

To	Company Announcements Office	Facsimile	1300 135 638
Company	ASX Limited	Date	20 February 2020
From	Helen Hardy	Pages	85
Subject	ORG Half Year Results for the period ended 31 December 2019		

We attach the following documents relating to Origin Energy's Results for the half year ended 31 December 2019:

1. ASX Appendix 4D & Interim Financial Statements
2. Directors' Report including the Operating Financial Review

Regards



Helen Hardy
Company Secretary

02 8345 5000

Origin Energy Limited and its Controlled Entities

Appendix 4D

Results for announcement to the market

31 December 2019

				31 December 2019	31 December 2018
Total Group Revenue (\$m)	down	12%	to	6,728	7,660
Profit for the period attributable to members of the parent entity (\$m)	down	25%	to	599	796
				31 December 2019	30 June 2019
Net tangible asset backing per ordinary security ⁽¹⁾	up	1%	to	\$4.46	\$4.41
Dividends					
				Amount per security	Franked amount per security at 30 per cent tax
Interim dividend determined subsequent to 31 December 2019				15 cents	15 cents
Previous corresponding period (31 December 2018)				10 cents	10 cents
Record date for determining entitlements to the dividend				3 March 2020	
Dividend payment date				27 March 2020	
Brief explanation of any of the figures reported above or other item(s) of importance not previously released to the market.					
Refer to the attached Directors' Report and Operating and Financial Review for explanations.					
Discussion and Analysis of the results for the year ended 31 December 2019.					
Refer to the attached Directors' Report and Operating and Financial Review for commentary.					
⁽¹⁾ The calculation of net tangible assets excludes lease related Right-of-Use assets of \$496 million, categorised under Property Plant & Equipment on balance sheet at 31 December 2019, as these are not considered tangible in nature.					

Origin Energy Limited
and its Controlled Entities
Interim Financial Statements
31 December 2019

Origin Energy Limited and its Controlled Entities

Interim Financial Statements

Contents

Primary statements

Interim income statement
Interim statement of comprehensive income
Interim statement of financial position
Interim statement of changes in equity
Interim statement of cash flows

Overview

A Results for the half year ended 31 December 2019

A1 Segments
A2 Revenue
A3 Other income
A4 Expenses
A5 Income tax expense
A6 Earnings per share
A7 Dividends

B Investment in Australia Pacific LNG Pty Ltd

B1 Summary APLNG income statement
B2 Summary APLNG statement of financial position
B3 Summary APLNG statement of cash flows
B4 Transactions between the Group and APLNG

C Funding, financial instruments and contributed equity

C1 Capital management
C2 Other financial assets and liabilities
C3 Fair value of financial assets and liabilities
C4 Contributed equity

D Group structure

D1 Joint arrangements
D2 Changes in controlled entities

E Other information

E1 Contingent liabilities
E2 Commitments
E3 Adoption of AASB 16 *Leases*
E4 Subsequent events

Directors' declaration

Independent auditor's report

Origin Energy Limited and its Controlled Entities
Interim income statement

for the half year ended 31 December	Note	2019 \$m	2018 \$m
Revenue	A2	6,728	7,660
Other income	A3	22	18
Expenses	A4	(6,344)	(7,041)
Results of equity accounted investees	B1	361	309
Interest income	A3	106	116
Interest expense	A4	(176)	(193)
Profit before income tax		697	869
Income tax expense	A5	(96)	(72)
Profit for the period		601	797
Profit attributable to:			
Members of the parent entity		599	796
Non-controlling interests		2	1
Profit for the period		601	797
Earnings per share			
Basic earnings per share	A6	34.0 cents	45.3 cents
Diluted earnings per share	A6	34.0 cents	45.2 cents

The interim income statement should be read in conjunction with the accompanying notes to the interim financial statements.

Origin Energy Limited and its Controlled Entities
Interim statement of comprehensive income

	2019 \$m	2018 \$m
for the half year ended 31 December		
Profit for the period	601	797
Other comprehensive income		
<i>Items that can be reclassified to profit or loss, net of tax</i>		
Translation of foreign operations	(2)	297
<i>Cash flow hedges:</i>		
Reclassified to income statement	(174)	15
Effective portion of change in fair value	56	2
Total other comprehensive income, net of tax	(120)	314
Total comprehensive income for the period	481	1,111
Total comprehensive income attributable to:		
Members of the parent entity	479	1,110
Non-controlling interests	2	1
	481	1,111
Total comprehensive income for the period	481	1,111

The interim statement of comprehensive income should be read in conjunction with the accompanying notes to the interim financial statements.

Origin Energy Limited and its Controlled Entities
Interim statement of financial position

as at	Note	31 December 2019 \$m	30 June 2019 \$m
Current assets			
Cash and cash equivalents		832	1,546
Trade and other receivables		1,968	2,324
Inventories		171	137
Derivatives		504	472
Other financial assets	C2	511	318
Income tax receivable		45	-
Assets classified as held for sale		-	254
Other assets		139	112
Total current assets		4,170	5,163
Non-current assets			
Trade and other receivables		6	7
Derivatives		416	962
Other financial assets	C2	2,730	3,152
Investments accounted for using the equity method	B2	7,324	6,960
Property, plant and equipment (PP&E) ⁽¹⁾		4,153	3,597
Exploration and evaluation assets		128	98
Intangible assets		5,362	5,381
Deferred tax assets		174	380
Other assets		38	43
Total non-current assets		20,331	20,580
Total assets		24,501	25,743
Current liabilities			
Trade and other payables		1,735	2,006
Payables to joint ventures		206	204
Interest-bearing liabilities	C1	1,516	948
Derivatives		350	384
Other financial liabilities	C2	350	308
Provision for income tax		-	160
Employee benefits		145	189
Provisions		73	45
Liabilities classified as held for sale		-	23
Total current liabilities		4,375	4,267
Non-current liabilities			
Trade and other payables		-	2
Interest-bearing liabilities	C1	5,389	6,648
Derivatives		428	1,119
Employee benefits		33	31
Provisions		543	527
Total non-current liabilities		6,393	8,327
Total liabilities		10,768	12,594
Net assets		13,733	13,149
Equity			
Contributed Equity	C4	7,163	7,125
Reserves		950	1,089
Retained earnings		5,599	4,915
Total parent entity interest		13,712	13,129
Non-controlling interests		21	20
Total equity		13,733	13,149

⁽¹⁾ Includes \$496 million of right-of-use assets in the current period as a result of the adoption of AASB 16 *Leases*. Refer to note E3.

The interim statement of financial position should be read in conjunction with the accompanying notes to the interim financial statements.

Origin Energy Limited and its Controlled Entities
Interim statement of changes in equity
for the half year ended 31 December

\$m	Contributed equity	Share-based payments reserve	Foreign currency translation reserve	Hedge reserve	Fair value reserve	Retained earnings	Non-controlling interests	Total equity
Balance as at 30 June 2019	7,125	234	736	114	5	4,915	20	13,149
Adoption of AASB16 (refer to note E3)	-	-	-	-	-	349	-	349
Balance as at 1 July 2019	7,125	234	736	114	5	5,264	20	13,498
Profit	-	-	-	-	-	599	2	601
Translation of foreign operations	-	-	(2)	-	-	-	-	(2)
Cash flow hedges	-	-	-	(118)	-	-	-	(118)
Total other comprehensive income	-	-	(2)	(118)	-	-	-	(120)
Total comprehensive income for the period	-	-	(2)	(118)	-	599	2	481
Dividends provided for or paid	-	-	-	-	-	(264)	(1)	(265)
Movement in contributed equity (refer to note C4)	38	-	-	-	-	-	-	38
Share-based payments	-	(19)	-	-	-	-	-	(19)
Total transactions with owners recorded directly in equity	38	(19)	-	-	-	(264)	(1)	(246)
Balance as at 31 December 2019	7,163	215	734	(4)	5	5,599	21	13,733
Balance as at 30 June 2018	7,150	247	391	13	(22)	4,025	24	11,828
Adoption of AASB9	-	-	-	-	22	(145)	-	(123)
Balance as at 1 July 2018	7,150	247	391	13	-	3,880	24	11,705
Profit	-	-	-	-	-	796	1	797
Translation of foreign operations	-	-	297	-	-	-	-	297
Cash flow hedges	-	-	-	17	-	-	-	17
Total other comprehensive income	-	-	297	17	-	-	-	314
Total comprehensive income for the period	-	-	297	17	-	796	1	1,111
Dividends provided for or paid	-	-	-	-	-	-	(1)	(1)
Movement in contributed equity (refer to note C4)	(4)	-	-	-	-	-	-	(4)
Share-based payments	-	(23)	-	-	-	-	-	(23)
Total transactions with owners recorded directly in equity	(4)	(23)	-	-	-	-	(1)	(28)
Balance as at 31 December 2018	7,146	224	688	30	-	4,676	24	12,788

The interim statement of changes in equity should be read in conjunction with the accompanying notes to the interim financial statements.

Origin Energy Limited and its Controlled Entities
Interim statement of cash flows

for the half year ended 31 December	2019 \$m	2018 \$m
Cash flows from operating activities		
Receipts from customers	7,725	8,728
Payments to suppliers and employees	(7,186)	(8,102)
Cash generated from operations	539	626
Income taxes paid, net of refunds received	(188)	(73)
Net cash from operating activities	351	553
Cash flows from investing activities		
Acquisition of PP&E	(169)	(122)
Acquisition of exploration and development assets	(35)	(5)
Acquisition of other assets	(54)	(62)
Acquisition of other investments	(8)	(4)
Interest received from other parties	14	1
Net proceeds from sale of non-current assets	233	-
<i>Australia Pacific LNG (APLNG) investing cash flows</i>		
- Receipt of Mandatorily Redeemable Cumulative Preference Shares (MRCPS) interest	97	117
- Proceeds from APLNG buy-back of MRCPS	423	276
Net cash from investing activities	501	201
Cash flows from financing activities		
Proceeds from borrowings	1,273	813
Repayment of borrowings	(2,338)	(1,388)
Joint venture operator cash call movements	1	28
Settlement of foreign currency contracts	(25)	(24)
Interest paid ⁽¹⁾	(173)	(199)
Dividends paid to shareholders of Origin Energy Ltd, net of Dividend Reinvestment Plan (DRP)	(240)	-
Dividends paid to non-controlling interests	(1)	(1)
Purchase of shares on-market (treasury shares)	(28)	(42)
Repayment of lease principal	(35)	-
Net cash used in financing activities	(1,566)	(813)
Net decrease in cash and cash equivalents	(714)	(59)
Cash and cash equivalents at the beginning of the period	1,546	150
Effect of exchange rate changes on cash	-	1
Cash and cash equivalents at the end of the period ⁽²⁾	832	92

⁽¹⁾ Includes \$7million of interest payments on leases in the current period as a result of the adoption of AASB 16 *Leases*. Refer to note E3.

⁽²⁾ Cash and cash equivalents at the end of the comparative period includes \$3 million of cash and cash equivalents that were classified as held for sale.

The interim statement of cash flows should be read in conjunction with the accompanying notes to the interim financial statements.

Origin Energy Limited and its Controlled Entities

Notes to the interim financial statements

Overview

Origin Energy Limited (the Company) is a for-profit company domiciled in Australia. The nature of the operations and principal activities of the Company and its controlled entities (the Group or Origin) are described in the segment information in note A1.

On 20 February 2020, the Directors resolved to authorise the issue of these interim financial statements for the half year ended 31 December 2019.

The interim financial statements do not include all of the information required for a full annual financial report, and should be read in conjunction with the financial statements of the Group for the full year ended 30 June 2019, which are available upon request from the Company's registered office at Level 32, Tower 1, 100 Barangaroo Avenue, Barangaroo NSW 2000 or at <http://www.originenergy.com.au>.

Basis of preparation

The interim financial statements have been prepared:

- in accordance with AASB 134 *Interim Financial Reporting* and the *Corporations Act 2001* (Cth);
- on a historical cost basis, except for derivatives and other financial assets and liabilities that are measured at fair value; and
- on a going concern basis. As at 31 December 2019, the consolidated statement of financial position shows a net current liability position of \$205 million. The deficit is primarily caused by the classification of capital markets debt maturing in the next 12 months as current liabilities. Notwithstanding the net current liability position, the Group has reasonable grounds to believe it will be able to pay its debts as and when they become due based on the continued strong cash flows of the Group's existing operations, the Group's overall net asset position, along with the strong financial profile of the Group which includes significant committed undrawn bank debt facilities and cash totalling \$3,792 million;

The financial statements:

- are presented in Australian dollars;
- are rounded to the nearest million dollars, unless otherwise stated, in accordance with Australian Securities and Investments Commission (ASIC) Corporations (Rounding in Financial/Directors' Reports) Instrument 2016/191;
- do not early adopt any Accounting Standards and Interpretations that have been issued or amended but are not yet effective.

