

Operating and Financial Review

For the year ended 30 June 2019

13. Financial performance

Principal activities

AGL's principal activities consisted of the operation of energy businesses and investments, including electricity generation, gas storage and the sale of electricity and gas to residential, business and wholesale customers. There were no significant changes in the principal activities of AGL during the year.

13.1 Group results summary

Adoption of new standards

AGL has adopted AASB 9 Financial Instruments and AASB 16 Leases and restated 2018 comparative figures to reflect the adoption of these new standards. The tables in section 13.8 summarise the adjustments recognised against each individual line item within the Group Financial Performance statement and the Summary Statement of Financial Position for all standards. AGL also adopted AASB 15 Revenue from Contracts with Customers, which did not have a material impact.

13.1.1 Reconciliation of Statutory Profit to Underlying Profit

13.1.1.1 Profit after tax

	2019 \$m	Restated 2018 \$m
Statutory Profit after tax	905	1,582
Adjust for:		
Significant items after tax		
National Assets gain on divestment	(37)	-
Residential Solar operations impairment	38	-
Proceeds from Yandin wind farm development rights	(5)	-
Sunverge impairment	-	27
Active Stream gain on divestment	-	(29)
Loss/(gain) on fair value of financial instruments after tax	139	(562)
Underlying Profit after tax	1,040	1,018

Statutory Profit after tax was \$905 million, down \$677 million compared with the prior year. This included two items excluded from Underlying Profit:

- The loss on fair value of financial instruments of \$(139) million compared with a \$562 million gain in the prior year. This net loss reflected a negative fair value movement in AGL's net sold electricity derivatives as a result of higher forward electricity prices, and a negative fair value movement in AGL's purchased oil and coal derivative contracts as a result of lower forward oil and coal prices. See section 13.1.5 for more detail.
- Significant items of net \$4 million from divestments and impairments.

Underlying Profit after tax was \$1,040 million, up 2.2% from the prior year. A description of the factors driving Underlying Profit is included in section 13.1.2.5.

	2019	Restated 2018
Earnings per share on Statutory Profit¹	138.0 cents	241.2 cents
Earnings per share on Underlying Profit¹	158.6 cents	155.2 cents

1. Earnings per share calculations have been based upon a weighted average number of ordinary shares of 655,825,043 (30 June 2018: 655,825,043).

13.1.1.2 Earnings Before Interest and Tax (EBIT)

	2019 \$m	Restated 2018 \$m
Statutory EBIT	1,472	2,464
Significant items	(10)	3
Loss/(gain) on fair value of financial instruments	198	(803)
Finance income included in Underlying EBIT	-	4
Underlying EBIT	1,660	1,668

Operating and Financial Review

For the year ended 30 June 2019

13.1.1.3 Summary of Underlying EBIT by business unit

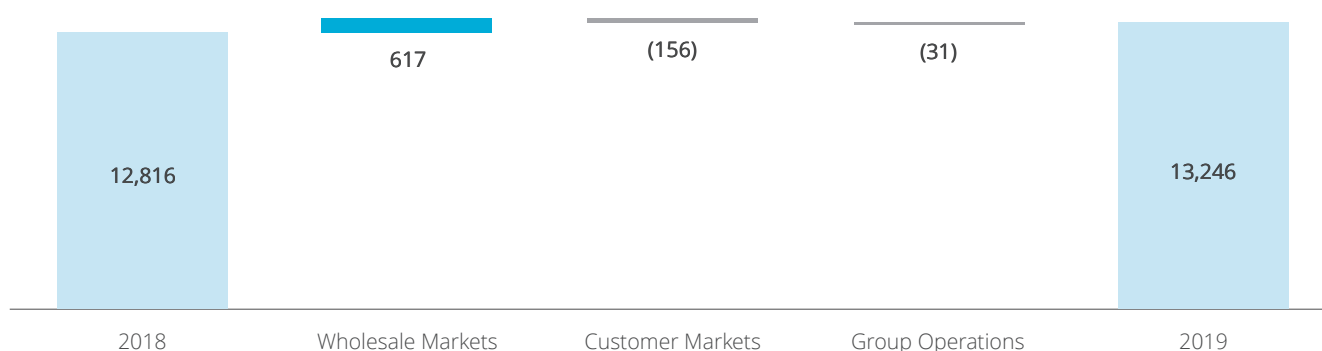
	2019 \$m	Restated 2018 \$m
Wholesale Markets	2,757	2,665
Customer Markets	194	202
Group Operations	(1,036)	(919)
Investments	33	33
Centrally Managed Expenses	(288)	(313)
Underlying EBIT	1,660	1,668

Refer to section 13.4 for detailed Business Unit analysis.

13.1.2 Group financial performance

	2019 \$m	Restated 2018 \$m
Revenue	13,246	12,816
Cost of sales	(9,440)	(9,070)
Other income	27	49
Gross margin	3,833	3,795
Operating costs (excluding depreciation and amortisation)	(1,548)	(1,559)
Underlying EBITDA	2,285	2,236
Depreciation and amortisation	(625)	(568)
Underlying EBIT	1,660	1,668
Net finance costs	(193)	(224)
Underlying Profit before tax	1,467	1,444
Income tax expense	(427)	(426)
Underlying Profit after tax	1,040	1,018

13.1.2.1 Year-on-year movement in revenue (\$m)



Total revenue was \$13,246 million, up 3.4%, driven by higher pool generation sales in Wholesale Markets, decreased sales volumes and the impact of customers switching to lower priced products in Customer Markets, and the non-recurrence of revenue associated with divested assets in Group Operations. Higher pool generation revenue was driven by higher electricity volumes generated and sold to the pool and a higher average pool price compared with the prior year. Customer revenue was impacted by Consumer Electricity and Gas customers switching to lower priced products and lower Large Business gas volumes. The non-recurrence of divested assets revenue related to the Active Stream business (sold in the prior year) and National Assets portfolio (sold during the year). Further analysis on the movement in gross margin is provided below.

Other income of \$27 million in the year included equity accounted investments income of \$33 million and a net loss from asset disposals. The prior year included equity accounted investments income of \$39 million and a net gain from asset disposals.

Operating and Financial Review

For the year ended 30 June 2019

13.1.2.2 Year-on-year movement in gross margin (\$m)



Total gross margin was \$3,833 million, up 1.0%. The increase was largely attributable to Wholesale Markets benefitting from higher wholesale electricity prices, higher customer gas prices and lower compliance costs. The reduction in compliance costs was driven by AGL self-generating more certificates through increased hydro and wind generation. This increase in gross margin was partly offset by lower Large Business gas volumes in Customer Markets and the non-recurrence of margin associated with divested assets in Group Operations. Refer to section 13.4 for further analysis on the movement in gross margin for each operating segment.

13.1.2.3 Operating costs

	2019 \$m	Restated 2018 \$m
Wholesale Markets	(26)	(22)
Customer Markets	(532)	(556)
Group Operations	(726)	(701)
Investments	-	(3)
Centrally Managed Expenses	(264)	(277)
Operating costs (excluding depreciation and amortisation)	(1,548)	(1,559)

Total operating costs (excluding depreciation and amortisation) were \$1,548 million, down 0.7%. This was driven by a reduction in labour costs in Customer Markets and Group Operations. The reductions were mainly due to transition and re-organisation activities undertaken in the prior year together with operating efficiencies achieved through the Customer Experience Transformation program. This was partly offset by increased costs in Group Operations to maintain plant availability and increased field development costs relating to the Moranbah Gas Project joint venture, and costs in Customer Markets associated with customer affordability measures. Refer to section 13.4 for further analysis on the movement in operating costs for each operating segment.

13.1.2.4 Depreciation and amortisation (D&A)

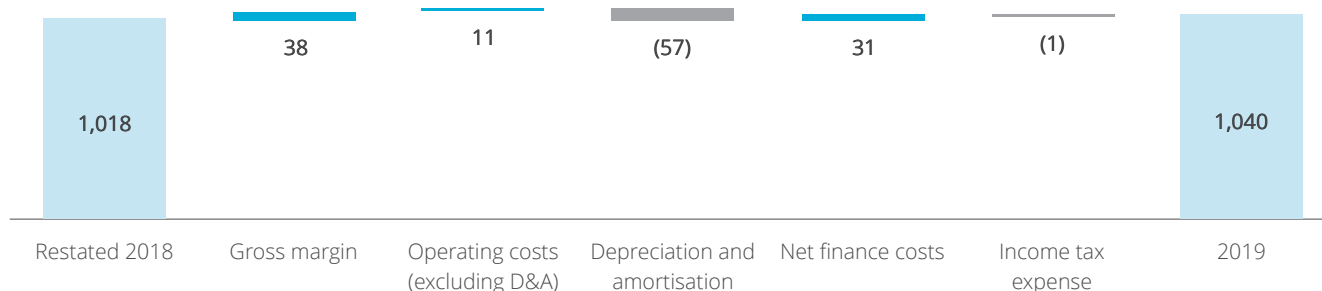
	2019 \$m	Restated 2018 \$m
Wholesale Markets	(21)	(10)
Customer Markets	(101)	(102)
Group Operations	(480)	(424)
Centrally Managed Expenses	(23)	(32)
Depreciation and amortisation	(625)	(568)

Depreciation and amortisation of \$625 million was up \$57 million and reflected AGL's increased level of capital investment in recent years. This was principally in Group Operations, predominantly due to a higher asset base at AGL Macquarie and AGL Loy Yang due to the committed closure of Liddell Power Station and a revision to the depreciation methodology of the licence and other assets relating to AGL Hydro.

