	59.0	60.0	61.0	63.0	63.0	63.0	78.0	104.0	112.0	113.0	115.0
Franking	%	49%	52%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Dividend Yield	%	3.7%	3.8%	3.8%	3.9%	3.9%	3.9%	4.9%	6.5%	7.0%	7.1%	7.2%
EV : EBITDA	x	9.7	9.7	11.3	8.9	9.6	9.2	7.7	6.6	6.3	6.0	5.8
Net Debt	\$m	420	418	2,748	3,067	3,487	3,595	2,607	2,061	1,663	1,242	815
Net Debt : EBITDA (ex assoc)	x	0.5	0.5	3.0	2.3	2.6	2.3	1.5	1.1	0.8	0.6	0.4
RoFE	%	10.4%	9.7%	7.4%	10.1%	9.1%	9.1%	10.7%	12.8%	13.3%	13.6%	13.9%
EV/BV	x	1.15	1.03	1.14	1.14	1.15	1.14	1.15	1.12	1.11	1.09	1.08
RoE	%	6.0%	8.8%	1.6%	5.3%	7.5%	2.1%	8.3%	9.6%	9.8%	9.7%	9.7%
P/BV	x	1.15	1.22	1.21	1.18	1.18	1.23	1.19	1.15	1.13	1.11	1.08
<b>Cashflow</b>												
<b>Operating Cash Flow</b>												
EBITDA (inc associates)	\$m	782	802	904	1,335	1,330	1,532	1,741	1,957	2,014	2,031	2,043
Net Interest Paid	\$m	-44	-39	-98	-214	-194	-218	-178	-173	-159	-142	-130
Tax Paid	\$m	-189	-1	-181	-71	-191	-156	-273	-252	-350	-355	-360
Other (dec Working Capital)	\$m	-159	-193	-159	-448	-246	-37	10	-28	-34	-42	-40
<b>Net Operating Cashflow</b>	<b>\$m</b>	<b>390</b>	<b>569</b>	<b>467</b>	<b>602</b>	<b>699</b>	<b>1,121</b>	<b>1,299</b>	<b>1,504</b>	<b>1,473</b>	<b>1,492</b>	<b>1,513</b>
<b>Net Investing Cashflow</b>	<b>\$m</b>	<b>-92</b>	<b>-419</b>	<b>-532</b>	<b>-550</b>	<b>-769</b>	<b>-2,022</b>	<b>121</b>	<b>-409</b>	<b>-410</b>	<b>-354</b>	<b>-325</b>
<b>Financing Cashflow</b>												
Dividends	\$m	-220	-268	-185	-213	-268	-345	-432	-550	-663	-718	-760
Debt Changes	\$m	-219	335	3,284	-1,213	595	-53	-851	-20	-21	-22	-23
New Equity	\$m	36	16	890	0	1	1,232	0	0	0	0	0
Other (inc adj.)	\$m	-39	-54	-2,860	-158	-340	-70	0	0	0	0	0
<b>Net Financing Cashflow</b>	<b>\$m</b>	<b>-441</b>	<b>123</b>	<b>1,125</b>	<b>-1,584</b>	<b>-12</b>	<b>758</b>	<b>-1,282</b>	<b>-569</b>	<b>-684</b>	<b>-739</b>	<b>-783</b>
<b>Net Cashflow</b>	<b>\$m</b>	<b>-143</b>	<b>273</b>	<b>1,060</b>	<b>-1,532</b>	<b>-82</b>	<b>-142</b>	<b>138</b>	<b>526</b>	<b>378</b>	<b>398</b>	<b>405</b>
<b>Balance Sheet</b>												
<b>Assets</b>												
Cash	\$m	480	753	1,813	281	456	295	433	958	1,336	1,735	2,139
Tangible Assets	\$m	3,222	3,702	6,619	6,363	6,350	8,011	7,432	7,374	7,307	7,175	7,013
Intangible Assets	\$m	3,149	3,137	3,172	3,149	3,248	3,231	3,195	3,174	3,153	3,132	3,114
Other	\$m	1,839	2,103	3,134	3,573	4,080	4,162	4,152	4,180	4,214	4,256	4,297
<b>Total Assets</b>	<b>\$m</b>	<b>8,691</b>	<b>9,696</b>	<b>14,738</b>	<b>13,366</b>	<b>14,134</b>	<b>15,699</b>	<b>15,213</b>	<b>15,687</b>	<b>16,010</b>	<b>16,298</b>	<b>16,562</b>
<b>Liabilities</b>												
Debt	\$m	901	1,171	4,561	3,348	3,943	3,890	3,039	3,020	2,999	2,977	2,954
Creditors	\$m	860	853	1,158	1,444	1,417	1,309	1,309	1,309	1,309	1,309	1,309
Provisions	\$m	231	256	398	365	207	325	325	325	325	325	325
Tax payable/DITL	\$m	43	167	11	155	49	83	83	83	83	83	83
Other	\$m	857	907	1,477	716	930	1,328	1,374	1,509	1,564	1,622	1,682
<b>Total Liabilities</b>	<b>\$m</b>	<b>2,891</b>	<b>3,354</b>	<b>7,606</b>	<b>6,027</b>	<b>6,546</b>	<b>6,935</b>	<b>6,130</b>	<b>6,245</b>	<b>6,280</b>	<b>6,316</b>	<b>6,353</b>
<b>Net Assets</b>	<b>\$m</b>	<b>5,800</b>	<b>6,342</b>	<b>7,133</b>	<b>7,339</b>	<b>7,588</b>	<b>8,764</b>	<b>9,083</b>	<b>9,441</b>	<b>9,730</b>	<b>9,982</b>	<b>10,209</b>
Closing shares		450	461	546	554	560	675	678	681	686	691	691
<b>Ratios</b>												
Sales Growth	%	9.2%	7.0%	37.6%	3.1%	4.5%	-18.7%	3.9%	6.7%	2.7%	2.2%	1.9%
Operating Cost Growth	%	10.8%	7.6%	40.8%	-15%	5.3%	-23.7%	18%	5.3%	2.7%	2.6%	2.3%
EBITDA Growth	%	-1.3%	2.6%	12.7%	47.8%	-0.4%	15.2%	13.7%	12.4%	2.9%	0.8%	0.6%
<b>Divisional EBITDA Growth</b>												
Retail Energy	%	8.7%	20.5%	12.4%	9.7%	-6.1%	-2.8%	-1.2%	-2.4%	16%	13%	14%
Merchant Energy	%	2.9%	1%	20.3%	64.7%	5.7%	23.9%	14.6%	8.3%	15%	-0.4%	-0.1%
Upstream Gas	%	-64.2%	32.0%	-41.6%	16.1%	-83.2%	-52.3%	572.5%	129.3%	1.1%	-13.4%	1.1%
Energy Investments	%	9.2%	-50.4%	-39.5%	6.9%	-14.6%	-67.2%	244.6%	-2.1%	-19%	-19%	-2.1%