The accounting policies and judgements and estimates applied by the Group in these interim financial statements are the same as those applied in its financial statements for the full year ended 30 June 2019 except for new standards, amendments to standards and interpretations effective from 1 January 2019.

The following standards, applicable from 1 July 2019, have been adopted by the Group.

- AASB 16 *Leases*.

The impact of the adoption of the leasing standard is disclosed in note E3.

Origin Energy Limited and its Controlled Entities

Notes to the interim financial statements

A Results for the half year

This section highlights the performance of the Group for the half year, including results by operating segment, income and expenses, earnings per share and dividends.

A1 Segments

The Group's operating segments are presented on a basis that is consistent with the information provided internally to the Managing Director, who is the chief operating decision maker. This reflects the way the Group's businesses are managed, rather than the legal structure of the Group.

The reporting segments are organised according to the nature of the activities undertaken and are detailed below.

- **Energy Markets:** Energy retailing and wholesaling, power generation and LPG operations predominantly in Australia.
- **Integrated Gas:** Origin's investment in APLNG, growth assets business and management of LNG price risk through hedging and trading activities. The investment in APLNG is presented separately from the residual component of the segment in the following tables for greater transparency.
- **Corporate:** Various business development and support activities that are not allocated to operating segments.

Underlying profit and underlying EBITDA are the primary alternative performance measures used by the Managing Director for the purpose of assessing performance of each operating segment and the Group. Underlying profit and underlying EBITDA are non-statutory (non-IFRS) measures. The objective of measuring and reporting underlying profit and underlying EBITDA is to provide a more meaningful and consistent representation of financial performance by removing items which distort that performance or are non-recurring in nature.

Items excluded from the calculation of underlying profit are reported to the Managing Director as not representing the underlying performance of the business and thus excluded from underlying profit or underlying EBITDA. These items are determined after consideration of the nature of the item, the significance of the amount and the consistency in treatment from period to period.

The nature of items excluded from underlying profit and underlying EBITDA are shown below.

- Changes in the fair value of financial instruments not in accounting hedge relationships to remove the significant volatility caused by timing mismatches in valuing financial instruments and the related underlying transactions. The valuation changes are subsequently recognised in underlying earnings when the underlying transactions are settled;
- Realised and unrealised foreign exchange gains/losses on debt held to hedge USD denominated APLNG MRCPS for which fair value changes are excluded from underlying profit;
- Redundancies and other costs in relation to business restructuring, transformation or integration activities;
- Gains/losses on the sale or acquisition of an asset/entity;
- Transaction costs incurred in relation to the sale or acquisition of an entity; and
- Impairments of assets.

Origin Energy Limited and its Controlled Entities
Notes to the interim financial statements

A1 Segments (continued)

Segment result for the half year ended 31 December

\$m	Ref.	Energy Markets		Integrated Gas				Corporate		Consolidated	
		2019	2018	Share of APLNG		Other		2019	2018	2019	2018
External revenue		6,590	7,314	-	-	138	346	-	-	6,728	7,660
EBITDA		806	807	1,033	1,042	(106)	88	(41)	(52)	1,692	1,885
Depreciation and amortisation		(239)	(196)	-	-	(14)	(10)	-	-	(253)	(206)
Share of ITDA of equity accounted investees		-	-	(674)	(735)	2	2	-	-	(672)	(733)
EBIT		567	611	359	307	(118)	80	(41)	(52)	767	946
Interest income ⁽¹⁾						95	115	11	1	106	116
Interest expense ⁽¹⁾								(176)	(193)	(176)	(193)
Income tax expense ⁽²⁾								(96)	(72)	(96)	(72)
Non-controlling interests (NCI)								(2)	(1)	(2)	(1)
Statutory profit/(loss) attributable to members of the parent entity		567	611	359	307	(23)	195	(304)	(317)	599	796
Reconciliation of statutory profit/(loss) to segment result and underlying profit/(loss)											
Fair value and foreign exchange movements	(a)	94	(38)	-	-	20	266	(1)	(3)	113	225
Disposals, impairments and business restructuring	(b)	(11)	(7)	-	-	-	(36)	(1)	(24)	(12)	(67)
Tax and NCI on items excluded from underlying profit								(30)	46	(30)	46
Total significant items		83	(45)	-	-	20	230	(32)	19	71	204
Segment result and underlying profit/(loss) ^{(3) (4)}		484	656	359	307	(43)	(35)	(272)	(336)	528	592
Underlying EBITDA ^{(3) (4)}		723	852	1,033	1,042	(127)	(142)	(39)	(25)	1,590	1,727

(1) Interest income earned on MRCPS has been allocated to the Integrated Gas - Other segment. Interest expense related to general financing is allocated to the Corporate segment.

(2) Income tax expense for entities in the Origin tax consolidated group is allocated to the Corporate segment.

(3) Underlying profit and underlying EBITDA are non-statutory (non-IFRS) measures.

(4) Underlying EBITDA equals segment result and underlying profit/(loss) adjusted for: depreciation and amortisation; share of ITDA of equity accounted investees; interest income/(expense); income tax expense and NCI.

Origin Energy Limited and its Controlled Entities
Notes to the interim financial statements

A1 Segments (continued)

Segment result for the half year ended 31 December

	2019		2018	
(a) Fair value and foreign exchange movements \$m	Gross	Tax and NCI	Gross	Tax and NCI
Decrease in fair value of derivatives	(14)	4	(9)	3
Net gain from financial instruments measured at fair value	92	(28)	306	(92)
Foreign exchange gain/(loss) on LNG-related financing	35	(11)	(72)	22
Fair value and foreign exchange movements	113	(35)	225	(67)

(b) Disposals, impairments and business restructuring

Capital tax loss recognition - Ironbark	-	-	-	68
Disposals	-	-	-	68
<i>Integrated Gas impairments and impairment reversals</i>				
Impairment - Ironbark permit areas	-	-	(49)	15
Impairment reversal - Heytesbury permit areas	-	-	13	(4)
Impairments	-	-	(36)	11
One-off building lease exit costs	-	-	(20)	6
Restructuring costs	(5)	2	(11)	3
Transaction costs	(7)	3	-	-
Finalisation of Lattice tax position on completion	-	-	-	25
Business restructuring	(12)	5	(31)	34
Total disposals, impairments and business restructuring	(12)	5	(67)	113

Origin Energy Limited and its Controlled Entities
Notes to the interim financial statements

A1 Segments (continued)

Segment Assets and Liabilities

\$m as at	Energy Markets		Integrated Gas				Corporate		Total continuing operations		Total assets and liabilities held for sale		Consolidated	
	31 Dec 2019	30 June 2019	Share of APLNG 31 Dec 2019	30 June 2019	Other 31 Dec 2019	30 June 2019	31 Dec 2019	30 June 2019	31 Dec 2019	30 June 2019	31 Dec 2019	30 June 2019	31 Dec 2019	30 June 2019
Assets														
Segment assets	12,361	12,378	-	-	428	276	197	133	12,986	12,787	-	254	12,986	13,041
Investments accounted for using the equity method (refer to notes B2 and D1) ⁽¹⁾	-	-	7,463	7,103	(140)	(143)	1	-	7,324	6,960	-	-	7,324	6,960
Cash, funding related derivatives and tax assets					2,662	3,045	1,529	2,697	4,191	5,742	-	-	4,191	5,742
Total assets	12,361	12,378	7,463	7,103	2,950	3,178	1,727	2,830	24,501	25,489	-	254	24,501	25,743
Liabilities														
Segment liabilities	(2,498)	(3,299)	-	-	(404)	(369)	(708)	(821)	(3,610)	(4,489)	-	(23)	(3,610)	(4,512)
Financial liabilities, interest-bearing liabilities, funding related derivatives and tax liabilities							(7,158)	(8,082)	(7,158)	(8,082)	-	-	(7,158)	(8,082)
Total liabilities	(2,498)	(3,299)	-	-	(404)	(369)	(7,866)	(8,903)	(10,768)	(12,571)	-	(23)	(10,768)	(12,594)
Net assets	9,863	9,079	7,463	7,103	2,546	2,809	(6,139)	(6,073)	13,733	12,918	-	231	13,733	13,149
Acquisitions of non-current assets (includes capital expenditure)	213	382	-	-	35	30	5	7	253	419	-	-	253	419

⁽¹⁾ The Corporate segment amount relates to the Group's investment in PNG Energy Developments Limited.

Origin Energy Limited and its Controlled Entities

Notes to the interim financial statements

A2 Revenue

for the half year ended 31 December

2019 \$m	Retail	Business and Wholesale	LPG	Solar and Energy Services	Integrated Gas	Total
Sale of electricity	2,299	1,481	-	37	-	3,817
Sale of gas	615	851	322	52	138	1,978
Pool revenue	-	827	-	-	-	827
Other revenue	25	29	-	52	-	106
	2,939	3,188	322	141	138	6,728

2018
\$m

Sale of electricity	2,503	1,645	-	-	-	4,148
Sale of gas	584	1,039	366	45	346	2,380
Pool revenue	-	1,041	-	-	-	1,041
Other revenue	18	28	-	45	-	91
	3,105	3,753	366	90	346	7,660

The Group's primary revenue streams relate to the sale of electricity and natural gas to retail (Residential and Small to Medium Enterprise), business and wholesale customers, and the sale of generated electricity into the National Electricity Market (NEM).

Key judgements and estimates: The Group recognises revenue from electricity and gas sales once the energy has been consumed by the customer. When determining revenue for the financial period, management estimates the volume of energy supplied since a customer's last bill. The estimation of unbilled consumption requires judgement and is based on various assumptions including:

- volume and timing of energy consumed by customers
- allocation of estimated electricity and gas volumes to various pricing plans
- discounts linked to customer payment patterns
- loss factors

The unbilled consumption volumes are also used by management to accrue network expenses incurred by the Group for unread customer electricity and gas meters.

Retail contracts

Retail electricity service is generally marketed through standard service offers that provide customers with discounts on published tariff rates. Contracts have no fixed duration, generally require no minimum consumption, and can be terminated by the customer at any time without significant penalty. The supply of energy is considered a single performance obligation for which revenue is recognised upon delivery to customers at the offered rate. Where customers are eligible to receive additional behavioural discounts (e.g. pay on time discounts), Origin considers this to be variable consideration which is estimated as part of the unbilled process.

Origin Energy Limited and its Controlled Entities

Notes to the interim financial statements

A2 Revenue (continued)

Business and wholesale contracts

Contracts with business and wholesale customers are generally medium to long-term, higher volume arrangements with fixed or index-linked energy rates that have been commercially negotiated. The nature and accounting treatment of this revenue stream is largely consistent with retail sales. Some business and wholesale sales arrangements also include the transfer of renewable energy certificates (RECs) which represent an additional performance obligation. Revenue is recognised for these contracts, when Origin has the 'right to invoice' the customer for consideration that corresponds directly with the value of units of energy delivered to the customer.

Pool revenue

Pool revenue relates to sales by Origin generation assets into the NEM, as well as revenue associated with gross settled Power Purchase Agreements (PPAs). Origin has assessed it is acting as the principal in relation to transactions with the NEM and therefore recognises pool sales on a 'gross' basis. Revenue from these sales is recognised at the spot price achieved when control of the electricity passes to the grid.

LPG and LNG sales

Revenue from the sale of LPG (from Origin's Energy Markets segment) and LNG (from Origin's Integrated Gas segment) is recognised at the point in time that the customer takes physical possession of the commodity. Revenue is recognised at an amount that reflects the consideration expected to be received.

Origin Energy Limited and its Controlled Entities

Notes to the interim financial statements

A3 Other income

	2019	2018
for the half year ended 31 December	\$m	\$m
Other income		
Net gain on sale of assets	1	-
Fees & services and other income	21	18
Other income	22	18
Interest earned from other parties	11	1
Interest earned on APLNG MRCPS (refer to note B1)	95	115
Interest income⁽¹⁾	106	116

⁽¹⁾ Interest income is measured using an effective interest rate method and recognised as it accrues.