Operating and Financial Review

For the year ended 30 June 2019

13.1.2.5 Year-on-year movement in Underlying Profit after tax (\$m)



Underlying Profit after tax was \$1,040 million, up 2.2%. The principal driver of the increase was margin growth in Wholesale Markets from higher wholesale electricity prices and lower compliance costs in Eco Markets. This was offset by lower Large Business gas volumes in Customer Markets and higher depreciation and amortisation in Group Operations.

Net finance costs were \$193 million, down 13.8%, largely due to a reduction in average borrowings from \$2,846 million in the prior year (restated) to \$2,616 million. Underlying tax expense was \$427 million, up 0.2% and reflected the increase in profit. The underlying effective tax rate was 29.1%, broadly in line with the prior year.

13.1.3 Significant items

13.1.3.1 Asset and business disposals

2019

On 11 September 2018, AGL completed the sale of a portfolio of small generation and compressed natural gas refuelling assets, known as AGL's National Assets portfolio, to Sustainable Energy Infrastructure, a consortium led by Whitehelm Capital. A post tax profit of \$37 million was recognised in the year.

In December 2018, AGL disposed of the option to purchase the Yandin wind farm development rights in Western Australia. A post tax profit of \$5 million was recognised as a significant item in the year.

2018

On 30 November 2017, AGL completed the disposal of its Active Stream metering business. A post tax profit of \$29 million was recognised in the prior year.

13.1.3.2 Asset impairments

2019

On 11 September 2018, AGL announced the decision to exit the residential solar installation operations, rendering many of the residential solar assets obsolete. A post tax loss of \$38 million was recognised as a significant item in the year to account for the write down of goodwill, systems related assets, inventory and other business closure costs.

2018

AGL impaired the carrying value of its investment interest in Sunverge Energy Inc and related assets. A total post tax impairment loss of \$27 million was recognised in the prior year.

13.1.4 Hedging

AGL's approach to managing energy price risks, both through physical ownership of energy generation and through financial hedging, reflects the need to provide pricing certainty to customers, and limit exposure to adverse market outcomes. AGL generates electricity in excess of its customers' demand in some states. In other states, AGL generates less than its customers' demand. As such, AGL manages risk exposure by determining the appropriate timing and degree of contracting activities, provided the overall AGL risk appetite is not exceeded.

AGL has in place a governance framework that establishes the policy guidelines under which energy hedging activities are conducted. Key components of that policy include segregation of duties, independent risk oversight, earnings-at-risk limits, compliance management and regular reporting to the Board. The risk policy represents the Board's and Senior Management's commitment to an effective risk management function to ensure appropriate management and oversight of AGL's risks related to wholesale markets energy risk.

The policy allows for commercial optimisation of the portfolio provided that AGL adheres to overall earnings-at-risk limits that reflects its risk appetite.

Operating and Financial Review

For the year ended 30 June 2019

13.1.5 Changes in fair value of financial instruments

AGL uses certain financial instruments (derivatives) to manage energy price risks and to manage its exposure to interest and foreign exchange rates arising in the normal course of business. The majority of these financial instruments exchange a fixed price for a floating market based price of a given commodity, interest rate, currency or a quoted asset, with the net differential being settled with the counterparty.

Energy price risk

AGL is exposed to price volatility on the sale and purchase of energy related commodities in the normal course of business, and therefore enters into contracts that minimise the price risk to AGL on both sold and purchased forecast exposures. Certain purchased contracts traded prior to 1 July 2019 are designated as hedge relationships when they can be matched to forecast transactions with sufficient probability of the forecast transaction occurring.

Derivative instruments assigned to an effective hedge relationship have movements in fair value deferred to an equity hedge reserve until the transactions to which those instruments are matched, occur. Derivative instruments not assigned to an effective hedge relationship have movements in fair value recognised in profit or loss.

AGL's energy-related derivatives assigned to hedge relationships are purchased derivative contracts, where AGL pays a fixed price in exchange for a floating price received from the counterparty. The energy-related derivatives recognised in profit or loss are net-sold positions, where AGL receives a fixed price from a counterparty in exchange for a floating price paid to the counterparty.

AGL is required to make margin payments in respect of futures contracts traded through the Australian Securities Exchange (ASX). Initial margin call payments are made at the time contracts are entered in order to manage intra-day credit exposure. The quantum of initial margin depends on the volume traded, the expected market volatility as well as forward electricity prices at the time. The initial margin call can move subsequently as forward prices move. AGL also receives or makes payments known as variation margin calls, which cover mark to market movements of AGL's open futures position. These typically reverse through future earnings as contract positions roll off.

Treasury related risk

AGL's treasury related risk primarily relates to interest and foreign currency rate fluctuations. Contracts to minimise the exposure to market-based fluctuations are executed pursuant to AGL's treasury risk management policy. These contracts primarily result in fixed interest and foreign currency rates. These contracts are designated in hedge relationships when they can be matched to forecast transactions with sufficient probability of the forecast transaction occurring.

In addition to the above, AGL is counterparty to cross-currency interest rate swap arrangements to convert its fixed interest rate US dollar private placement borrowing instruments to floating interest rate Australian dollar equivalent borrowing instruments. The cross-currency interest rate swap arrangements are designated as fair value and cash flow hedge relationships.

Movement in fair value

The initial fair value of a derivative is the consideration paid or received (the premium). Fair value movements in any given year are a function of changes to underlying indices, market prices or currencies and the roll-off of realised contractual volumes or amounts.

A reconciliation of the movements in financial instruments carried at fair value, for the year ended 30 June 2019 is presented in the following table:

Net assets/(Liabilities)	2019 \$m	2018 \$m	Change \$m
Energy derivative contracts	(31)	54	(85)
Cross currency and interest rate swap derivative contracts	80	(29)	109
Total net assets for financial instruments	49	25	24
Change in net assets	24		
Premiums paid	(68)		
Premium roll off	86		
Equity accounted fair value	(16)		
Total change in fair value	26		
Recognised in equity hedge and other reserve	101		
Recognised in borrowings	123		
Recognised in profit or loss – pre tax	(198)		
Total change in fair value	26		

Operating and Financial Review

For the year ended 30 June 2019

The movement in net derivative assets in the year was up \$24 million to \$49 million. This movement is summarised in the table below:

	Unrealised fair value recognised in:						2019 \$m
	2018 \$m	Profit or loss	Hedge reserve	Borrowings	Currency basis	Premiums and roll offs paid/ (received)	
Cross currency and interest rate swap contracts	(29)	3	(21)	123	4	-	80
Energy derivative contracts	54	(185)	118	-	-	(18)	(31)
Net asset/(liability)	25	(182)	97	123	4	(18)	49
Fair value recognised within equity accounted investments	-	(16)					
Profit or loss	25	(198)					

The fair value movement driving the change in the net derivative assets position reflected in unrealised fair value movements is as follows:

- A decrease in the fair value of energy-related derivatives of \$(185) million was recognised in profit or loss (excluded from Underlying Profit). This net loss reflected a negative fair value movement in AGL's net sold electricity derivatives as a result of higher forward electricity prices, and a negative fair value movement in AGL's purchased oil and coal derivative contracts as a result of lower forward oil and coal prices.
- An increase in the fair value of purchased energy-related derivatives designated as a hedge relationship of \$118 million, which was recognised in the equity hedge reserve. This increase primarily reflected higher electricity market prices relative to contracted purchase prices.
- Currency related fair value gain of \$123 million recognised in borrowings. This related primarily to AGL's USD denominated debt and reflected the large depreciation of the AUD relative to the USD during the year.