Source: Company data, Macquarie Research, August 2015

## Important disclosures:

Recommendation definitions	Volatility index definition*	Financial definitions
<p><b>Macquarie - Australia/New Zealand</b> Outperform – return &gt;3% in excess of benchmark return Neutral – return within 3% of benchmark return Underperform – return &gt;3% below benchmark return</p> <p>Benchmark return is determined by long term nominal GDP growth plus 12 month forward market dividend yield</p> <p><b>Macquarie – Asia/Europe</b> Outperform – expected return &gt;+10% Neutral – expected return from -10% to +10% Underperform – expected return &lt;-10%</p> <p><b>Macquarie First South - South Africa</b> Outperform – expected return &gt;+10% Neutral – expected return from -10% to +10% Underperform – expected return &lt;-10%</p> <p><b>Macquarie - Canada</b> Outperform – return &gt;5% in excess of benchmark return Neutral – return within 5% of benchmark return Underperform – return &gt;5% below benchmark return</p> <p><b>Macquarie - USA</b> Outperform (Buy) – return &gt;5% in excess of Russell 3000 index return Neutral (Hold) – return within 5% of Russell 3000 index return Underperform (Sell) – return &gt;5% below Russell 3000 index return</p>	<p>This is calculated from the volatility of historical price movements.</p> <p><b>Very high-highest risk</b> – Stock should be expected to move up or down 60–100% in a year – investors should be aware this stock is highly speculative.</p> <p><b>High</b> – stock should be expected to move up or down at least 40–60% in a year – investors should be aware this stock could be speculative.</p> <p><b>Medium</b> – stock should be expected to move up or down at least 30–40% in a year.</p> <p><b>Low-medium</b> – stock should be expected to move up or down at least 25–30% in a year.</p> <p><b>Low</b> – stock should be expected to move up or down at least 15–25% in a year. * Applicable to Asia/Australian/NZ/Canada stocks only</p> <p><b>Recommendations</b> – 12 months <b>Note:</b> Quant recommendations may differ from Fundamental Analyst recommendations</p>	<p>All "Adjusted" data items have had the following adjustments made: Added back: goodwill amortisation, provision for catastrophe reserves, IFRS derivatives &amp; hedging, IFRS impairments &amp; IFRS interest expense Excluded: non recurring items, asset revals, property revals, appraisal value uplift, preference dividends &amp; minority interests</p> <p><b>EPS</b> = adjusted net profit / epowa* <b>ROA</b> = adjusted ebit / average total assets <b>ROA Banks/Insurance</b> = adjusted net profit / average total assets <b>ROE</b> = adjusted net profit / average shareholders funds <b>Gross cashflow</b> = adjusted net profit + depreciation *equivalent fully paid ordinary weighted average number of shares</p> <p>All Reported numbers for Australian/NZ listed stocks are modelled under IFRS (International Financial Reporting Standards).</p>