A4 Expenses

	2019	2018
for the half year ended 31 December	\$m	\$m
Expenses		
Cost of sales	5,500	6,311
Employee expenses	331	332
Depreciation and amortisation	253	206
Impairment of non-current assets ⁽¹⁾	18	36
Impairment of trade receivables (net of bad debts recovered)	42	43
Decrease in fair value of derivatives	14	9
Net gain from financial instruments measured at fair value	(92)	(306)
Net foreign exchange (gain)/loss	(38)	68
Other	316	342
Expenses	6,344	7,041
Interest on interest-bearing liabilities	166	192
Impact of discounting on long-term provisions	1	1
Finance charges on capitalised leases	9	-
Interest expense	176	193

⁽¹⁾ A \$19 million impairment was recognised during the period relating to the Mortlake generator asset that was written-off following the electrical fault experienced in July 2019. This was offset by a \$1 million impairment reversal relating to Origin's investment in PNG Energy Development Limited joint venture. (2018: A \$49 million impairment was recognised in relation to the Ironbark permit areas, offset by a \$13 million impairment reversal in relation to the Heytesbury permit assets, following classification to held for sale at 31 December 2018. The Ironbark impairment in the comparative period was based on the expected proceeds from sale following bids received pre 31 December 2018. The recoverable amount of Ironbark at the time was \$231 million.)

A5 Income tax expense

	2019	2018
for the half year ended 31 December	per cent	per cent
Effective statutory tax rate	14	8

The 31 December 2019 effective statutory tax rate of 14% varies from the comparative period of 8% primarily due to the prior year recognition of capital losses to offset the capital gain for the disposal of Origin Energy ATP 788P Pty Ltd (Ironbark permit areas) with no similar transactions occurring in the current period. The variation from the corporate tax rate of 30% is mostly due to the tax treatment of equity accounting for Australia Pacific LNG (APLNG), which requires Origin to recognise its 37.5% share of APLNG's net profit after tax (NPAT). Origin's 37.5% share of APLNG's NPAT is included in Origin's pre-tax accounting profit but is not subject to income tax. Only dividends received from APLNG will be subject to income tax. The higher APLNG NPAT is as a proportion of Origin's total profit, the greater the impact is on the effective tax rate.

Origin Energy Limited and its Controlled Entities
Notes to the interim financial statements

A6 Earnings per share

for the half year ended 31 December	2019	2018
Weighted average number of shares on issue-basic ⁽¹⁾	1,759,387,244	1,758,960,368
Weighted average number of shares on issue-diluted ⁽²⁾	1,763,506,460	1,762,030,414
Statutory profit		
Earnings per share based on statutory consolidated profit		
Statutory profit \$m	599	796
Basic earnings per share	34.0 cents	45.3 cents
Diluted earnings per share	34.0 cents	45.2 cents
Underlying profit		
Earnings per share based on underlying consolidated profit		
Underlying profit \$m ⁽³⁾	528	592
Underlying basic earnings per share	30.0 cents	33.7 cents
Underlying diluted earnings per share	29.9 cents	33.6 cents

⁽¹⁾ The basic earnings per share calculation uses the weighted average number of shares on issue during the period excluding Treasury shares held.

⁽²⁾ The diluted earnings per share calculation uses the weighted average number of shares on issue during the period excluding Treasury shares held and is adjusted to reflect the number of shares which would be issued if outstanding options, performance share rights and deferred shares rights were to be exercised (2019: 4,119,216; 2018: 3,070,046).

⁽³⁾ Refer to note A1 for a reconciliation of statutory profit to underlying consolidated profit.

A7 Dividends

for the half year ended 31 December	2019 \$m	2018 \$m
Final dividend of 15 cents per share, fully franked at 30% , paid 27 September 2019 (2018: Nil final dividend)	264	-

Origin Energy Limited and its Controlled Entities

Notes to the interim financial statements

B Investment in Australia Pacific LNG Pty Ltd

This section provides information on the Group's equity accounted investment in Australia Pacific LNG Pty Ltd (APLNG).

B1 Summary APLNG income statement

for the half year ended 31 December

\$m	2019		2018	
	Total APLNG	Origin interest	Total APLNG	Origin interest
Operating revenue	3,778		3,678	
Operating expenses	(1,024)		(899)	
EBITDA	2,754	1,033	2,779	1,042
Depreciation and amortisation	(922)	(346)	(1,019)	(382)
Interest income	24	9	21	8
Interest expense - MRCPS	(253)	(95)	(307)	(115)
Other interest expense	(240)	(90)	(305)	(114)
Income tax expense	(408)	(152)	(350)	(132)
ITDA	(1,799)	(674)	(1,960)	(735)
Statutory result for the period	955	359	819	307
Other comprehensive income	-	-	-	-
Statutory total comprehensive income⁽¹⁾	955	359	819	307
Items excluded from segment result (net of tax)	-	-	-	-
Underlying profit for the period⁽²⁾	955	359	819	307
Underlying EBITDA for the period⁽²⁾	2,754	1,033	2,779	1,042

⁽¹⁾ Excluded from the above is \$2 million (2018: \$2 million) (Origin share) relating to an MRCPS depreciation elimination for amounts that have already been reflected in Origin's income statement in prior years. This adjustment is disclosed under the 'Integrated Gas-Other' segment on the 'share of ITDA of equity accounted investees' line in note A1. Taking this amount into account results in a total 'results of equity accounted investees' amount of \$361 million (2018: \$309 million) as detailed in the interim income statement.

⁽²⁾ Underlying profit and underlying EBITDA are non-statutory (non-IFRS) measures.

Income and expense amounts are converted from USD to AUD using the average rate prevailing for the relevant period.

Origin Energy Limited and its Controlled Entities
Notes to the interim financial statements

B2 Summary APLNG statement of financial position

100% APLNG as at \$m	31 December 2019	30 June 2019
Cash and cash equivalents	1,466	1,610
Assets classified as held for sale	5	5
Other assets	864	644
Current assets	2,335	2,259
Receivables from shareholders	370	375
Property, plant and equipment (PP&E) ⁽¹⁾	35,511	35,971
Exploration, evaluation and development assets	572	326
Other assets	1,231	1,641
Non-current assets	37,684	38,313
Total assets	40,019	40,572
Bank loans - secured	689	673
Payable to shareholders (MRCPS)	229	91
Other liabilities ⁽²⁾	794	761
Current liabilities	1,712	1,525
Bank loans - secured	8,765	9,084
Payable to shareholders (MRCPS)	6,855	8,078
Other liabilities ⁽³⁾	2,788	2,946
Non-current liabilities	18,408	20,108
Total liabilities	20,120	21,633
Net assets	19,899	18,939
Group's interest of 37.5 per cent of APLNG net assets	7,463	7,103
Group's own costs	25	25
MRCPS elimination ⁽⁴⁾	(165)	(168)
Investment in APLNG⁽⁵⁾⁽⁶⁾	7,323	6,960

(1) Includes \$477 million of right-of-use assets in the current period as a result of the adoption of AASB16 *Leases*.

(2) Includes \$70 million of lease liabilities in the current period as a result of the adoption of AASB16 *Leases*.

(3) Includes \$237 million of lease liabilities in the current period as a result of the adoption of AASB16 *Leases*.

(4) During project construction, when the Group received interest on the MRCPS from APLNG, it recorded the interest as income after eliminating a proportion of this interest which related to its ownership interest in APLNG. At the same time, when APLNG paid interest to the Group on MRCPS, the amount was capitalised by APLNG. Therefore, these capitalised interest amounts form part of the cost of APLNG's assets and these assets have been depreciated since commencement of operations. The proportion attributable to the Group's own interest (37.5 per cent) is eliminated through the equity accounted investment balance as this has previously been recorded in the Group's income statement.

(5) Includes a movement of \$2 million in foreign exchange that has been recognised in the foreign currency translation reserve.

(6) Investments accounted for using the equity method, disclosed in the interim statement of financial position in the current period, comprise the APLNG investment of \$7,323 million as well as \$1 million relating to an investment in PNG Energy Developments Limited (refer note D1).

Reporting date balances are converted from USD to AUD using an end of period exchange rate of 0.7002 (30 June 2019: 0.7012).

Origin Energy Limited and its Controlled Entities
Notes to the interim financial statements

B3 Summary APLNG statement of cash flows

100% APLNG for the half year ended 31 December \$m	2019	2018
Cash flow from operating activities		
Receipts from customers	3,682	3,596
Payments to suppliers and employees	(1,128)	(1,062)
Net cash from operating activities	2,554	2,534
Cash flows from investing activities		
Loans repaid by other shareholders	6	-
Acquisition of non-current assets	(245)	-
Acquisition of PP&E	(493)	(626)
Acquisition of exploration and development assets	(21)	(48)
Other investing activities	22	21
Net cash used in investing activities	(731)	(653)
Cash flows from financing activities		
Payments relating to other financing activities	(23)	(50)
Repayment of lease principal	(38)	-
Payment of interest on lease liabilities	(9)	-
Proceeds from borrowings	-	1,929
Repayment of borrowings	(340)	(2,386)
Payments of transaction and interest costs relating to borrowings	(192)	(261)
Payments for buy-back of MRCPS	(1,128)	(737)
Payments of interest on MRCPS	(258)	(313)
Net cash used in financing activities	(1,988)	(1,818)
Net (decrease)/increase in cash and cash equivalents	(165)	63
Cash and cash equivalents at the beginning of the period	1,610	1,223
Effect of exchange rate changes on cash	21	80
Cash and cash equivalents at the end of the period	1,466	1,366

Cash flow amounts are converted from USD to AUD using the exchange rate that approximates the actual rate on the date of the cash flows.

B4 Transactions between the Group and APLNG

In September 2016, APLNG made a loan to Origin of US\$96 million. A further US\$60 million was loaned by APLNG to Origin in September 2017, bringing the total loan amount to US\$156 million, equivalent to A\$221 million. In the year ended 30 June 2019, the loan reduced to US\$134 million, equivalent to A\$191 million, following a repayment of the Debt Service Reserve Account loan. The balance as at 31 December has not changed significantly since the prior period. This is shown as a current payable to joint ventures in the interim statement of financial position of the Group. This loan is in accordance with the terms of the APLNG project facility, which allows APLNG to make a loan to a shareholder if the shareholder provides the project financiers with a letter of credit for the amount of the loan.

Origin Energy Limited and its Controlled Entities

Notes to the interim financial statements

C Funding, financial instruments and contributed equity

C1 Capital management

The Group's objectives when managing capital are to make disciplined capital allocation decisions between debt reduction, investment in growth and distributions to shareholders and maintain an optimal structure that minimises the cost of capital. A strong investment grade credit rating (BBB/Baa2) and an appropriate level of net debt are required to meet these objectives. The Group's current credit rating is BBB (stable outlook) from S&P, and Baa2 (stable outlook) from Moody's.

Key factors considered in determining the Group's capital structure and funding strategy at any point in time include expected operating cash flows, capital expenditure plans, maturity profile of existing debt facilities, dividend policy and the ability to access funding from banks, capital markets and other sources.

The Group monitors its capital requirements through a number of metrics including the gearing ratio (target range of approximately 20% - 30%) and an adjusted net debt to adjusted underlying EBITDA ratio (target range of 2.0x - 3.0x). These targets are consistent with attaining a strong investment grade rating. Underlying EBITDA is a non-statutory (non-IFRS) measure.

The gearing ratio is calculated as adjusted net debt divided by (adjusted net debt plus total equity). Net debt, which excludes cash held by Origin to fund APLNG related operations, is adjusted to take into account the effect of FX hedging transactions on the Group's foreign currency debt obligations. The adjusted net debt to adjusted underlying EBITDA ratio is calculated as adjusted net debt divided by adjusted underlying EBITDA (i.e. Origin underlying EBITDA less Origin's share of APLNG underlying EBITDA plus net cash flow from APLNG) over the relevant rolling 12 month period.

The Group monitors its current and future funding requirements for at least the next five years and regularly assesses a range of funding alternatives to meet these requirements in advance of when the funds are required.

	31 December 2019 \$m	30 June 2019 \$m
Borrowings	6,365	7,590
Lease liabilities	540	6
Total interest-bearing liabilities	6,905	7,596
Less: Cash and cash equivalents excluding APLNG related cash ⁽¹⁾	(819)	(1,512)
Net debt	6,086	6,084
Fair value adjustments on FX hedging transactions	(471)	(667)
Adjusted net debt	5,615	5,417
Total equity	13,733	13,149
Total capital	19,348	18,566
Gearing ratio ⁽²⁾	29%	29%
Ratio of adjusted net debt to adjusted underlying EBITDA ⁽²⁾	2.7x	2.6x

⁽¹⁾ This balance excludes \$13 million (June 2019: \$34 million) of cash held by Origin, as Upstream Operator, to fund APLNG related operations.

⁽²⁾ Excluding the impact of AASB16 *Leases* the gearing ratio would be 27% and the ratio of adjusted net debt to adjusted underlying EBITDA would be 2.5x in the current period.