13.2 Cash flow

13.2.1 Reconciliation of Underlying EBITDA to cash flow

	2019 \$m	Restated 2018 \$m
Underlying EBITDA	2,285	2,236
Equity accounted income (net of dividends received)	(5)	-
Accounting for onerous contracts	(34)	(33)
Movement in other assets/liabilities and non-cash items	15	21
Working capital movements		
Decrease in receivables	103	72
(Decrease)/increase in creditors	(21)	26
Increase in inventories	(74)	(32)
Net derivative premiums paid/roll-offs	18	49
(Increase)/decrease in other financial assets (margin calls)	(187)	162
Net movement in green assets/liabilities	(67)	(2)
Other	(20)	(25)
Total working capital movements	(248)	250
Underlying operating cash flow before interest and tax	2,013	2,474
Net finance costs paid	(151)	(172)
Income taxes paid	(263)	(159)
Net cash provided by operating activities	1,599	2,143
Net cash used in investing activities	(904)	(629)
Net cash used in financing activities	(1,043)	(1,205)
Net (decrease)/increase in cash and cash equivalents	(348)	309

Underlying operating cash flow before interest and tax was \$2,013 million, down \$461 million. As a result, the cash rate of conversion of EBITDA to cash flow was 88%, down from 111% in the prior year. The key driver of cash conversion in both years was margin calls reflecting changes in the price of electricity. Adjusting for margin calls, the cash conversion rate was 96% in the year, down from 103% in the prior year.

Operating and Financial Review

For the year ended 30 June 2019

Total working capital movements were \$(248) million, a year-on-year change of \$(498) million from a movement of \$250 million in the prior year:

- The movement in receivables cash flow of \$31 million reflected a decrease in days sales outstanding as more Consumer customers paid on time, combined with lower volumes in the year.
- The change in trade creditors cash flow of \$(47) million was due to higher AGL Loy Yang mine coal royalty payments and lower consumer gas and electricity volumes in the year reducing network creditors. This was partly offset by an increase in coal payables driven by improved delivery volumes, and the impact of certain wholesale swap contracts on creditors compared to the prior year.
- Lower cash flow from inventory reflected an increase in the coal stockpile at AGL Macquarie.
- Net derivative premiums paid/roll-offs cash flow movement of \$(31) million was due to a difference in premium cash flow profiles of the derivatives contracts in place across the 2019 and 2018 years.
- Margin calls cash flow movement of \$(349) million was due to higher net cash outflows associated with initial and variation margin calls. Initial margin call cash outflows increased due to higher forward electricity prices as well as updates to the ASX's methodology on calculating volatility. Variation margin call cash outflows increased because in the prior year there were significant cash inflows associated with the roll-off of existing contracts with large negative mark to market valuations, whereas in 2019 there were cash outflows associated with the negative mark to market valuations of open positions as a result of higher forward electricity prices. Refer to section 13.1.5 for more information.
- Lower cash flow from AGL's inventory of certificates to comply with renewable schemes (green assets) was driven by increased Victorian Energy Efficiency Target (VEET) and Small-scale Renewable Energy Certificate (SREC) purchases at current market prices to meet future market surrender obligations.
- Higher cash tax paid in the year was due to AGL Loy Yang commencing paying income tax as of 2018, and 2019 tax instalments (note: there are two tax groups in AGL and, due to certain tax loss recoupment rules, AGL Loy Yang is required to pay tax while recouping tax losses).

Higher investing cash flow reflected increased capital expenditure and lower proceeds from asset sales compared with the prior year.

Financing cash flow included dividends of \$(774) million, and a repayment in net borrowings of \$(264) million including the redemption of \$650 million of Subordinated Notes. The prior year included dividends of \$(682) million and a repayment in net borrowings of \$(513) million, which included the cancellation of \$150 million of term debt in September 2017 and the purchase of \$68 million of AGL Loy Yang CPI bonds in December 2017.

13.2.2 Capital expenditure

	2019 \$m	2018 \$m
Wholesale Markets	25	18
Customer Markets	134	162
Group Operations	676	500
Centrally Managed Expenses	104	98
Total capital expenditure	939	778

13.2.2.1 Summary of capital expenditure split between growth and sustaining

Sustaining	551	483
Growth and transformation	388	295
Total capital expenditure	939	778

Total capital expenditure was \$939 million, an increase of \$161 million compared with the prior year:

- Sustaining capital expenditure was \$551 million, an increase of \$68 million. This comprised \$265 million of expenditure on five major outages across AGL Loy Yang, AGL Macquarie and AGL Torrens. It also included higher outage spend to improve reliability and availability at AGL Loy Yang and AGL Macquarie. Other sustaining capex was \$286 million.
- Growth capital expenditure was \$388 million, an increase of \$93 million. This comprised spend on the Barker Inlet Power Station (\$177 million), Customer Experience Transformation program (\$71 million), AGL's program to upgrade its enterprise resource planning systems (\$70 million), and other development projects including Crib Point and Bayswater mid-life refit (\$70 million).

Operating and Financial Review

For the year ended 30 June 2019

13.3 Review of financial position

AGL's financial position is consistent with the strong profitability of its operations, the strong conversion of income to cash flow and the essential nature of the services AGL provides to its customers.

AGL maintained its credit rating of Baa2 as provided by Moody's Investors Service throughout the year.

AGL's dividend policy is to target a payout ratio of 75% of annual Underlying Profit after tax and a minimum franking level of 80%. Total dividends declared for the year of \$781 million were 1.8% higher than the prior year, consistent with AGL's profit growth.

The Dividend Reinvestment Plan (DRP) continued to operate during the year, at nil discount. During the year AGL acquired shares for allotment to DRP participants on market, thereby preventing any dilutive impact that would have occurred if new shares were issued.

13.3.1 Summary Statement of Financial Position

	2019 \$m	Restated 2018 \$m
Assets		
Cash and cash equivalents	115	463
Other current assets	3,281	3,227
Property, plant and equipment	6,588	6,757
Intangible assets	3,740	3,271
Other non-current assets	1,097	915
Total assets	14,821	14,633
Liabilities		
Borrowings	2,850	2,963
Other liabilities	3,533	3,369
Total liabilities	6,383	6,332
Net assets / total equity	8,438	8,301

At 30 June 2019 AGL's total assets were \$14,821 million, an increase from \$14,633 million at 30 June 2018, primarily due to the increase in the fair value of energy derivative contract assets and margin calls compared with the prior year (refer to section 13.2), which is reflected in other current assets. In addition, the combined increase in property, plant and equipment and intangible assets was reflective of higher capital expenditure during the year.

Total liabilities at 30 June 2019 were \$6,383 million, up from \$6,332 million at 30 June 2018. The primary change reflected the increase in other liabilities due to revaluation of energy derivative contracts (refer to section 13.1.5). The reduction in borrowings was largely driven by cash generation from operating activities. Redemption of \$650 million Subordinated Notes took place in June 2019, funded through a combination of existing debt facilities and available cash.

Total equity at 30 June 2019 was \$8,438 million, up from \$8,301 million, reflecting higher retained earnings. AGL's return on equity, calculated on a rolling 12-month basis was 12.5%, a reduction of 0.6% from 30 June 2018 (restated) driven by the increase in equity.

13.3.2 Net debt reconciliation

	2019 \$m	Restated 2018 \$m
Net debt reconciliation		
Borrowings	2,850	2,963
Less: Adjustment for cross currency swap hedges and deferred borrowing costs	(135)	(9)
Cash and cash equivalents	(115)	(463)
Net debt	2,600	2,491

Net debt at 30 June 2019 was \$2,600 million, up from \$2,491 million at 30 June 2018 reflecting lower cash on hand.

AGL's gearing (measured as the ratio of net debt to net debt plus equity) at 30 June 2019 was 23.5% compared with 22.9% at 30 June 2018 (restated).

Operating and Financial Review

For the year ended 30 June 2019

AGL maintained its credit rating of Baa2 throughout the year as provided by Moody's Investors Service. Key metrics consistent with this credit rating at 30 June 2019:

- Interest cover: 8.7 times
- Funds from operations to net debt: 45.0%

AGL's funds from operations has been calculated with a similar methodology to Moody's whereby the movement in all current and non-current tax assets and liabilities is treated as working capital.

13.4 Review of operations

AGL manages its business in four key operating segments: Wholesale Markets, Customer Markets, Group Operations and Investments. Further detail on the activities of each operating segment is provided below.

In accordance with Australian Accounting Standard AASB 8 *Operating Segments*, AGL reports segment information on the same basis as its internal management structure. As a result, the Wholesale Markets and Customer Markets operating segments report the majority of the revenue and margin from AGL's activities, while the Group Operations operating segment reports the majority of the expenses.

13.4.1 Wholesale Markets

Wholesale Markets comprises Wholesale Electricity, Wholesale Gas and Eco Markets and is responsible for managing the price risk associated with procuring electricity and gas for AGL's customers and for managing AGL's obligations in relation to renewable energy schemes. Wholesale Markets also controls the dispatch of AGL's owned and contracted generation assets and associated portfolio of energy hedging products.