## Recommendation proportions – For quarter ending 30 June 2015

	AU/NZ	Asia	RSA	USA	CA	EUR	
Outperform	46.23%	58.36%	47.27%	44.20%	60.65%	43.01%	(for US coverage by MCUSA, 9.68% of stocks followed are investment banking clients)
Neutral	37.67%	25.65%	29.09%	49.29%	34.19%	40.93%	(for US coverage by MCUSA, 5.53% of stocks followed are investment banking clients)
Underperform	16.10%	15.99%	23.64%	6.52%	5.16%	16.06%	(for US coverage by MCUSA, 1.38% of stocks followed are investment banking clients)

## Company-specific disclosures:

**AGL AU:** Macquarie and its affiliates collectively and beneficially own or control 1% or more of any class of AGL Energy Limited's equity securities. MACQUARIE CAPITAL (AUSTRALIA) LIMITED or one of its affiliates is currently advising AGL Energy Ltd in connection with the sale and refinancing of AGL's share of Macarthur Wind Farm., for which it expects to receive or intends to seek compensation. Important disclosure information regarding the subject companies covered in this report is available at [www.macquarie.com/disclosures](http://www.macquarie.com/disclosures).

**Analyst certification:** The views expressed in this research reflect the personal views of the analyst(s) about the subject securities or issuers and no part of the compensation of the analyst(s) was, is, or will be directly or indirectly related to the inclusion of specific recommendations or views in this research. The analyst principally responsible for the preparation of this research receives compensation based on overall revenues of Macquarie Group Ltd (ABN 94 122 169 279, AFSL No. 318062) ("MGL") and its related entities (the "Macquarie Group") and has taken reasonable care to achieve and maintain independence and objectivity in making any recommendations.

**General disclosure:** This research has been issued by Macquarie Securities (Australia) Limited (ABN 58 002 832 126, AFSL No. 238947) a Participant of the Australian Securities Exchange (ASX) and Chi-X Australia Pty Limited. This research is distributed in Australia by Macquarie Equities Limited (ABN 41 002 574 923, AFSL No. 237504) ("MEL"), a Participant of the ASX, and in New Zealand by Macquarie Equities New Zealand Limited ("MENZ") an NZX Firm. Macquarie Private Wealth's services in New Zealand are provided by MENZ. Macquarie Bank Limited (ABN 46 008 583 542, AFSL No. 237502) ("MBL") is a company incorporated in Australia and authorised under the Banking Act 1959 (Australia) to conduct banking business in Australia. None of MBL, MGL or MENZ is registered as a bank in New Zealand by the Reserve Bank of New Zealand under the Reserve Bank of New Zealand Act 1989. Any MGL subsidiary noted in this research, apart from MBL, is not an authorised deposit-taking institution for the purposes of the Banking Act 1959 (Australia) and that subsidiary's obligations do not represent deposits or other liabilities of MBL. MBL does not guarantee or otherwise provide assurance in respect of the obligations of that subsidiary, unless noted otherwise.

This research is general advice and does not take account of your objectives, financial situation or needs. Before acting on this general advice, you should consider the appropriateness of the advice having regard to your situation. We recommend you obtain financial, legal and taxation advice before making any financial investment decision. This research has been prepared for the use of the clients of the Macquarie Group and must not be copied, either in whole or in part, or distributed to any other person. If you are not the intended recipient, you must not use or disclose this research in any way. If you received it in error, please tell us immediately by return e-mail and delete the document. We do not guarantee the integrity of any e-mails or attached files and are not responsible for any changes made to them by any other person. Nothing in this research shall be construed as a solicitation to buy or sell any security or product, or to engage in or refrain from engaging in any transaction. This research is based on information obtained from sources believed to be reliable, but the Macquarie Group does not make any representation or warranty that it is accurate, complete or up to date. We accept no obligation to correct or update the information or opinions in it. Opinions expressed are subject to change without notice. The Macquarie Group accepts no liability whatsoever for any direct, indirect, consequential or other loss arising from any use of this research and/or further communication in relation to this research. The Macquarie Group produces a variety of research products, recommendations contained in one type of research product may differ from recommendations contained in other types of research. The Macquarie Group has established and implemented a conflicts policy at group level, which may be revised and updated from time to time, pursuant to regulatory requirements; which sets out how we must seek to identify and manage all material conflicts of interest. The Macquarie Group, its officers and employees may have conflicting roles in the financial products referred to in this research and, as such, may effect transactions which are not consistent with the recommendations (if any) in this research. The Macquarie Group may receive fees, brokerage or commissions for acting in those capacities and the reader should assume that this is the case. The Macquarie Group's employees or officers may provide oral or written opinions to its clients which are contrary to the opinions expressed in this research.

Important disclosure information regarding the subject companies covered in this report is available at [www.macquarie.com/disclosures](http://www.macquarie.com/disclosures).