Origin Energy Limited and its Controlled Entities

Notes to the interim financial statements

C1 Capital management (continued)

The Group has undertaken a number of capital management activities during the half year ended 31 December 2019. These activities have been aimed at strengthening the capital profile by:

- Re-financing existing capital market borrowings to extend the weighted average tenor of the Group's debt portfolio; and
- Reducing/cancelling surplus committed undrawn syndicated bank loan facilities.

A summary of these transactions is shown below.

Debt refinancing

16 September 2019 - repaid the €1 billion hybrid Capital Securities at the first call date. The instrument had a swap value of A\$1,391 million.

17 September 2019 - issued a €600 million 10-year note under the EMTN programme. These notes were swapped to A\$973 million.

11 October 2019 - repaid the €500 million 7-year note under the EMTN programme. The notes had been swapped to US\$646 million (A\$939 million).

11 November 2019 - issued an A\$300 million 8-year note under the EMTN programme.

Bank loan and guarantee facilities

8 November 2019 - re-negotiated the existing A\$500 million Bank Guarantee Facility and Reimbursement Agreement to new 3-year A\$375 million and 5-year A\$125 million facilities. The re-negotiation also resulted in lower commitment and usage fees.

20 November 2019 - cancelled A\$150 million and US\$385 million of undrawn syndicated debt facilities.

Origin Energy Limited and its Controlled Entities
Notes to the interim financial statements

C2 Other financial assets and liabilities

as at	31 December 2019		30 June 2019	
\$m	Current	Non-current	Current	Non-current
Other financial assets				
<i>Measured at fair value through profit or loss</i>				
MRCPS issued by APLNG	86	2,576	34	3,011
Settlement Residue Distribution Agreement units	36	35	24	30
Environmental scheme certificates	337	-	244	-
Investment fund units	-	59	-	57
Debt securities	-	7	-	2
<i>Measured at fair value through other comprehensive income</i>				
Equity securities	-	53	-	52
<i>Measured at amortised cost</i>				
Futures collateral	52	-	16	-
	511	2,730	318	3,152
Other financial liabilities				
<i>Measured at fair value through profit or loss</i>				
Environmental scheme surrender obligations	349	-	241	-
<i>Measured at amortised cost</i>				
Futures collateral	1	-	67	-
	350	-	308	-

Origin Energy Limited and its Controlled Entities

Notes to the interim financial statements

C3 Fair value of financial assets and liabilities

Financial assets and liabilities measured at fair value are grouped into the following categories based on the level of observable market data used in determining that fair value:

- Level 1: The fair value of financial instruments traded in active markets (such as exchange traded derivatives and renewable energy certificates) is the quoted market price at the end of the reporting period. These instruments are included in level 1.
- Level 2: The fair value of financial instruments that are not traded in an active market (such as over-the-counter derivatives) is determined using valuation techniques which maximise the use of observable market data. If all significant inputs required to fair value an instrument are observable, either directly (as prices) or indirectly (derived from prices), the instrument is included in level 2.
- Level 3: If one or more of the significant inputs required to fair value an instrument is not based on observable market data, the instrument is included in level 3.

	Level 1 \$m	Level 2 \$m	Level 3 \$m	Total \$m
as at 31 December 2019				
Derivative financial assets	76	749	95	920
Other financial assets at fair value	408	59	2,722	3,189
Financial assets carried at fair value	484	808	2,817	4,109
Derivative financial liabilities	(55)	(645)	(78)	(778)
Other financial liabilities at fair value	(349)	-	-	(349)
Financial liabilities carried at fair value	(404)	(645)	(78)	(1,127)
as at 30 June 2019				
Derivative financial assets	131	1,088	215	1,434
Other financial assets at fair value	298	57	3,099	3,454
Financial assets carried at fair value	429	1,145	3,314	4,888
Derivative financial liabilities	(30)	(763)	(710)	(1,503)
Other financial liabilities at fair value	(241)	-	-	(241)
Financial liabilities carried at fair value	(271)	(763)	(710)	(1,744)

The following table shows a reconciliation of movements in the fair value of level 3 instruments during the period.

	\$m
Balance as at 1 July 2019	2,604
Instruments de-recognised in the period (refer note E3)	512
New instruments recognised in the period	5
Net cash settlements paid/(received)	(456)
Gains/(losses) recognised in profit or loss:	
- Change in fair value	34
- Cost of sales	(57)
- Interest income	97
Balance as at 31 December 2019	2,739

Origin Energy Limited and its Controlled Entities

Notes to the interim financial statements

C3 Fair value of financial assets and liabilities (continued)

Valuation techniques used to determine fair values

The various techniques used to value the Group's financial instruments are summarised in the following table. To the maximum extent possible, valuations are based on assumptions which are supported by independent and observable market data. For instruments that settle greater than 12 months from reporting date, cash flows are discounted at the applicable market yield adjusted to reflect the credit risk of the specific counterparty.

Instrument	Fair value methodology
Financial instruments traded in active markets	Quoted market prices at reporting date.
Interest rate swaps and cross currency interest rate swaps	Present value of expected future cash flows based on observable yield curves and forward exchange rates at reporting date.
Forward foreign exchange contracts	Present value of future cash flows based on observable forward exchange rates at reporting date.
Electricity, oil and other commodity derivatives (not traded in active markets)	Present value of expected future cash flows based on observable forward commodity price curves (where available). The majority of the Group's level 3 instruments are commodity contracts for which further detail on the significant unobservable inputs is included below.
Other financial instruments	Discounted cash flow analysis.
Long-term borrowings	Present value of future contract cash flows.

Fair value measurements using significant unobservable inputs (Level 3):

The following is a summary of the Group's level 3 financial instruments, the significant inputs for which market observable data is unavailable, and the sensitivity of the estimated fair values to the assumptions applied by management.

Instrument ⁽¹⁾	Unobservable inputs	Relationship to fair value
Electricity derivatives	<ul style="list-style-type: none"> • Forward electricity spot market price curve • Forward electricity cap price curve • Forecast renewable energy certificate prices • Contract volumes • Generation operating costs 	A 10 per cent increase/decrease in the unobservable inputs would increase/decrease fair value by \$74 million (June 2019: \$299 million).
Oil derivatives	<ul style="list-style-type: none"> • Forward Japanese Customs-cleared Crude (JCC) price curve 	A 10 per cent increase/decrease in the JCC price would decrease/increase fair value by \$1 million (June 2019: \$15 million).
MRCPS issued by APLNG	<ul style="list-style-type: none"> • Forecast Australia Pacific LNG free cash flows 	A 10 per cent increase/decrease in APLNG forecast cash flows would impact fair value by \$2/(\$3) million.

⁽¹⁾ Excludes \$53 million of unlisted equity securities for which management have assessed the investment cost to be a reasonable reflection of fair value at reporting date.

Origin Energy Limited and its Controlled Entities

Notes to the interim financial statements

C3 Fair value of financial assets and liabilities (continued)

For certain complex financial instruments, such as the structured electricity products and PPAs, the fair value that is determined at inception of the contract using unobservable inputs does not equal the transaction price. When this occurs, the difference is deferred to the statement of financial position and recognised in the income statement over the life of the contract in a manner consistent with the valuation methodology initially applied.

	31 December 2019 \$m
Reconciliation of net deferred gain	
Balance as at 1 July 2019	573
Value recognised in the interim income statement	(19)
Derivatives derecognised in the period ⁽¹⁾	(489)
New instruments	75
Balance as at 31 December 2019	140

⁽¹⁾ Related to the Power Purchase Arrangements deemed to be leases on adoption of AASB 16 *Leases*.

Location of net deferred gain	
Derivative assets	124
Derivative liabilities	16
Balance as at 31 December 2019	140

Financial instruments measured at amortised cost

Except as noted below, the carrying amounts of financial assets and liabilities measured at amortised cost are reasonable approximations of their fair values due to their short-term nature.

		Carrying value		Fair value	
	Fair value hierarchy level	31 Dec 2019 \$m	30 Jun 2019 \$m	31 Dec 2019 \$m	30 Jun 2019 \$m
Liabilities					
Bank loans - unsecured	2	532	525	560	559
Capital markets borrowings - unsecured	2	4,393	6,117	4,583	6,392
Total⁽¹⁾		4,925	6,642	5,143	6,951

⁽¹⁾ Non-current interest-bearing liabilities in the interim statement of financial position include \$4,925 million (June 2019: \$6,642 million) as disclosed above, and lease liabilities of \$464 million (June 2019: \$6 million).

The fair value of these financial instruments reflect the present value of expected future cash flows based on market pricing data for the relevant underlying interest and foreign exchange rates. Cash flows are discounted at the applicable credit adjusted market yield.

Origin Energy Limited and its Controlled Entities
Notes to the interim financial statements

C4 Contributed equity

for the half year ended 31 December	2019 Number of shares		2018	2019 \$m	2018
Ordinary share capital					
Opening balance ⁽¹⁾	1,761,211,071	1,759,156,516		7,163	7,150
Shares issued in accordance with Incentive Plans	-	285,259		-	-
	1,761,211,071	1,759,441,775		7,163	7,150
Less Treasury shares:					
Opening balance ⁽¹⁾	(4,809,617)	-		(38)	-
Shares purchased on-market	(3,642,834)	(5,157,586)		(28)	(42)
Utilisation of treasury shares on vesting of employee share schemes and DRP	8,369,771	4,614,860		66	38
	(82,680)	(542,726)		-	(4)
Closing balance	1,761,128,391	1,758,899,049		7,163	7,146

⁽¹⁾ The sum of the opening balances of share capital and treasury shares is \$7,125 million as noted in the interim statement of changes in equity.

Ordinary shares

Holders of ordinary shares are entitled to receive dividends as determined from time to time and are entitled to one vote per share at shareholders' meetings. In the event of the winding up of the Group, ordinary shareholders rank after creditors, and are fully entitled to any proceeds of liquidation.

The Group does not have authorised capital or par value in respect of its issued shares.

Treasury shares

Where the Group or other members of the Group purchase shares in the Company, the consideration paid is deducted from the total shareholders' equity and the shares are treated as treasury shares until they are subsequently sold, reissued or cancelled. Treasury shares are purchased primarily for use on vesting of employee share schemes. Shares are accounted for at a weighted average cost.

Origin Energy Limited and its Controlled Entities

Notes to the interim financial statements

D Group structure

The following section provides information on the Group's structure and how this impacts the results of the Group as a whole, including details of joint arrangements and changes made to the Group structure during the half year.

D1 Joint arrangements

Joint arrangements are those entities over whose activities the Group has joint control, established by contractual agreement and require consent of two or more parties for strategic, financial and operating decisions. The Group classifies its interests in joint arrangements as either joint operations or joint ventures depending on its rights to the assets and obligations for the liabilities of the arrangements.

Interests in joint ventures

Interests in joint ventures are initially recognised at cost and are subsequently adjusted for changes in the Group's share of the joint venture's net assets.

Joint venture entity	Reporting date	Country of incorporation	Ownership interest (%)	
			31 December 2019	30 June 2019
Australia Pacific LNG Pty Ltd ⁽¹⁾	30 June	Australia	37.5	37.5
KUBU Energy Resources (Pty) Limited	30 June	Botswana	50.0	50.0
PNG Energy Developments Limited ⁽²⁾	31 December	PNG	50.0	50.0

⁽¹⁾ Australia Pacific LNG Pty Ltd (APLNG) is a separate legal entity. Operating, management and funding decisions require the unanimous support of the Foundation Shareholders, which includes the Group and ConocoPhillips. Accordingly, joint control exists and the Group has classified the investment in APLNG as a joint venture.

⁽²⁾ Refer to note A1 for the investment amount.

Of the above joint arrangements, only APLNG has a material impact to the Group.

Origin Energy Limited and its Controlled Entities

Notes to the interim financial statements

D2 Changes in controlled entities

for the half year ended 31 December

2019

There were no significant business combinations during the period.

Changes in controlled entities

Origin Energy ATP 788P Pty Limited was sold on 5 August 2019.⁽¹⁾

Origin Energy Geothermal Singapore Pte Limited was deregistered on 27 August 2019.

Origin Foundation Limited changed its name to Origin Energy Foundation Ltd on 23 September 2019 .

Pleiades S.A. was sold on 25 September 2019.

Wind Power Management Pty Ltd was deregistered on 26 November 2019.

Tuki Wind Farm Pty Ltd was deregistered on 26 November 2019.

Dundas Tablelands Wind Farm Pty Ltd was deregistered on 26 November 2019.

⁽¹⁾ On 5 August 2019 Origin sold its Ironbark asset to APLNG for \$231 million. Net nil profit or loss was realised in the period ending 31 December 2019.