- Wholesale Electricity is responsible for managing the procurement of key fuel inputs and hedging of AGL's wholesale electricity requirements, for commercial management of the generation portfolio and for wholesale pricing to support AGL's consumer and business customer bases.
- Wholesale Gas is responsible for sourcing and managing AGL's gas supply and transportation portfolio. Wholesale Gas supplies other retailers, internal and third-party gas-fired generators, and other gas customers. Wholesale Gas is also responsible for the management of the price exposures related to AGL's oil-linked wholesale gas contracts.
- Eco Markets is responsible for managing AGL's liabilities relating to both voluntary and mandatory renewable and energy efficiency schemes, the largest being the Large-scale Renewable Energy Target (LRET) and the Small-scale Renewable Energy Scheme (SRES).

13.4.1.1 Wholesale Markets Underlying EBIT

	2019 \$m	Restated 2018 \$m
Wholesale Electricity gross margin	2,240	2,218
Wholesale Gas gross margin	458	432
Eco Markets gross margin	106	47
Gross margin	2,804	2,697
Operating costs (excluding depreciation and amortisation)	(26)	(22)
Underlying EBITDA	2,778	2,675
Depreciation and amortisation	(21)	(10)
Underlying EBIT	2,757	2,665

Wholesale Markets Underlying EBIT was \$2,757 million, up 3.5% due to higher wholesale electricity contract prices and decreased compliance costs in Eco Markets, which more than offset higher coal and gas supply costs.

- Wholesale Electricity gross margin was \$2,240 million, up 1.0% due to higher wholesale electricity contracted prices, partly offset by higher fuel costs. The higher wholesale electricity forward curve in the National Electricity Market over the past two years has resulted in higher contracted prices for Large Business customers, Wholesale customers and financial energy derivative contracts. The increase in fuel costs from \$21.8/MWh on average in the prior year to \$24.3/MWh, reflected higher coal and wholesale gas prices (refer to section 13.5.1). The increase in coal costs reflected the rate escalation of existing contracts and the replacement of legacy low-cost coal contracts with contracts linked to Newcastle coal export prices. Wholesale Electricity gross margin was impacted by lower generation volume at AGL Loy Yang due to unplanned outages. This was mitigated by an increase in generation at AGL Macquarie driven by increased utilisation at Liddell, as well as higher generation from AGL hydro assets in Victoria and commencement of generation at Silverton wind farm in New South Wales.
- Wholesale Gas gross margin was \$458 million, up 6.0%. The increase was driven by higher customer gas prices partly offset by higher gas purchase costs. Gas purchase costs increased from \$5.3/GJ on average in the prior year to \$6.3/GJ, driven by legacy low-cost gas contracts replaced with contracts priced at current market levels. The total gas volumes purchased was 13.9 PJ lower than the prior year, due to a decrease in volumes sold to Large Business customers (refer to section 13.5.2).

Operating and Financial Review

For the year ended 30 June 2019

- Eco Markets gross margin was \$106 million, up 125.5%. This reflected AGL self-generating a larger portion of large-scale generation certificates (LGCs) through increased hydro and wind generation, combined with lower prices for on-market purchases. The reduction in transfer price as a result of lower LGC market prices was more than offset by the related impact to the allocation of wind generation costs between the Wholesale Electricity and Eco Markets portfolios. The results were also impacted by changes to final compliance percentages as compared to the estimates utilised in setting transfer prices.

13.4.2 Customer Markets

Customer Markets comprises the Consumer and Large Business customer portfolios and is responsible for the retailing of electricity, gas, solar and energy efficiency products and services to residential, small and large business customers. Customer Markets sources its energy from Wholesale Markets at a transfer price based on methodologies that reflect the prevailing wholesale market conditions and other energy costs in each state. Customer Markets also includes product innovation, sales, marketing, brand, and operations.

13.4.2.1 Customer Markets Underlying EBIT

From 1 July 2018 certain fees, charges and recoveries that are directly attributable to Consumer gross margin were reallocated from operating costs and fees, charges and other margin to Consumer gross margin to improve consistency of revenue and cost allocation across states and fuels. The reallocation results in variances when comparing between the 2019 and 2018 years.

If the changes were applied to the prior year, the impact would be a net \$15 million increase in prior year Consumer gross margin, a \$38 million decrease in Fees, charges and other margin, and a corresponding \$23 million decrease in Operating costs (refer to section 13.4.2.2). There would be no impact to prior year EBIT.

	2019 \$m	Restated 2018 \$m
Consumer Electricity gross margin	505	452
Consumer Gas gross margin	246	249
Large Business Electricity gross margin	34	36
Large Business Gas gross margin	15	46
Fees, charges and other margin	27	77
Gross margin	827	860
Operating costs (excluding depreciation and amortisation)	(532)	(556)
Underlying EBITDA	295	304
Depreciation and amortisation	(101)	(102)
Underlying EBIT	194	202

Customer Markets Underlying EBIT was \$194 million, down 4.0%, driven by lower gas volumes in the Consumer and Large Business portfolios and lower late payment fees. Consumer electricity margin increased in the year driven by a transfer price realignment from Wholesale Markets. The reduction in operating costs reflected realised benefits from re-organisation and the Customer Experience Transformation program, as well as reduced costs associated with entry into the Western Australian gas market. This was offset by increased costs associated with the customer affordability measures.

- Consumer Electricity gross margin was \$505 million, up 11.7%, as a result of a transfer price realignment from Wholesale Markets. Consumer electricity volumes declined by 1.4% driven by lower average consumption as a result of a change in customer mix. In particular, AGL had an increase in customer numbers in Victoria where average consumption is typically lower than other states. The reallocation of certain fees, charges and recoveries noted above contributed \$15 million to the year-on-year increase.
- Consumer Gas gross margin was \$246 million, down 1.2%, as a result of increased discounts due to customers switching to lower priced products. Gas volumes decreased 4.3% due to lower average consumption as a result of milder weather.
- Large Business Electricity gross margin was \$34 million, down 5.6%, as a result of lower energy margin rates due to change in customer mix across the portfolio.
- Large Business Gas gross margin was \$15 million, down 67.4%, as volumes declined 49.2% due to tight market conditions.
- Fees, charges and other margin was \$27 million, down 64.9%, due to a decrease in late payment fees reflecting a positive trend of customers paying on time. In addition, \$(38) million of the year-on-year decrease resulted from the reallocation of certain fees, charges and recoveries noted above.

Operating and Financial Review

For the year ended 30 June 2019

13.4.2.2 Customer Markets operating costs

	2019 \$m	Restated 2018 \$m
Labour and contractor services	(178)	(211)
Bad and doubtful debts	(120)	(99)
Campaigns and advertising	(136)	(151)
Other expenditure	(98)	(95)
Operating costs (excluding depreciation and amortisation)	(532)	(556)
Add: depreciation and amortisation	(101)	(102)
Operating costs (including depreciation and amortisation)	(633)	(658)

Customer Markets operating costs (excluding depreciation and amortisation) were \$532 million, down \$24 million reflecting the benefits from re-organisation in the prior year, the Customer Experience Transformation program as well as reduced costs associated with entry into the Western Australian gas market. This was offset by increased costs associated with the customer affordability measures. In addition, \$23 million of the year-on-year decrease in operating costs was due to the reallocation of costs to Consumer gross margin as noted above.

- Labour and contractor services costs were \$178 million, down 15.6%, as a result of realised benefits of re-organisation undertaken during the prior year, operating efficiencies, lower transactional volumes driven by the Customer Experience Transformation program and the reallocation of costs to Consumer gross margin.
- Bad and doubtful debts were \$120 million, up 21.2%. The customer affordability measures announced in August 2018 resulted in a \$33 million increase in bad and doubtful debts expense. This was partially offset by an underlying improvement in net bad debt expense driven by initiatives to improve customer collections and debt recoveries whilst enhancing support to those customers experiencing hardship.
- Campaigns and advertising costs were \$136 million, down 9.9%, primarily due to savings achieved through the Customer Experience Transformation program, lower acquisition and retention volumes in the year, as well as reduced costs associated with entry into the Western Australian gas market.
- Other expenditure was \$98 million, broadly in line with the prior year.

Depreciation and amortisation was \$101 million, broadly flat, largely relating to continued investment in digital capability and core systems improvements.

13.4.2.3 Consumer customer profitability and operating efficiency

	2019	Restated 2018
Gross margin	\$751m	\$701m
Net operating costs (including fees, charges, recoveries and depreciation and amortisation)	\$(560)m	\$(532)m
EBIT	\$191m	\$169m
Average customer accounts ('000)	3,654	3,648
Gross margin per customer account	\$206	\$192
Net operating costs per customer account	\$(153)	\$(146)
EBIT per customer account	\$52	\$46
Net operating costs as percentage of gross margin	74.6%	75.9%
Cost to serve	\$(353)m	\$(306)m
Cost to serve per account	\$(97)	\$(84)
Acquisitions and retentions ('000)	1,830	2,230
Cost to grow	\$(207)m	\$(226)m
Cost to grow per account (acquired and retained)	\$(113)	\$(101)

Average customer accounts increased year-on-year with lower churn, strong internal acquisition and retention activities and growth of customers in Western Australia.

AGL churn decreased 1.3 percentage points (ppts) to 17.6% from 18.9% reported at 30 June 2018. Rest of Market churn decreased 0.1 ppts to 23.9% from 24.0% reported at 30 June 2018, increasing the favourable gap between AGL and the rest of the market from 5.1 ppts as at 30 June 2018 to 6.3 ppts as at 30 June 2019. Acquisitions and retentions decreased to 1.8 million, down 17.9%, driven by lower internal retention volumes as more customers switched to lower priced products in the prior year.

Consumer EBIT per customer account was \$52, up 13.0%, resulting from improved Consumer gross margin and operating efficiencies realised through investment in transformation projects.

Operating and Financial Review

For the year ended 30 June 2019

Cost to serve per account includes the consumer operating costs related to serving existing customers divided by the average number of customers during the reporting year. Cost to serve per customer account was \$97, up 15.5%, largely reflecting the impact of the customer affordability measures on bad debts expense and lower late payment fees as more customers paid their bills on time.

Cost to grow per account includes the consumer operating costs related to acquiring and retaining customers divided by the number of customers acquired and retained during the reporting year. Total Cost to grow was \$207 million, down 8.4% due to savings achieved through the Customer Experience Transformation program and reduced costs associated with entry into the Western Australian gas market. Cost to grow per account was \$113, up 11.9% largely due to 400,000 lower acquisition and retentions in the year. This reflects a large proportion of lower-cost internal retentions in the prior year resulting from intense market activity as customers switched to lower priced products.

13.4.2.4 Customer numbers and churn

The following table provides a breakdown of customer numbers by state.

	2019 ('000)	2018 ('000)
Consumer Electricity	2,261	2,220
New South Wales	843	823
Victoria	680	658
South Australia	365	367
Queensland	373	372
Consumer Gas	1,431	1,406
New South Wales	630	643
Victoria	544	528
South Australia	130	131
Queensland	84	83
Western Australia	43	21
Total Consumer accounts	3,692	3,626
Total Large Business Customer accounts	16	15
Total Customer accounts	3,708	3,641

Total customer account numbers increased 1.8% to 3.708 million, from 3.641 million reported at 30 June 2018. Consumer electricity customer account numbers have increased as a result of growth in New South Wales and Victoria. Consumer gas customer account numbers have increased due to growth in Western Australia and Victoria.

13.4.3 Group Operations

Group Operations comprises AGL's power generation portfolio and other key sites and operating facilities across the Thermal, Renewables, Natural Gas, and Other business units.

- Thermal primarily comprises: AGL Macquarie (4,640 MW), consisting of the Bayswater and Liddell black coal power stations in New South Wales; AGL Loy Yang (2,210 MW), a brown coal mine and power station in Victoria; and AGL Torrens (1,280 MW), a gas power station in South Australia. The Barker Inlet Power Station (210 MW) is currently under construction, due for completion in late calendar 2019.
- Renewables primarily comprises: 786 MW of hydroelectric power stations in Victoria and New South Wales; 924 MW of wind power generation in South Australia and Victoria (as the operator), 155 MW of solar power in New South Wales (as the operator) and 30 MW of battery energy storage system at Dalrymple in South Australia. Construction for Silverton Wind Farm has been completed and AEMO has approved commissioning to 198 MW (full output) at night, however, it remains constrained to 45MW during the day.
- Natural Gas includes the Newcastle Gas Storage Facility in New South Wales, the Silver Springs underground gas storage facility in Queensland, the natural gas production assets at Camden in New South Wales and the North Queensland gas assets, including the Moranbah Gas Project. On 31 January 2019, AGL announced it had terminated its agreement to sell its North Queensland gas assets to Order (Moranbah) Holdings Pty Ltd, originally announced on 24 August 2017.
- Other operations primarily consist of National Assets, which AGL sold in September 2018 (refer to section 13.1.3), Power Development and Construction, Property and Facilities, Health Safety & Environment and technical and business support functions.

Operating and Financial Review

For the year ended 30 June 2019

13.4.3.1 Group Operations Underlying EBIT

	2019 \$m	Restated 2018 \$m
Gross margin	170	206
Operating costs (excluding depreciation and amortisation)	(726)	(701)
Underlying EBITDA	(556)	(495)
Depreciation and amortisation	(480)	(424)
Underlying EBIT	(1,036)	(919)

The following tables provide a breakdown of the contributors to Underlying EBITDA and Underlying EBIT:

	2019 \$m	Restated 2018 \$m
Thermal	(424)	(425)
Renewables	(50)	(51)
Natural Gas	(29)	(7)
Other operations	(53)	(12)
Underlying EBITDA	(556)	(495)
Thermal	(799)	(772)
Renewables	(97)	(74)
Natural Gas	(58)	(40)
Other operations	(82)	(33)
Underlying EBIT	(1,036)	(919)

Group Operations Underlying EBIT was \$(1,036) million, down 12.7%, driven by the non-recurrence of margin from divested assets, increased costs to maintain plant availability, increased costs relating to the Moranbah Gas Project joint venture and higher depreciation and amortisation at AGL Macquarie and AGL's hydro assets. This was partly offset by lower labour costs at AGL Loy Yang as a result of the transition and re-organisation program initiated in the prior year.

- Thermal Underlying EBIT was \$(799) million, down 3.5%, driven by additional labour, contractor and maintenance costs to maintain plant availability, predominantly at AGL Macquarie. In addition, AGL Macquarie and AGL Loy Yang depreciation increased reflecting a higher asset base as a result of increased capital expenditure to ensure future reliability. This was partly offset by insurance receipts and the reduction in labour costs as a result of the AGL Loy Yang transition and re-organisation program initiated in the prior year.
- Renewables Underlying EBIT was \$(97) million, down 31.1%, largely reflecting the increase in depreciation and amortisation driven by a revision to the depreciation methodology of the licence and other assets relating to AGL Hydro.
- Natural Gas Underlying EBIT was \$(58) million, down 45.0%, primarily due to the increase in field development costs relating to the Moranbah Gas Project joint venture and reduction in margin received from land sale proceeds in the prior year.
- Other operations Underlying EBIT was \$(82) million, down \$49 million, reflecting the reduction in margin received from the Active Stream business (divested in November 2017) and National Assets business (divested in September 2018), and the transfer of the Procurement and Health, Safety and Environment functions from Centrally Managed Expenses in the year.

13.4.3.2 Group Operations operating costs

	2019 \$m	Restated 2018 \$m
Labour	(330)	(333)
Contracts and materials	(265)	(254)
Other	(131)	(114)
Operating costs (excluding depreciation and amortisation)	(726)	(701)

Group Operations operating costs (excluding depreciation and amortisation) of \$726 million increased \$25 million, primarily due to initiatives to maintain plant availability at AGL Macquarie, higher field development costs relating to the Moranbah Gas Project joint venture and the transfer of support functions from Centrally Managed Expenses in the year. This was partly offset by the reduction in labour costs at AGL Loy Yang as a result of the transition and re-organisation program undertaken in the prior year.

Operating and Financial Review

For the year ended 30 June 2019

13.4.3.3 Group Operations depreciation and amortisation

	2019 \$m	Restated 2018 \$m
Thermal	(376)	(348)
Renewables	(47)	(23)
Natural Gas	(30)	(32)
Other operations	(27)	(21)
Depreciation and amortisation	(480)	(424)

Group Operations depreciation and amortisation increased by \$56 million, or 13.2%. This was primarily driven by a higher asset base at AGL Macquarie and AGL Loy Yang from increased reliability focused capital expenditure relative to a short depreciation schedule given the planned closure of Liddell Power Station.

- Thermal depreciation and amortisation was \$(376) million, up 8.0%, reflecting a higher asset base predominately at AGL Macquarie and AGL Loy Yang both due to increased reliability focused capital expenditure.
- Renewables depreciation and amortisation was \$(47) million, up 104.3% driven by a revision to the depreciation methodology of the licence and other assets relating to AGL Hydro.
- Other operations depreciation and amortisation was \$(27) million, up 28.6% primarily due to the addition of 664 Collins Street corporate office lease and assets associated with the office fit out.