Origin Energy Limited and its Controlled Entities

Notes to the interim financial statements

E Other information

This section includes other information to assist in understanding the financial performance and position of the Group, or items required to be disclosed to comply with accounting standards and other pronouncements.

E1 Contingent liabilities

There has been no significant change in contingent liabilities since 30 June 2019.

E2 Commitments

Detailed below are the Group's contractual commitments that are not recognised as liabilities as there is no present obligation.

	31 December 2019 \$m	30 June 2019 \$m
as at		
Capital expenditure commitments	104	63
Joint venture commitments ⁽¹⁾	327	459

⁽¹⁾ Includes \$289 million in relation to the Group's share of Australia Pacific LNG's capital and joint venture commitments. (June 2019: \$386 million in relation to the Group's share of Australia Pacific LNG's capital, joint venture and operating lease commitments.)

Origin Energy Limited and its Controlled Entities

Notes to the interim financial statements

E3 Adoption of AASB 16 *Leases*

AASB 16 *Leases* became effective for the Group on 1 July 2019 and requires lessees to account for all leases under a single on-balance sheet model. The Group's operating lease portfolio is predominantly comprised of commercial offices, LPG terminals, power generating assets and fleet vehicles.

Transition

The Group adopted AASB 16 using the modified retrospective approach. Under this approach, the cumulative effect of adopting the new standard was recognised as an adjustment to the opening balance of retained earnings on 1 July 2019. No restatement of comparative information is required. The Group has taken advantage of recognition exemptions for leases that are less than 12 months and leases for which the underlying asset is of low value.

The lease liabilities recognised on transition were measured at the present value of the remaining lease payments, discounted using the Group's incremental borrowing rate at 1 July 2019. The associated right-of-use (ROU) assets for major commercial offices and certain LPG terminals were measured on a retrospective basis as if the new rules had always applied. The remaining ROU assets were measured at an amount equal to the lease liability, adjusted by the amount of any prepaid or accrued lease payments as at 30 June 2019.

The Group has applied the following practical expedients on transition to AASB 16:

- Use of a single discount rate for a portfolio of leases with reasonably similar characteristics;
- Reliance on previous onerous lease assessments. The initial ROU asset has been adjusted by the provision for onerous leases recognised in the statement of financial position at 30 June 2019;
- Exclusion of leases with a remaining lease term of less than 12 months from 1 July 2019;
- Exclusion of initial direct costs from measurement of the ROU asset; and
- Use of hindsight when determining the lease term for contracts containing optional periods.

Origin Energy Limited and its Controlled Entities

Notes to the interim financial statements

E3 Adoption of AASB 16 *Leases* (continued)

Transition impact at 1 July 2019

The impact on the Group's statement of financial position at 1 July 2019 is summarised below.

As at 1 July 2019

	\$m Debit/(credit)
Property, plant and equipment	(75)
Right-of-use assets	445
Derivative assets ⁽¹⁾	(128)
Deferred tax assets	(149)
Other assets	(6)
Lease liabilities	(478)
Derivative liabilities ⁽¹⁾	640
Provisions	100
Retained earnings (net of tax)	(349)

⁽¹⁾ Derivative assets and liabilities relate to Power Purchase Arrangements deemed to be leases on adoption of AASB 16.

A reconciliation of the Group's undiscounted operating lease commitments at 30 June 2019 to lease liabilities recognised on transition at 1 July 2019 has been set out below.

As at 1 July 2019

	\$m
Operating lease commitments disclosed at 30 June 2019	543
<i>Adjusted for:</i>	
Discounting at the date of initial application using the Group's incremental borrowing rates	(113)
Different treatment of extension options	49
Finance lease liabilities on statement of financial position at 30 June 2019	7
Other	(1)
Lease liability recognised as at 1 July 2019	485

The Group's weighted average incremental borrowing rate applied on 1 July 2019 was 3.1%.

Impact for the period to 31 December 2019

As a result of initially applying AASB 16, the Group has recognised \$496 million of right-of-use assets and \$540 million of lease liabilities as at 31 December 2019. Right-of-use assets and lease liabilities are classified as property, plant and equipment and interest-bearing liabilities in the interim statement of financial position respectively.

The Group has also recognised \$41 million of depreciation charges and \$9 million of interest costs from these leases instead of operating lease expense. For purposes of presentation in the interim statement of cash flows within financing activities, the lease payments are separated into principal repayments of \$35 million and interest payments of \$7 million.

Key judgements and estimates

Lease term: Where lease arrangements contain options to extend the term or terminate the contract, the Group assesses whether it is 'reasonably certain' that the option to extend or terminate will be exercised. Consideration is given to all facts and circumstances that create an economic incentive to extend or terminate the contract. Lease liabilities and ROU assets are measured using the reasonably certain contract term.

Origin Energy Limited and its Controlled Entities

Notes to the interim financial statements

E4 Subsequent events

Other than the matters described below, no item, transaction or event of a material nature has arisen since 31 December 2019 that would significantly affect the operations of the Group, the results of those operations, or the state of affairs of the Group, in future financial periods.

On 20 February 2020 the directors declared an interim dividend of 15 cents per share on ordinary shares. The dividend will be paid on 27 March 2020.

Directors' Declaration

In the opinion of the directors of Origin Energy Limited (the Company):

- (a) the interim financial statements and notes are in accordance with the Corporations Act 2001 (Cth), including:
 - (i) giving a true and fair view of the financial position of the Group as at 31 December 2019 and of its performance, for the half year ended on that date; and
 - (ii) complying with Australian Accounting Standard AASB 134 Interim Financial Reporting and other applicable accounting standards and the Corporations Regulations 2001 (Cth); and
- (b) there are reasonable grounds to believe that the Company will be able to pay its debts as and when they become due and payable.

Signed in accordance with a resolution of the directors:



Gordon Cairns, Chairman

Director

Sydney, 20 February 2020

Independent Auditor's Review Report to the Members of Origin Energy Limited

Report on the Half-Year Financial Report

Conclusion

We have reviewed the accompanying half-year financial report of Origin Energy Limited (the Company) and its subsidiaries (collectively the Group), which comprises the interim statement of financial position as at 31 December 2019, interim statement of comprehensive income, interim statement of changes in equity and interim statement of cash flows for the half-year ended on that date, notes comprising a summary of significant accounting policies and other explanatory information, and the directors' declaration.

Based on our review, which is not an audit, nothing has come to our attention that causes us to believe that the half-year financial report of the Group is not in accordance with the *Corporations Act 2001*, including:

- a) giving a true and fair view of the consolidated financial position of the Group as at 31 December 2019 and of its consolidated financial performance for the half-year ended on that date; and
- b) complying with Accounting Standard AASB 134 *Interim Financial Reporting* and the *Corporations Regulations 2001*.

Directors' Responsibility for the Half-Year Financial Report

The directors of the Company are responsible for the preparation of the half-year financial report that gives a true and fair view in accordance with Australian Accounting Standards and the *Corporations Act 2001* and for such internal control as the directors determine is necessary to enable the preparation of the half-year financial report that is free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express a conclusion on the half-year financial report based on our review. We conducted our review in accordance with Auditing Standard on Review Engagements ASRE 2410 *Review of a Financial Report Performed by the Independent Auditor of the Entity*, in order to state whether, on the basis of the procedures described, anything has come to our attention that causes us to believe that the half-year financial report is not in accordance with the *Corporations Act 2001* including: giving a true and fair view of the Group's consolidated financial position as at 31 December 2019 and its consolidated financial performance for the half-year ended on that date; and complying with Accounting Standard AASB 134 *Interim Financial Reporting* and the *Corporations Regulations 2001*. As the auditor of the Group, ASRE 2410 requires that we comply with the ethical requirements relevant to the audit of the annual financial report.

A review of a half-year financial report consists of making enquiries, primarily of persons responsible for financial and accounting matters, and applying analytical and other review procedures. A review is substantially less in scope than an audit conducted in accordance with Australian Auditing Standards and consequently does not enable us to obtain assurance that we would become aware of all significant matters that might be identified in an audit. Accordingly, we do not express an audit opinion.



Independence

In conducting our review, we have complied with the independence requirements of the *Corporations Act 2001*.

Ernst & Young

Ernst & Young

APR

Andrew Price
Partner
Sydney
20 February 2020

DIRECTORS' REPORT

31 December 2019

(including a message from the Chairman & CEO and the Operating Financial Review)



A message from Gordon and Frank

“Customers want energy that is affordable, sustainable, smarter and easier; it’s up to us to meet that expectation.”

Performance

The robust operational performance of our business continued to generate good cash flow in the first half.

In Integrated Gas, we reported record production and an increase in profit on the back of the continued operational strength of Australia Pacific LNG.

As expected, we saw margin pressure in Energy Markets with the impact of retail price re-regulation, as well as reduced volumes reflecting lower usage and movements in customer numbers. We are making good progress simplifying our retail business, enhancing the customer experience and improving profitability.

Supporting our customers

We’ve taken action to make energy more affordable for customers, voluntarily extending the Default Market Offer and Victorian Default Offer beyond what is required by regulators. We continue to support vulnerable customers through our hardship program and, in the wake of the recent bushfires, set aside \$4 million for a relief package to help our impacted customers get back on their feet.

Reliable, cleaner energy supply

We had one-off outages at Mortlake and Eraring power stations and given the relatively tight supply in the market, our focus was on ensuring that all our generation units were available for the summer peak so that homes and businesses could continue to enjoy reliable supply.

We continue to grow our supply of contracted renewable energy and are on track to reach our target of 25 per cent of owned and contracted generation capacity from renewables and storage by the end of 2020. We have also improved the flexibility of our gas generation fleet, which is crucial to support increasing renewable generation in the National Electricity Market.

Exploration in the Beetaloo Basin

The Beetaloo exploration project is progressing, with production testing in the Kyalla formation expected to start in mid-2020 and good results obtained to date.

We also expect to commence drilling the Velkerri formation later this year.

Returns to shareholders

We have continued to strengthen our balance sheet, paying down \$1 billion of debt in the last 12 months and our strong free cash flow growth enabled an increase in the dividend. The board determined to pay a 15 cents per share fully franked

interim dividend, up from 10 cps at HY2019.

Giving back to the community

We are proud of the generosity of our people, who have donated more than \$80,000 to bushfire relief and recovery which has been matched by the Origin Energy Foundation, our philanthropic foundation. This is part of more than \$870,000 contributed by Origin to both drought and bushfire causes, in addition to the support for our impacted customers.

Our Origin Energy Foundation celebrates its 10th anniversary this year. Since inception, it has contributed more than \$25 million to causes in education and helping the disadvantaged.

We understand the important role we play in society as a provider of an essential service. We will continue to focus on supplying energy to our customers that is affordable, sustainable, smarter and easier. Thank you for your continued support.

Gordon Cairns
Chairman

Frank Calabria
Chief Executive Officer

Directors' Report for the six months ended 31 December 2019

In accordance with the *Corporations Act 2001*, the Directors of Origin Energy Limited (Company) report on the Company and the consolidated entity Origin Energy Group (Origin), being the Company and its controlled entities, for the half year ended 31 December 2019 ("the period"). The Operating and Financial Review forms part of this Directors' Report.

Directors

The names of the Directors of the Company holding office during the half year ended 31 December 2019 and up until the date of this Report are as follows:

Gordon Cairns (Chairman)
Frank Calabria (Managing Director & Chief Executive Officer)
John Akehurst
Maxine Brenner
Teresa Engelhard
Greg Lalicker
Bruce Morgan
Scott Perkins
Steven Sargent

Review of Operations

A review of the operations and results of operations of Origin during the period is set out in the Operating and Financial Review, which is attached to and forms part of this Directors' report.

Dividend

The Directors have determined to pay an interim fully franked dividend of 15 cents per share which will be paid on 27 March 2020 to shareholders on record on 3 March 2020.

Lead Auditor's Independence Declaration

The lead auditor's independence declaration made under Section 307C of the *Corporations Act 2001* is attached to and forms part of the Directors' Report for the half year ended 31 December 2019.

Rounding

The Company is of a kind referred to in ASIC Corporations (Rounding in Financial/Directors' Reports) Instrument 2016/191 dated 24 March 2016 and in accordance with that class order, amounts in the financial report and Directors' Report have been rounded off to the nearest million dollars unless otherwise stated.

Signed in accordance with a resolution of the Directors:



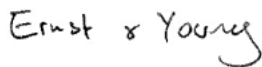
Mr Gordon Cairns
Chairman
Sydney, 20 February 2020

Auditor's Independence Declaration to the Directors of Origin Energy Limited

As lead auditor for the review of the half-year financial report of Origin Energy Limited for the half-year ended 31 December 2019, I declare to the best of my knowledge and belief, there have been:

- a) no contraventions of the auditor independence requirements of the *Corporations Act 2001* in relation to the review; and
- b) no contraventions of any applicable code of professional conduct in relation to the review.