13.4.4 Centrally Managed Expenses

AGL manages and reports a number of expense items including information technology under Centrally Managed Expenses. These costs are not formally attributable to operating segments, and as such the management of these functions are the responsibility of various corporate leaders.

Underlying EBIT of \$(40) million included within Centrally Managed Expenses in the prior year was subsequently incorporated into Customer Markets, Wholesale Markets and Group Operations in the year, driven by the transfer of the New Energy, Procurement and Health, Safety and Environment functions.

	2019 \$m	2018 \$m
Gross margin	(1)	(4)
Operating costs (excluding depreciation and amortisation)	(264)	(277)
Underlying EBITDA	(265)	(281)
Depreciation and amortisation	(23)	(32)
Underlying EBIT	(288)	(313)

The following table provides a more detailed breakdown of Centrally Managed Expenses operating costs excluding depreciation and amortisation.

Labour	(109)	(136)
Hardware and software costs	(78)	(70)
Consultants and contractor services	(31)	(23)
Insurance premiums	(23)	(19)
Other	(23)	(29)
Operating costs (excluding depreciation and amortisation)	(264)	(277)

Centrally Managed Expenses Underlying EBIT was \$(288) million, an increase of \$25 million. Excluding the impact of the transferred functions mentioned above, Underlying EBIT decreased by \$15 million. Several factors contributed to the decrease, principally IT transformation activities and investment in strategic growth opportunities, together with higher insurance costs for coal fired generation, costs associated with responding to intense regulatory activity and executive transitions and redundancies. This was partly offset by non-recurring employee related savings. Business as usual costs were broadly flat, with labour inflation partly offset by efficiency savings.

Operating and Financial Review

For the year ended 30 June 2019

13.4.5 Investments

Investments comprises AGL's interests in the ActewAGL Retail Partnership, Powering Australian Renewables Fund (PARF), Advanced Microgrid Solutions Inc, Energy Impact Partners' Fund, Activate Capital Partners, Solar Analytics Pty Limited, Sunverge Energy Inc and Ecobee Inc.

	2019 \$m	2018 \$m
ActewAGL	31	38
PARF	1	-
Other	1	(5)
Underlying EBIT	33	33

ActewAGL Retail partnership contributed an equity share of profits of \$31 million for the year compared with \$38 million in the prior year. The decrease was due to increased competition and market activity.

During the year AGL revalued its investments in Ecobee and Advanced Microgrid Solutions to zero. This fair value movement was recorded within other comprehensive income and there was no impact to profit or loss.

13.5 Portfolio review

The portfolio review reporting for both the Electricity (refer to section 13.5.1) and Gas (refer to section 13.5.2) businesses provides a consolidated margin for each fuel across operating segments. This is as an effective tool to present how value is generated in the business for each type of fuel. The portfolio review combines the revenue from external customers and associated network and other costs, the costs of the procurement and hedging of AGL's gas and electricity requirements, and the costs of managing and maintaining AGL's owned and contracted generation assets to calculate the consolidated margin. A per unit rate (\$/MWh for electricity and \$/GJ for gas) is derived from each category of revenue and cost using the relevant associated volumes.

The tables in section 13.5.1 and 13.5.2 should be read in conjunction with section 13.7 to reconcile the segmental revenue and costs allocated to each portfolio with Group Underlying EBIT.

13.5.1 Electricity portfolio

Electricity portfolio review reporting combines the Wholesale Markets, Customer Markets (Consumer and Business) and Group Operations businesses to reflect the procurement and hedging of AGL's electricity requirements, the costs of managing and maintaining AGL's owned and contracted generation assets, and the margin from external customers.

All volume generated is sold into the National Electricity Market ("the pool") for which AGL receives pool generation revenue. Pool generation revenue is driven by volume and pool prices, which are set by the real-time market and differ by state. The total volume demanded by AGL customers is then purchased from the pool according to the geographical profile of customer demand and is reported as pool purchase costs. Where pool generation volumes exceed volumes purchased for customers, the net generation volume surplus drives revenue from indirect customers, which is incorporated within the pool generation revenue. Costs incurred in generating volume sold into the pool are reported as costs of generation, of which Wholesale Markets manages the cost of sales and Group Operations manages generation operation costs and asset depreciation.

	2019 GWh	2018 GWh	Movement %
Consumer customers pool purchase volume	14,480	14,695	(1.5)%
Large Business customers and Wholesale Markets pool purchase volume	26,044	25,887	0.6%
Pool purchase volume	40,524	40,582	(0.1)%
Add: Net generation volume surplus	3,199	2,483	28.8%
Pool generation volume	43,723	43,065	1.5%
Consumer customers sales	13,573	13,768	(1.4)%
Large Business customers sales	9,775	9,752	0.2%
Wholesale customers sales	15,804	15,651	1.0%
Total customer sales volume	39,152	39,171	0.0%
Energy losses	1,372	1,411	(2.8)%
Pool purchase volume	40,524	40,582	(0.1)%

Operating and Financial Review

For the year ended 30 June 2019

Pool generation volumes were 43,723 GWh, 1.5% up, driven by increased generation at AGL Macquarie and AGL's Victoria hydro assets, and commencement of generation at Silverton wind farm in New South Wales. This was partly offset by reduced generation at AGL Loy Yang due to lower availability from outages, and AGL Torrens Island due to AGL's lower contracted position in South Australia. Consumer customer sales volumes were 13,573 GWh, a decrease of 195 GWh driven by a 1.1% decrease in total average consumption per customer as a result of a change in customer mix. Large Business customer sales volumes of 9,775 GWh were broadly flat. Wholesale customer sales volumes were broadly flat at 15,804 GWh, up 153 GWh, with no significant change to AGL's Wholesale customer base.

	Portfolio Margin		Per Unit		Volume Denomination	
	2019 \$m	Restated 2018 \$m	2019 \$/MWh	Restated 2018 \$/MWh	2019 GWh	2018 GWh
Consumer customers ¹	4,068	4,145	299.7	301.1	13,573	13,768
Large Business customers ¹	1,734	1,615	177.4	165.6	9,775	9,752
Wholesale customers and Eco Markets ^{1,2}	1,104	1,055	69.9	67.4	15,804	15,651
Group Operations (Thermal and Renewables)	104	97				
Total revenue¹	7,010	6,912	179.0	176.5	39,152	39,171
Consumer network costs ¹	(1,666)	(1,691)	(122.7)	(122.8)	13,573	13,768
Consumer other cost of sales ¹	(568)	(597)	(41.8)	(43.4)	13,573	13,768
Large Business customers network costs ¹	(580)	(583)	(59.3)	(59.8)	9,775	9,752
Large Business customers other cost of sales ¹	(253)	(292)	(25.9)	(29.9)	9,775	9,752
Customer network and other cost of sales ¹	(3,067)	(3,163)	(131.4)	(134.5)	23,348	23,520
Fuel ³	(1,063)	(937)	(24.3)	(21.8)	43,723	43,065
Generation running costs ³	(660)	(575)	(15.1)	(13.4)	43,723	43,065
Depreciation and amortisation ³	(422)	(371)	(9.7)	(8.6)	43,723	43,065
Costs of generation (a) ³	(2,145)	(1,883)	(49.1)	(43.7)	43,723	43,065
Pool generation revenue ^{2,4}	4,508	3,881	103.1	90.1	43,723	43,065
Pool purchase costs ^{2,5}	(4,060)	(3,582)	(100.2)	(88.3)	40,524	40,582
Net derivative (cost)/revenue ⁴	(257)	(259)	(5.9)	(6.0)	43,723	43,065
Net Portfolio Management (b) ⁶	191	40	4.9	1.0	39,152	39,171
Total wholesale costs (a + b)⁵	(1,954)	(1,843)	(48.2)	(45.4)	40,524	40,582
Total costs⁶	(5,021)	(5,006)	(128.2)	(127.8)	39,152	39,171
Portfolio margin⁷	1,989	1,906	50.8	48.7	39,152	39,171
Consumer customers	505	452				
Large Business customers	34	36				
Wholesale Electricity	2,240	2,218				
Eco Markets	106	46				
Group Operations (Thermal and Renewables)	(896)	(846)				

1. Customer sales volume - revenue and cost is driven by customer sales volume, which is utilised to calculate \$/MWh for key Consumer, Business and Wholesale Customer metrics.
2. Pool generation revenue, Wholesale electricity revenue and pool purchase costs include amounts from certain wholesale contracts that are treated as derivatives for statutory reporting purposes. In the statutory accounts the amounts associated with these contracts are recognised within cost of sales.
3. Pool generation volume - this is the direct driver of all costs of generation (fuel costs, generation running costs and depreciation and amortisation) and is used to calculate the \$/MWh cost.
4. Pool generation volume - pool generation revenue is directly earned on pool generation volume, which is utilised to calculate a \$/MWh value. Additionally, derivative instruments are used to manage hedging requirements of the consumer and business customer loads, as well as the long energy position where generation volume is more than the internal AGL portfolio (the net generation volume surplus).
5. Pool purchase volume - as Wholesale Markets manage the purchase of pool volume to meet customer demand, pool purchase volume is utilised to calculate the \$/MWh cost.
6. Customer sales volume - excluding generation volumes, which drive generation running costs, the portfolio comprises volumes sold to customers. Sold volumes is utilised to calculate the net portfolio management \$/MWh.
7. Customer sales volume - whilst various drivers exist within total cost of sales metrics and overall portfolio margin, ultimately the volume sold to customers is the key driver of calculating margin and is used to calculate the \$/MWh value.