This declaration is in respect of Origin Energy Limited and the entities it controlled during the financial period.



Ernst & Young



Andrew Price
Partner
Sydney
20 February 2020

This report is attached to and forms part of the Directors' Report.

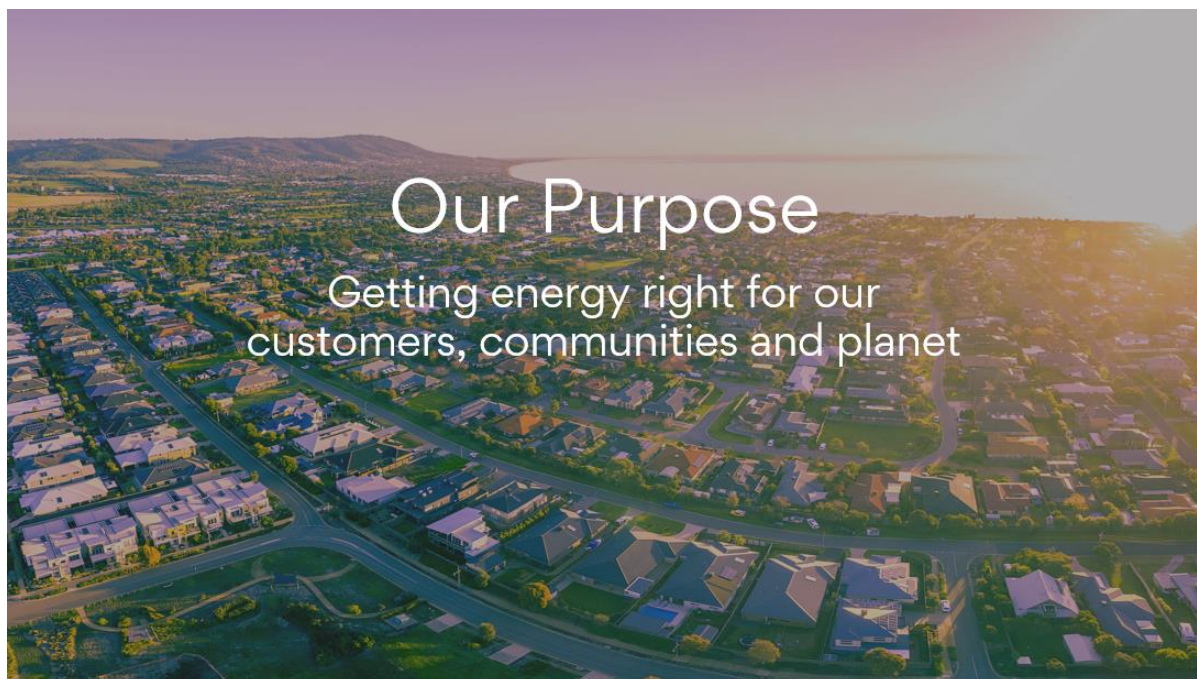
Operating and Financial Review

Half year ended 31 December 2019



Table of Contents

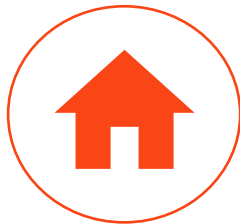
1. About Origin
 2. Highlights
 3. FY2020 guidance
 4. Financial update
 - 4.1 Financial summary
 - 4.2 Accounting changes
 - 4.3 Dividends
 - 4.4 Reconciliation from Statutory to Underlying Profit
 - 4.5 Underlying Profit
 - 4.6 Cash flows
 - 4.7 Capital management
 5. Review of segment operations
 - 5.1 Energy Markets
 - 5.2 Integrated Gas
 6. Important information
- Appendices



1. About Origin

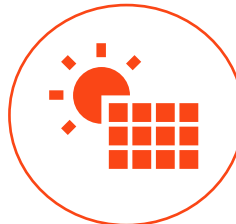
Energy Markets

Leading energy retailer



4.2 million gas, electricity and LPG customer accounts
#1 retailer by customer accounts

Growing renewables and storage supply



Targeting owned and contracted renewable and storage capacity of > 25% by end of 2020

Large and flexible gas supply



Contract length, average cost and transportation flexibility

Significant generation portfolio



~7,500 MW with fuel and geographic diversity

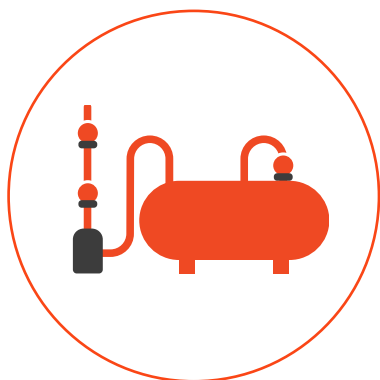
Growth opportunities



- Increase generation flexibility and capacity - brownfield generation and integrated storage
- New revenue streams – community energy services, adjacencies (e.g. Origin Broadband) and solar and storage
- Planning underway for next wave of retail transformation
- Pursuing opportunities in E-Mobility

Integrated Gas

Share of Australia Pacific LNG (37.5%)



Australia's largest CSG reserves base

2P reserves
of 11,920 PJ¹
(APLNG 100%)



Largest LNG facility on the east coast of Australia

9 mtpa
nameplate
capacity



Supplier to domestic and export markets

Supplier of ~30% of
domestic east coast
gas demand in FY2019

~ 8.6 mtpa LNG export
contracts to 2035

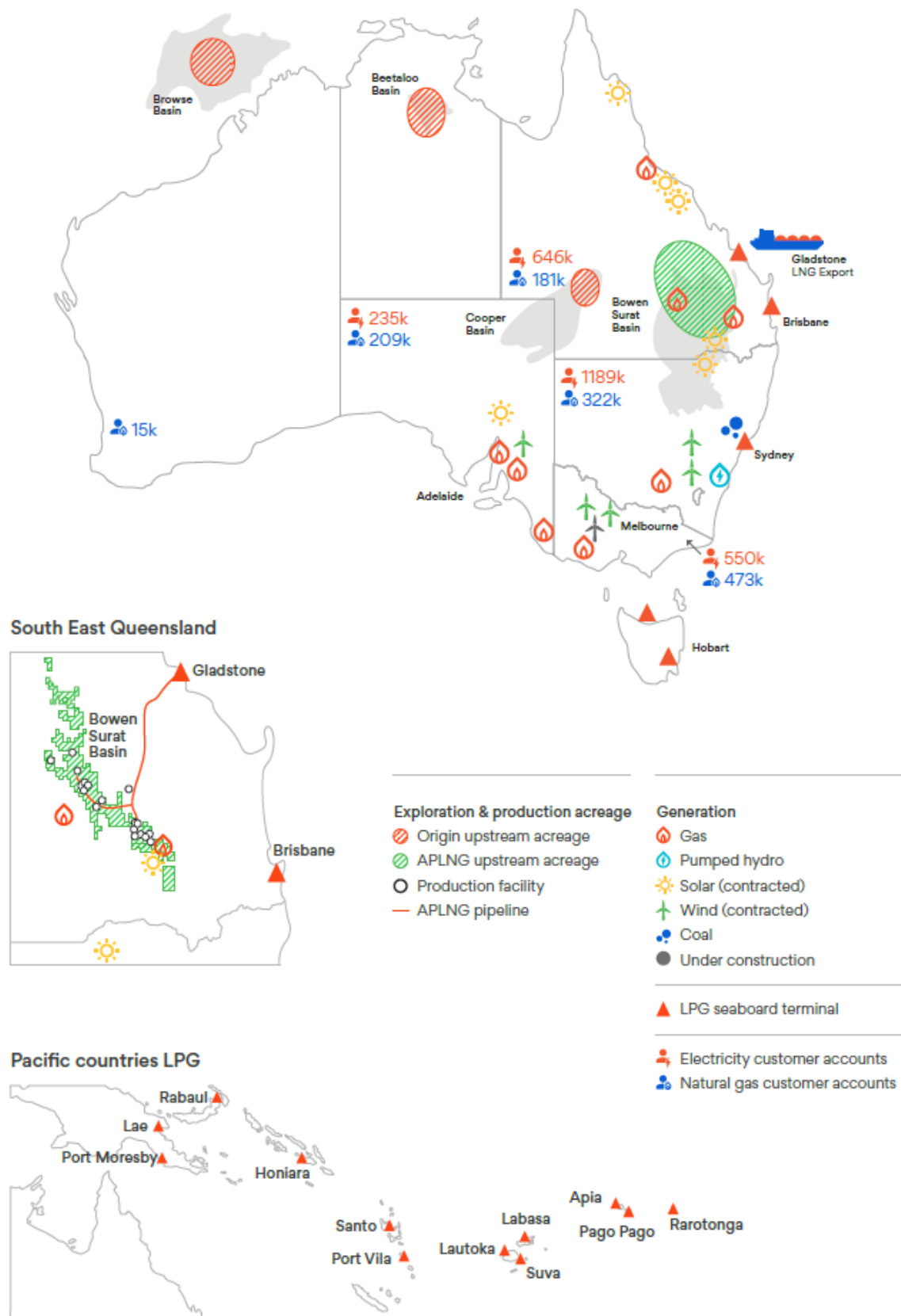
Growth opportunities



- Beetaloo Basin – multi decade opportunity
- APLNG - exploring multiple plays
- Interest in Cooper-Eromanga Basin
- Pursuing opportunities in hydrogen and LNG for transport

¹ At 30 June 2019. For further information refer to Origin's Annual Reserves Report for the year ended 30 June 2019, published on 22 August 2019. Some of APLNG's reserves and resources are subject to reversionary rights and an ongoing royalty interest in favour of Tri-Star. Refer to Appendix 6 for further information.

Where we operate



2. Highlights

Continued strong cash generation

Statutory Profit

\$796M

45.3 cps

HY19

\$599M

34.0 cps

HY20

Down \$197 million on HY2019, including lower net gain on fair value and FX movements

Underlying Profit

\$592M

33.7 cps

HY19

\$528M

30.0 cps

HY20

Down \$64 million on HY2019: introduction of regulated retail electricity prices and generation outages

Free Cash Flow

\$556M

HY19

\$680M

HY20

Up \$124 million on HY2019

Adjusted Net Debt

\$5,417M

Jun-19

\$540M

\$5,075M

Dec-19

■ Lease liabilities

Down \$342 million from June 19, excluding \$540 million lease liability (AASB 16 first recognition)

Underlying ROCE (rolling 12 months)

8.6%

Dec-18

8.3%

Dec-19

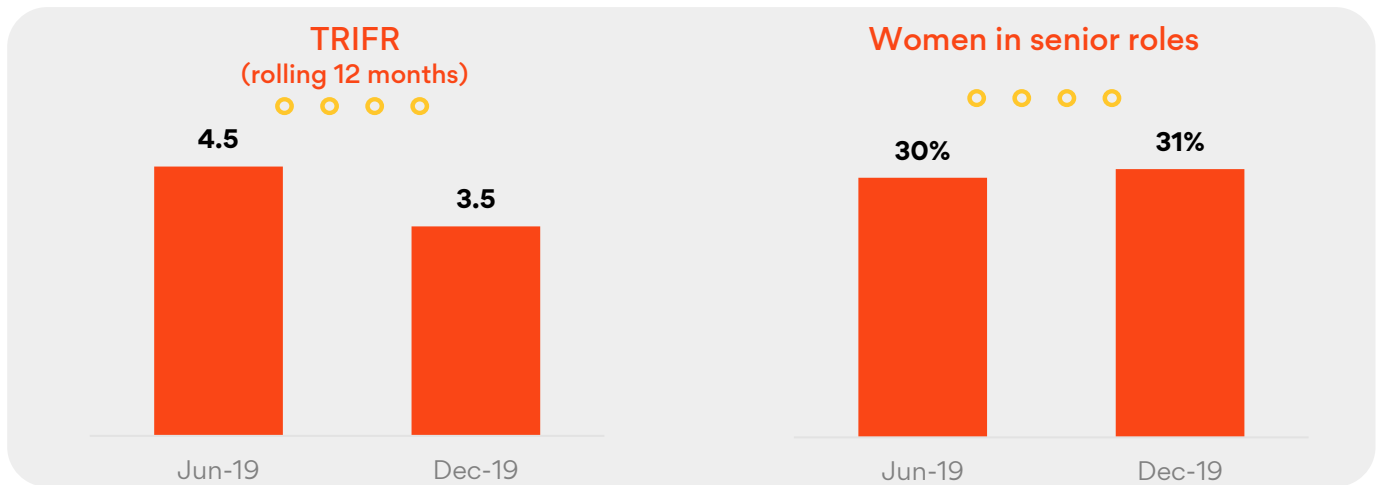
Down 0.3% on December 2018

Interim Dividend

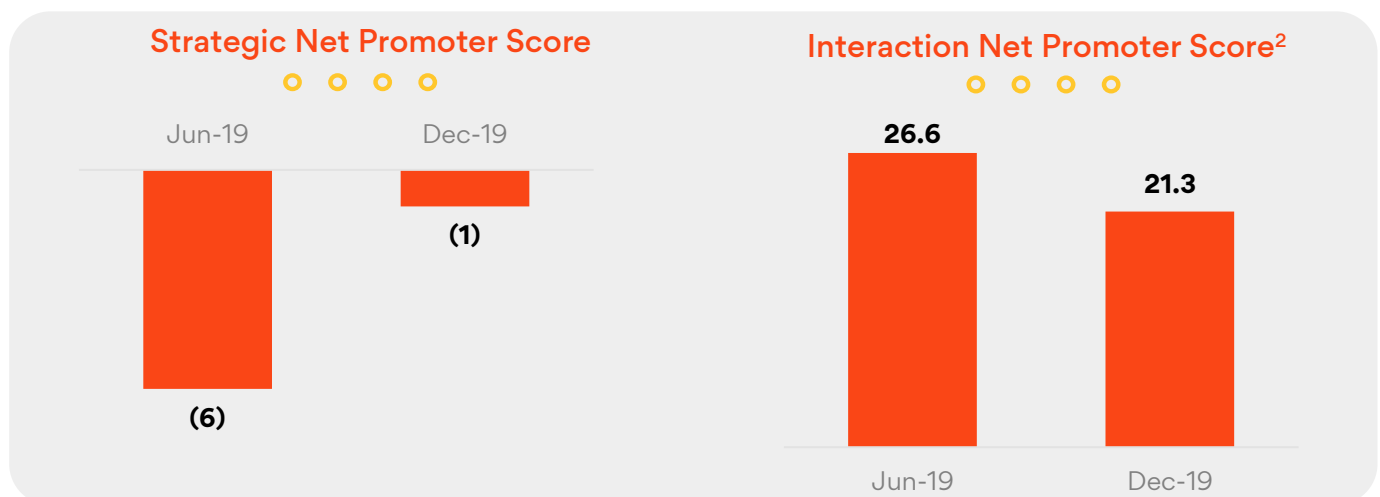
15 cps
Fully franked

Up from 10 cps in HY2019
39% of Free Cash Flow

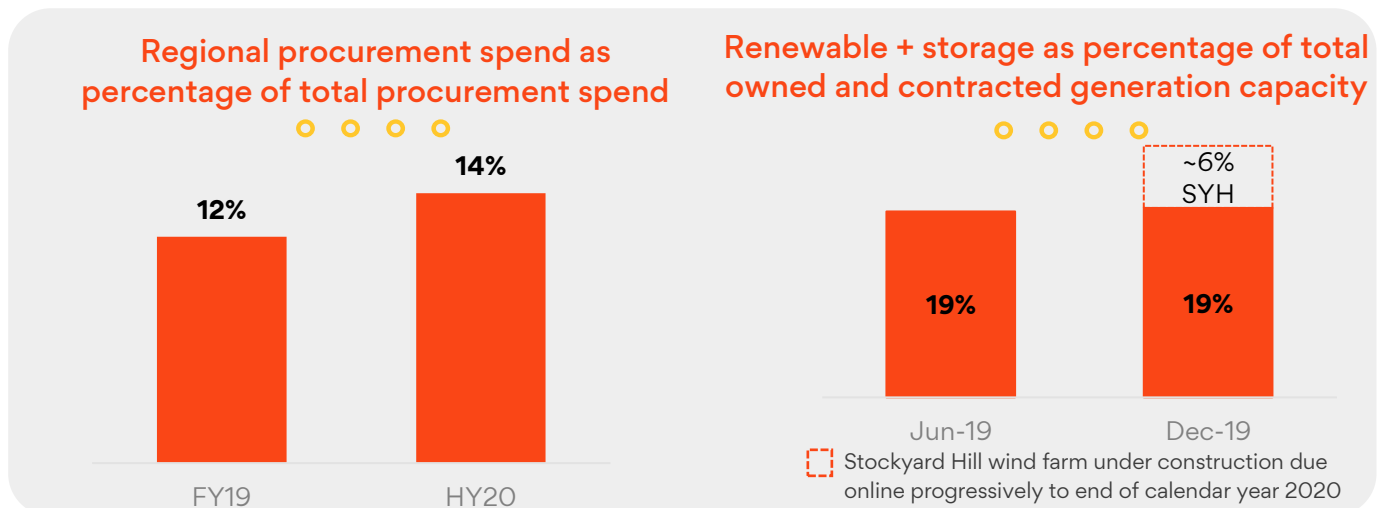
Committed to safety and diversity



Getting energy right for our customers



Caring about our impact



² Interaction Net Promoter Score incorporates both LiveChat and voice interactions.

Energy Markets performance

Underlying EBITDA

\$723M

Down \$129m or 15% vs HY2019



Cost to serve

\$267M

Down \$40m or 13% vs HY2019

Operating cash flow

\$703M

Down \$113m vs HY2019
Cash conversion of 97%



Total gas sales

134 PJ

Down 9% vs HY2019

10.2%

Underlying ROCE

Down 3.2% vs CY2018



Owned and contracted
generation output

11.7 TWh

In line with HY2019

Integrated Gas performance

Underlying EBITDA

\$906M

Up \$6m or 1% vs HY2019,
Underlying EBIT up \$62 million



APLNG production (37.5%)

134 PJ

Up 5% vs HY2019

Net cash from APLNG

\$520M

Up \$127m or 32% vs HY2019



Average realised LNG price

US\$9.5/MMBTU

Down 6% vs HY2019,
but flat in A\$ terms at \$13.2/GJ

8.4%

Underlying ROCE

Up 2.6% vs CY2018



Opex and capex³ / GJ

\$3.5 / GJ

Down 13% vs HY2019

³ Operating cash costs excludes Ironbark acquisition costs and purchases, and reflects royalties paid at the breakeven oil price. Royalties increase as oil price increases.

3. FY2020 guidance

Guidance is provided on the basis that market conditions do not materially change and that the regulatory and political environment do not adversely impact on operations.

		FY19	FY20 previous guidance	FY20 updated guidance
Energy Markets				
Underlying EBITDA	A\$m	1,574	1,400 – 1,500	1,400 – 1,500
Integrated Gas – APLNG 100%				
Production	PJ	679	690 – 710	690 – 710
Capex and opex, excluding purchases ^(a)	A\$m	2,691	2,800 – 3,000	2,500 – 2,700
Unit capex + opex, excl. purchases ^(a)	A\$/GJ	4.0	3.9 – 4.3	3.5 – 3.9
Distribution breakeven ^(b)	US\$/boe	36	31 – 34	29 – 32
Integrated Gas – Other				
Oil/LNG hedging and trading	A\$m	199	84	102 ^(c)
Corporate				
Underlying costs	A\$m	(234) ^(d)	(60 – 70)	(70-80)
Capital expenditure (including investments)	A\$m	(405)	(530 – 580)	(530 – 580)

^(a) Operating cash costs excludes Ironbark acquisition costs and purchases and reflects royalties payable at breakeven oil prices.

^(b) FY20 FX rate: 0.70 AUD/USD, excludes Ironbark acquisition costs

^(c) Based on forward prices as at 29 January 2020

^(d) FY2019 includes \$170 million relating to a non-cash provision increase in legacy site remediation

Energy Markets

FY2020 Underlying EBITDA is expected to be lower than FY2019 at **\$1,400 - \$1,500 million (unchanged)** reflecting:

- \$200- \$230 reduction in electricity gross profit, with the full year impact of the DMO/VDO (\$100 million), lower usage and customer numbers, lower green scheme prices flowing into Business tariffs, and increased generation operating costs associated with the Eraring ash dam. Second half performance is expected to improve relative to the first half reflecting outages not repeating and Mortlake cost recovery via insurance.
- Natural gas gross profit remaining relatively stable;
- \$40 - \$50 million savings in cost to serve reflecting ongoing transformation efforts; and
- \$50 - \$60 million benefit due to adoption of AASB 16 Leases, offset within D&A and financing costs.

Integrated Gas

We are targeting APLNG (100%) FY2020 production at **the upper end of 690 – 710 PJ range:**

- Improved operated and non-operated field and facility performance, including less upstream maintenance and improved processing infrastructure utilisation

We estimate total cash costs of **\$2.5 - \$2.7 billion⁴**, lower than previous guidance of \$2.8 - \$3.0 billion reflecting:

- Improved field performance resulting in lower costs as scope and schedules are optimised, including the decision to defer or not participate in less economic well packages while still meeting our production targets;
- Lower well workover spend due to better field recovery post planned maintenance; and
- \$50 million benefit of a claim settlement in respect of initial project construction work.

We estimate a **FY2020 total cash distribution to Origin of \$1.1 – 1.3 billion.**

The current estimate of FY2020 oil and LNG hedging and trading costs is \$102 million. Refer to Section 5.2.2.

Corporate

FY2020 corporate costs are estimated to be **\$70 - \$80 million**, higher than previous guidance due to the self-insurance cost associated with the Mortlake electrical fault and ERP system replacement costs.

Capital expenditure (including investments) is estimated to be **\$530 - \$580 million (unchanged).**

⁴ Excludes Ironbark acquisition costs and purchases and reflects royalties payable at the breakeven oil price.

4. Financial update

4.1 Financial summary

	HY20 (\$m)	HY19 (\$m)	Change (\$m)	Change (%)
Statutory Profit	599	796	(197)	(25)
Underlying EBITDA	1,590	1,727	(137)	(8)
Energy Markets	723	852	(129)	(15)
Integrated Gas	906	900	6	1
Corporate	(39)	(25)	(14)	56
Underlying Profit	528	592	(64)	(11)
Underlying ROCE (rolling 12 months)	8.3%	8.6%		(0.3)
Energy Markets	10.2%	13.4%		(3.2)
Integrated Gas	8.4%	5.8%		2.6
Cash flow from operating activities	351	553	(202)	(37)
Net cash from APLNG	520	393	127	32
Free Cash Flow	680	556	124	22
Adjusted Net Debt	5,615	6,096 ^(a)	(481)	(8)
Adjusted Net Debt/Adjusted Underlying EBITDA	2.7x	3.1x		(13)

^(a) HY2019 Adjusted Net Debt is restated to remove \$38 million cash held by Origin, as Upstream Operator, to fund APLNG operations.

HY2020 Statutory Profit decreased \$197 million to \$599 million, reflecting lower Underlying Profit, tax benefits in HY2019 associated with Lattice Energy and Ironbark sales, and lower net gains on non-cash fair value and foreign exchange movements.

Higher APLNG earnings and lower oil and LNG hedging and trading costs in Integrated Gas as well as lower interest costs were offset by reduced electricity gross profit in Energy Markets and higher Corporate costs resulting in an 11% decrease in Underlying Profit to \$528 million and a 0.3% decrease in Underlying ROCE to 8.3%.

Operating cash flows reduced by \$202 million to \$351 million driven primarily by lower Energy Markets Underlying EBITDA and higher tax paid. Net cash distributions from APLNG increased by \$127 million to \$520 million and Ironbark sale proceeds of \$231 million were received during the period both of which contributed to a \$124 million increase in Free Cash Flow to \$680 million.

Adjusted Net Debt reduced by \$481 million to \$5,615 million since 31 December 2018, this represents 2.7x Adjusted Net Debt/Adjusted Underlying EBITDA - within our target range of 2.0-3.0x. Excluding the impact of the new leasing standard Adjusted Net Debt reduced by \$1,021 million to \$5,075 million and Adjusted Net Debt/Adjusted Underlying EBITDA reduced to 2.5x. Refer to section 4.7 for details.

4.2 Accounting changes

AASB 16 Leases has been adopted from 1 July 2019 which requires leases to be brought on balance sheet, resulting in a \$42 million increase in Underlying EBITDA, more than offset by the increase in depreciation and amortisation and financing costs. A lease liability of \$540 million and a right-of-use (ROU) asset of \$496 million have been recognised in the balance sheet at 31 December 2019 - refer to Appendix 1 and note E3 of the Origin Energy Interim Financial Statements for further information.