Operating and Financial Review

For the year ended 30 June 2019

Electricity portfolio margin increased to \$50.8 per MWh from \$48.7 per MWh driven by an increase in wholesale prices, partly offset by an increase in fuel costs.

Total revenue was \$7,010 million, an increase of \$98 million. Revenue from Consumer customers was \$4,068 million, a decrease of \$77 million, driven by lower volumes and the impact of customers switching to lower priced products. Large Business customer revenue was \$1,734 million, an increase of \$119 million, due to increased wholesale electricity market prices. Wholesale Electricity and Eco Markets revenue was \$1,104 million, an increase of \$49 million, reflecting the increase in Wholesale customer contract prices and a slight increase in volume.

Lower network rates and customer sales volumes resulted in lower network costs and a decrease in costs of complying with green schemes mostly contributed to the decrease in Consumer other cost of sales.

Total Wholesale costs were \$(1,954) million, an increase of \$111 million, or \$2.8 per MWh. Net portfolio management improved by \$151 million or \$3.9 per MWh driven by higher pool prices and increased forward contract prices. Fuel costs increased \$126 million or \$2.5 per MWh reflecting increased coal contract cost escalation and higher wholesale gas prices.

Generation running costs increased \$85 million due to the impact of AGL Macquarie and AGL Loy Yang forced outages and additional maintenance costs. Increased depreciation of \$51 million was predominantly due to a higher asset base at AGL Macquarie and AGL Loy Yang due to the committed closure of Liddell Power Station and a revision to the depreciation methodology of the licence and other assets relating to AGL Hydro.

In addition to the commentary above, Electricity portfolio margin is discussed in sections 13.4.1 and 13.4.2.

13.5.2 Gas portfolio

The gas portfolio review reporting combines the Wholesale Markets and Customer Markets (Consumer and Business) businesses to reflect the procurement and hedging of AGL's gas requirements and the margin from external customers.

	2019 PJ	2018 PJ	Movement %
Consumer customers	57.3	59.9	(4.3)%
Large Business customers	16.4	32.3	(49.2)%
Wholesale Markets and generation	93.4	87.8	6.4%
Total customer sales volume	167.1	180.0	(7.2)%
Energy losses	1.9	2.9	(34.5)%
Gas purchase volume	169.0	182.9	(7.6)%

Total customer sales volume was 167.1 PJ, a decrease of 12.9 PJ or 7.2% primarily due to the loss of Large Business customer volumes. Large Business volumes were down 15.9 PJ or 49.2% as a result of continued tight market conditions. The decrease in Consumer customer volumes of 2.6 PJ or 4.3% was due to lower average consumption of 5.4% as a result of milder weather. The increase in Wholesale Markets and generation volumes of 5.6 PJ or 6.4% was due to higher sales to existing Wholesale customers, partly offset by lower generation at Torrens Island.

Operating and Financial Review

For the year ended 30 June 2019

	Portfolio Margin		Per Unit		Volume Denomination	
	2019 \$m	Restated 2018 \$m	2019 \$/Gj	Restated 2018 \$/Gj	2019 PJ	2018 PJ
Consumer customers	1,530	1,538	26.7	25.7	57.3	59.9
Large Business customers	168	339	10.2	10.5	16.4	32.3
Wholesale Gas and Eco Markets	928	755	9.9	8.6	93.4	87.8
Total revenue	2,626	2,632	15.7	14.6	167.1	180.1
Consumer network costs	(512)	(537)	(8.9)	(9.0)	57.3	59.9
Consumer other cost of sales	(42)	(38)	(0.7)	(0.6)	57.3	59.9
Large Business customers network costs	(14)	(31)	(0.9)	(1.0)	16.4	32.3
Large Business customers other cost of sales	(7)	(6)	(0.4)	(0.2)	16.4	32.3
Customer network and other cost of sales	(575)	(612)	(7.8)	(6.6)	73.7	92.2
Gas purchases	(1,045)	(959)	(6.3)	(5.3)	167.1	180.0
Haulage, storage and other	(287)	(333)	(1.7)	(1.9)	167.1	180.0
Total wholesale costs	(1,332)	(1,292)	(8.0)	(7.2)	167.1	180.0
Total costs	(1,907)	(1,904)	(11.4)	(10.6)	167.1	180.0
Portfolio margin	719	728	4.3	4.0	167.1	180.0
Consumer customers	246	249				
Large Business customers	15	46				
Wholesale Gas	458	432				
Eco Markets	-	1				

Gas portfolio margin increased to \$4.3 per Gj from \$4.0 per Gj driven by an increase in the market price.

Total revenue was \$2,626 million, a decrease of \$6 million largely due to a decrease in Large Business Customers revenue, partially offset by an increase in Consumer and Wholesale customers sales revenue. The increase in Wholesale customer revenue of \$173 million was driven by increased contracted rates. Consumer revenue was \$1,530 million, a decrease of \$8 million due to lower volumes and increased discounts as a result of customers switching to lower priced products. Large Business customers revenue declined \$171 million due to a decrease in volumes sold as a result of continued tight market conditions and the loss of customers.

Total costs were \$(1,907) million, an increase of \$3 million mainly due to the increased wholesale gas price, partially offset by a decrease in total network costs due to lower volumes and decreased network rates.

In addition to the commentary above, Gas portfolio margin is discussed in sections 13.4.1 and 13.4.2.

13.6 Consolidated financial performance by operating segment

2019 \$m	Wholesale Markets	Customer Markets	Group Operations	Centrally Managed Expenses	Investments	Inter-segment	Total Group
Revenue	9,100	7,554	188	-	1	(3,597)	13,246
Cost of sales	(6,296)	(6,727)	(14)	-	-	3,597	(9,440)
Other income/(loss)	-	-	(4)	(1)	32	-	27
Gross margin	2,804	827	170	(1)	33	-	3,833
Operating costs (excluding depreciation and amortisation)	(26)	(532)	(726)	(264)	-	-	(1,548)
Underlying EBITDA	2,778	295	(556)	(265)	33	-	2,285
Depreciation and amortisation	(21)	(101)	(480)	(23)	-	-	(625)
Underlying EBIT	2,757	194	(1,036)	(288)	33	-	1,660
Net finance costs							(193)
Underlying Profit before tax							1,467
Income tax expense							(427)
Underlying Profit after tax							1,040

Operating and Financial Review

For the year ended 30 June 2019

Restated 2018 \$m	Wholesale Markets	Customer Markets	Group Operations	Centrally Managed Expenses	Investments	Inter-segment	Total Group
Revenue	8,624	7,746	234	1	-	(3,789)	12,816
Cost of sales	(5,927)	(6,886)	(41)	(5)	-	3,789	(9,070)
Other income	-	-	13	-	36	-	49
Gross margin	2,697	860	206	(4)	36	-	3,795
Operating costs (excluding depreciation and amortisation)	(22)	(556)	(701)	(277)	(3)	-	(1,559)
Underlying EBITDA	2,675	304	(495)	(281)	33	-	2,236
Depreciation and amortisation	(10)	(102)	(424)	(32)	-	-	(568)
Underlying EBIT	2,665	202	(919)	(313)	33	-	1,668
Net finance costs							(224)
Underlying Profit before tax							1,444
Income tax expense							(426)
Underlying Profit after tax							1,018

13.7 Portfolio review reconciliation

2019 \$m	Electricity Portfolio	Gas Portfolio	Other AGL	Adjustments (a)	Total Group
Wholesale Markets	1,104	928	5	3,524	5,561
Customer Markets	5,802	1,698	54	(14)	7,540
Group Operations	104	-	88	(48)	144
Other	-	-	1	-	1
Revenue	7,010	2,626	148	3,462	13,246
Wholesale Markets	(954)	(1,332)	-	(3,980)	(6,266)
Customer Markets	(3,067)	(575)	(28)	503	(3,167)
Group Operations	-	-	(22)	15	(7)
Other	-	-	-	-	-
Cost of sales	(4,021)	(1,907)	(50)	(3,462)	(9,440)
Other income	-	-	27	-	27
Gross margin	2,989	719	125	-	3,833
Operating costs (excluding depreciation and amortisation)	(578)	-	(970)	-	(1,548)
Depreciation and amortisation	(422)	-	(203)	-	(625)
Portfolio Margin / Underlying EBIT	1,989	719	(1,048)	-	1,660

2019 \$m	Electricity	Gas	Pool revenue	Other	Total Group
Portfolio Margin Reporting	7,010	2,626	4,508	-	14,144
Revenue reclass	(849)	-	(53)	-	(902)
Intragroup	(4)	(293)	-	(55)	(352)
Other	(128)	13	14	457	356
Note 2 - Revenue	6,029	2,346	4,469	402	13,246

Operating and Financial Review

For the year ended 30 June 2019

Restated 2018 \$m	Electricity Portfolio	Gas Portfolio	Other AGL	Adjustments (a)	Total Group
Wholesale Markets	1,055	755	-	3,134	4,944
Customer Markets	5,760	1,877	109	(50)	7,696
Group Operations	97	-	137	(59)	175
Other	-	-	1	-	1
Revenue	6,912	2,632	247	3,025	12,816
Wholesale Markets	(901)	(1,292)	-	(3,651)	(5,844)
Customer Markets	(3,163)	(612)	(31)	606	(3,200)
Group Operations	-	-	(40)	20	(20)
Other	-	-	(6)	-	(6)
Cost of sales	(4,064)	(1,904)	(77)	(3,025)	(9,070)
Other income	-	-	49	-	49
Gross margin	2,848	728	219	-	3,795
Operating costs (excluding depreciation and amortisation)	(571)	-	(988)	-	(1,559)
Depreciation and amortisation	(371)	-	(197)	-	(568)
Portfolio Margin / Underlying EBIT	1,906	728	(966)	-	1,668

Restated 2018 \$m	Electricity	Gas	Pool revenue	Other	Total Group
Portfolio Margin Reporting	6,912	2,632	3,881	-	13,425
Revenue reclass	(766)	(4)	(33)	-	(803)
Intragroup	(1)	(300)	-	(74)	(375)
Other	(82)	51	53	547	569
Note 2 - Revenue	6,063	2,379	3,901	473	12,816

Notes

(a) Key adjustments include:

- Wholesale Markets electricity pool sales in the statutory accounts has been reallocated to cost of sales (net portfolio management) in the Portfolio Review where it is combined with pool purchase costs and derivatives to reflect AGL's net position.
- Wholesale Markets other revenue in the statutory accounts has been reallocated to cost of sales (generation running costs) in the Portfolio Review including ancillary services revenue, brown coal sales and wind farm asset management fees.
- Within Wholesale Markets, derivatives from certain wholesale contracts are recognised within cost of sales in the statutory accounts. In the Portfolio Review the revenue and costs have been separately disclosed.
- Intra-segment and inter-segment eliminations include: Gas sales from Wholesale Gas to Wholesale Electricity; gas sales from Group Operations (Natural Gas) to Wholesale Markets. Elimination adjustment also includes the reallocation of green costs from Wholesale Markets (Eco-Markets) to Consumer and Business customer other cost of sales.

Operating and Financial Review

For the year ended 30 June 2019

13.8 Impact of adopting AASB 9 and AASB 16

Table 13.8.1 Group financial performance

	30 June 2018 \$m	AASB 9	AASB 16	Restated 30 June 2018 \$m
Revenue	12,816	-	-	12,816
Cost of sales	(9,070)	(1)	1	(9,070)
Other income	49	-	-	49
Gross margin	3,795	(1)	1	3,795
Operating costs (excluding depreciation and amortisation)	(1,569)	(5)	15	(1,559)
Underlying EBITDA	2,226	(6)	16	2,236
Depreciation and amortisation	(558)	-	(10)	(568)
Underlying EBIT	1,668	(6)	6	1,668
Net finance costs	(217)	-	(7)	(224)
Underlying Profit before tax	1,451	(6)	(1)	1,444
Income tax expense	(428)	2	-	(426)
Underlying Profit after tax	1,023	(4)	(1)	1,018

	30 June 2018 \$m	AASB 9	AASB 16	Restated 30 June 2018 \$m
Assets				
Cash and cash equivalents	463	-	-	463
Other current assets	3,343	(116)	-	3,227
Property, plant and equipment	6,685	-	72	6,757
Intangible assets	3,271	-	-	3,271
Other non-current assets	877	35	3	915
Total assets	14,639	(81)	75	14,633
Liabilities				
Borrowings	2,841	-	122	2,963
Other liabilities	3,408	-	(39)	3,369
Total liabilities	6,249	-	83	6,332
Net assets / total equity	8,390	(81)	(8)	8,301

Refer to Note 38 (c) in the Financial Report for a full summary of the overall impact of adoption of new and revised Standards and Interpretations.

Remuneration Report

For the year ended 30 June 2019

14. Remuneration Report

This Remuneration Report forms part of the Directors' Report.

Message from the Chair of the People & Performance Committee

Dear Shareholders,

On behalf of the Board, I am pleased to present the Remuneration Report for AGL Energy Limited (AGL) and its consolidated entities for the year ended 30 June 2019 (FY19).

A year to 'reset' senior executive remuneration

AGL's Executive Remuneration Framework is designed to be competitive so as to attract and retain the right person for the job and to reward executives for delivering financial returns and AGL's strategy, both aimed at creating greater shareholder value.

The People & Performance Committee has considered the sentiments of our shareholders, our customers and the broader community towards levels of executive remuneration. As we have had a year of change in our Executive Team, we have taken this opportunity to 'reset' senior executive remuneration, starting with our new Managing Director & CEO.

AGL's performance in FY19

FY19 was another strong year for AGL. Statutory Profit after tax for FY19 was down to \$905 million however Underlying Profit after tax reached \$1,040 million, up 2% from the prior year. The principal driver of the increase was margin growth in Wholesale Markets from higher wholesale electricity prices and lower compliance costs in Eco Markets. This was offset to some degree by Customer Markets margin compression reflecting a continued competitive environment. In addition, there was higher depreciation and amortisation in Group Operations due to AGL's increased capital investment in recent years.

Underlying operating cash flow before interest and tax was \$2,013 million. This was down \$461 million from the prior year mainly due to higher margin calls that AGL was required to provide due to higher forward electricity prices. A large portion of the margin calls will be recovered in future earnings. Excluding the impact of the margin calls, AGL's conversion of EBITDA to cash flow was 96%.

AGL declared dividends of 119 cents per share, 2 cents higher than the prior period, consistent with AGL's profit growth.

Capital expenditure was \$939 million, with investments being made to keep our ageing thermal plant operating, as well as investment in new projects such as the Barker Inlet power station.

AGL's balance sheet remains strong. Gearing was 23.5% and AGL maintained its Baa2 credit rating through the year.

The average annual return on equity (ROE) continues to perform strongly at 12.5%.

A new Managing Director & CEO

After an extensive domestic and international search, AGL announced the permanent appointment of Brett Redman as Managing Director & CEO effective 1 January 2019. Given Mr Redman's extensive experience as Chief Financial Officer (CFO) and across the energy industry, the Board is confident that AGL has the right leader to deliver our transformative initiatives and our desired customer and shareholder outcomes.

This Report details Mr Redman's remuneration arrangements, along with other changes to the key management personnel (KMP) over FY19.

FY19 remuneration outcomes

Fixed reward

AGL's approach is to set remuneration levels with regard to market benchmarks and commensurate to the skills and experience of the individual. Generally, for internal promotions, remuneration levels will be set low compared to market on appointment, to allow executives 'room to grow into the role'.

The Board looked to the market and listened to stakeholder views on contemporary CEO remuneration levels to set fixed remuneration for Mr Redman. This resulted in a reduction in fixed remuneration of more than 25% from the previous Managing Director & CEO. This is not a reflection on Mr Redman or the Board's view of his suitability for this role. It is a recognition that the expectations of our stakeholders regarding executive remuneration levels has changed since the appointment of the previous Managing Director & CEO.

The Board also re-weighted the Managing Director & CEO's package away from short-term in favour of the longer-term to more closely align with our need to deliver on our long-term strategic objectives.

Damien Nicks has been promoted to the role of CFO. His fixed remuneration is lower than that of Mr Redman who held the CFO role for six years before his appointment as Managing Director & CEO. As this is Mr Nicks' first CFO role, his remuneration has been set towards the lower end of market comparators.