From 1 July 2019, APLNG dewatering and workover costs have been expensed as incurred within Underlying EBITDA rather than capitalised and amortised. Following a period of embedding steady state operations, these costs are considered ongoing and operational in nature going forward and the change in application of accounting practice reflects this. During commissioning of the project and in the lead up to steady state operations, these amounts were capitalised as they represented costs incurred to bring the assets into their intended state of use. This results in a \$56 million reduction in share of APLNG EBITDA, more than offset in share of ITDA from APLNG - refer to Appendix 2 for further information.

There has been no change to comparative information for the above accounting changes.

4.3 Dividends

The Board has determined to pay a 15 cps fully franked dividend in respect of the first half of FY2020 which represents 39 per cent of Free Cash Flow.

Origin will seek to pay sustainable shareholder distributions through the business cycle and will target an ordinary dividend payout range of 30 per cent to 50 per cent of free cash flow per annum. Distributions will take the form of franked dividends, subject to the company's franking credit balance. Free cash flow is defined as cash from operating activities and investing activities (excluding major growth projects), less interest paid.

Remaining cash flow after ordinary dividends will be applied to further debt reduction, value accretive organic growth and acquisition opportunities and/or additional capital management initiatives.

The Board maintains discretion to adjust shareholder distributions for economic and business conditions.

The Dividend Reinvestment Plan (DRP) will operate with nil discount and will be satisfied through on-market purchases. The DRP price of shares will be the average purchase price, rounded to two decimal places, bought on market over a period of 10 trading days commencing on the third trading day immediately following the Record Date.

4.4 Reconciliation from Statutory to Underlying Profit

	HY20	HY19	Change	Change
	(\$m)	(\$m)	(\$m)	(%)
Statutory Profit/(Loss)	599	796	(197)	(25)
Items Excluded from Underlying Profit (post-tax):				
Increase/(decrease) in fair value and foreign exchange movements	78	158	(80)	(51)
<i>Oil and gas</i>	9	76	(67)	(88)
<i>Electricity</i>	23	(58)	81	(140)
<i>Foreign exchange and interest rate</i>	(42)	(24)	(18)	75
<i>Other financial asset/liabilities</i>	64	214	(150)	(70)
<i>Foreign exchange on LNG related financing</i>	24	(50)	74	(148)
Disposals, impairments and business restructuring	(7)	46	(53)	(115)
Total Items Excluded from Underlying Profit (post-tax)	71	204	(133)	(65)
Underlying Profit	528	592	(64)	(11)

Fair value and foreign exchange movements reflect fair value gains/(losses) associated with commodity hedging, interest rate swaps and other financial instruments. These amounts are excluded from Underlying Profit to remove the volatility caused by timing mismatches in valuing financial instruments and the underlying transactions to which they relate. See below and Appendix 5 for further details.

- Oil and gas derivatives manage exposure to fluctuations in the underlying commodity price to which Origin is exposed through its gas portfolio and indirectly through Origin's investment in APLNG. See section 5.2.2 for details of oil hedging carried out in relation to Origin's investment in APLNG.
- Electricity derivatives including swaps, options, power purchase arrangements and forward purchase contracts are used to manage fluctuations in wholesale electricity and environmental certificate prices in respect of electricity purchased to meet customer demand.
- Foreign exchange and interest rate derivatives manage exposure to foreign exchange and interest rate risk associated with the debt portfolio. A significant portion of debt is Euro denominated and cross currency interest rate swaps hedge that debt to AUD or USD. A portion of the foreign debt is held in USD to offset the investment in MRCPS which has a USD functional currency and delivers USD distributions.
- Other financial assets/liabilities reflects investments held by Origin including MRCPS issued by APLNG⁵.
- Foreign exchange on LNG financing relates to fluctuations in USD debt and euro debt swapped to USD.

⁵ Under AASB 9, from 1 July 2018, Origin Energy holds MRCPS at fair value, rather than at cost.

Disposals, impairments and business restructuring are either non-cash or non-recurring items and are excluded from Underlying Profit to provide a better reflection of the underlying performance of the business and include transaction costs (\$4 million post-tax) relating to OC Energy integration and Origin restructuring costs (\$3 million post-tax).

The nature of Items excluded from Underlying Profit set out in the above table have been reviewed by our auditor for consistency with the description in note A1 of the Origin Energy Financial Statements.

4.5 Underlying Profit

	HY20 (\$m)	HY19 (\$m)	Change (\$m)	Change (%)
Energy Markets	723	852	(129)	(15)
Integrated Gas - Share of APLNG	1,033	1,042	(9)	(1)
Integrated Gas - Other	(127)	(142)	15	(11)
Corporate	(39)	(25)	(14)	56
Underlying EBITDA	1,590	1,727	(137)	(8)
Underlying depreciation and amortisation	(253)	(206)	(47)	23
Underlying share of ITDA from APLNG	(672)	(733)	61	(8)
Underlying EBIT	665	788	(123)	(16)
Underlying interest income - MRCPS	95	115	(20)	(17)
Underlying interest income - Other	11	1	10	n/a
Underlying interest expense	(176)	(193)	17	(9)
Underlying profit before income tax and non-controlling interests	595	711	(116)	(16)
Underlying income tax expense	(66)	(118)	52	(44)
Non-controlling interests' (NCI) share of Underlying Profit	(2)	(1)	(1)	100
Underlying Profit	528	592	(64)	(11)

Refer to sections 5.1 and 5.2 respectively for Energy Markets and Integrated Gas analysis.

Corporate costs increased by \$14 million, primarily due to the self-insurance cost associated with the Mortlake electrical fault of \$7 million and higher share based payment expense of \$7 million, including the impact from redundancies.

Depreciation and amortisation increased by \$47 million primarily due to the impact of adopting the new leasing standard. Refer to Appendix 1.

Underlying share of ITDA from APLNG decreased \$61 million driven by lower amortisation reflecting the change in treatment of APLNG dewatering and workover costs which are now directly expensed as incurred (\$66 million). Refer to section 5.2 and Appendix 2.

Underlying interest income on MRCPS reduced \$20 million reflecting a lower balance following buy-backs by APLNG partly offset by a lower AUD/USD exchange rate.

Underlying interest expense reduced by \$17 million, \$26 million excluding the impact from adoption of the leasing standard, as a result of a lower net debt balance and a lower average cost of debt due to refinancing activities (refer to section 4.7).

4.6 Cash flows

Operating cash flow

	HY20 (\$m)	HY19 ^(a) (\$m)	Change (\$m)	Change (%)
Underlying EBITDA	1,590	1,727	(137)	(8)
APLNG Underlying EBITDA (non-cash)	(1,033)	(1,042)	9	(1)
Other non-cash items in Underlying EBITDA ^(a)	59	54	5	9
Underlying EBITDA adjusted for non-cash items	616	739	(123)	(17)
Change in working capital ^(a)	(45)	(46)	1	(2)
<i>Energy Markets</i>	(58)	(61)	3	(5)
<i>Integrated Gas - excluding APLNG</i>	10	20	(10)	(50)
<i>Corporate</i>	3	(5)	9	(160)
Other ^(a)	(33)	(67)	34	(51)
Tax paid	(188)	(73)	(115)	158
Cash flow from operating activities	351	553	(202)	(37)

^(a) Items reclassified to align with the statutory cash flow, see Appendix 4 for details.

Cash flow from operating activities decreased \$202 million primarily due to a reduction in Underlying EBITDA after adjusting for non-cash items (-\$123 million) and higher tax paid (-\$115 million) associated with higher taxable income in FY2019 partly offset by Other (+\$34 million) due to HY2019 building lease exit and restructuring costs not repeating.

Other non-cash items of \$59 million in HY2020 includes bad and doubtful debts expense (+\$42 million) and share based remuneration (+\$16 million).

HY2020 working capital increased by \$45 million, primarily relating to Energy Markets including movements in electricity futures exchange collateral (-\$80 million) as well as a higher coal stockpile for summer (-\$57 million), partly offset by lower net working capital in Retail (+\$95 million) driven by lower electricity volumes and tariffs.

Other cash flows include provision movements, restructuring and transaction costs excluded from Underlying Profit.

Investing cash flow

	HY20 (\$m)	HY19 (\$m)	Change (\$m)	Change (%)
Capital expenditure	(258)	(189)	(69)	37
Distribution from APLNG	520	393	127	32
Interest received from other parties	14	1	13	n/a
Investments/acquisitions	(8)	(4)	(4)	100
Disposals	233	-	233	n/a
Cash flow from investing activities	501	201	300	149

HY2020 capex of \$258 million comprises:

- generation sustain (\$130 million) primarily related to maintenance at Eraring power station (\$62 million), a major overhaul at Uranquinty power station (\$29 million) and Mortlake power station repairs (\$28 million);
- other sustain (\$53 million) including costs associated with LPG (\$12 million), Origin ERP system replacement (\$13 million), regulatory market reforms (\$6 million), serviced hot water (\$5 million);
- productivity/growth (\$40 million) including Quarantine power station upgrade, community energy services, solar and digital spend;
- exploration and appraisal spend (\$35 million) primarily related to the appraisal program in the Beetaloo.

Distributions from APLNG amounted to \$520 million comprising \$97 million of MRCPS interest (down from \$117 million in HY2019) and \$423 million of MRCPS buy backs (up from \$276 million in HY2019).

Interest received increased reflecting a higher cash balance following refinancing activities in preparation for upcoming debt maturities. Investments/acquisitions primarily relate to small Future Energy investments and disposals primarily relate to the sale of Ironbark to APLNG for \$231 million.

Financing cash flow

	HY20 (\$m)	HY19 (\$m)	Change (\$m)	Change (%)
Net proceeds/(repayment) of debt	(1,065)	(575)	(490)	85
Operator cash call movements	1	28	(27)	(96)
On-market purchase of shares	(28)	(42)	14	(33)
Settlement of foreign currency contracts	(25)	(24)	(1)	4
Interest paid	(173)	(199)	26	(13)
Payment of lease principal	(35)	-	(35)	n/a
Dividends paid	(241)	(1)	(240)	n/a
Total cash flow from financing activities	(1,566)	(813)	(753)	93
Effect of exchange rate changes on cash	-	1	(1)	(100)

Repayment of debt reflects capital market debt repaid from cash held and Free Cash Flow.

Operator cash call movements represents the movement in funds held and other balances relating to Origin's role as upstream operator of APLNG. On-market purchase of shares represents the purchase of shares associated with employee share remuneration schemes and the dividend reinvestment plan. Settlement of foreign currency contracts represents the partial closure of contracts executed in prior periods to monetise the value in certain cross currency interest rate swap contracts. The value of outstanding contracts as at 31 December 2019 is \$181 million.

Interest paid reduced \$26 million with a reduction in interest paid on debt of \$33 million partly offset by a \$7 million increase in interest paid on lease liabilities.

Free Cash Flow

Free cash flow represents cash flow available to pay dividends, repay debt, invest in major growth projects or return surplus cash to shareholders and is prepared on the basis of equity accounting for APLNG.

(\$m)	Energy Markets		Integrated Gas – Share of APLNG		Integrated Gas – Other		Corporate		Total	
	HY20	HY19	HY20	HY19	HY20	HY19	HY20	HY19	HY20	HY19
Underlying EBITDA	723	852	1,033	1,042	(127)	(142)	(39)	(25)	1,590	1,727
Non-cash items	46	46	(1,033)	(1,042)	3	5	10	2	(974)	(988)
Change in working capital	(58)	(61)	-	-	10	20	3	(5)	(45)	(46)
Other	(8)	(22)	-	-	(9)	(21)	(15)	(24)	(33)	(67)
Tax paid	-	-	-	-	-	-	(188)	(73)	(188)	(73)
Operating cash flow	703	816	-	-	(123)	(139)	(229)	(124)	351	553
Capital expenditure	(211)	(176)	-	-	(42)	(10)	(5)	(3)	(258)	(189)
Distribution from APLNG	-	-	-	-	520	393	-	-	520	393
(Acquisitions)/disposals	(8)	(4)	-	-	234	-	(0)	(0)	225	(4)
Interest received	-	-	-	-	-	-	14	1	14	1
Investing cash flow	(219)	(180)	-	-	712	383	9	(2)	501	201
Interest paid	-	-	-	-	-	-	(173)	(199)	(173)	(199)
Free cash flow	484	636	-	-	589	244	(393)	(325)	680	556

Proportionate Free Cash Flow

Free cash flow prepared on the basis of proportionate consolidation of APLNG.

(\$m)	Energy Markets		Integrated Gas		Integrated Gas - Other		Corporate		Proportionate Total	
	HY20	HY19	- Share of APLNG HY20	HY19 ^(a)	HY20	HY19	HY20	HY19	HY20	HY19
Operating cash flow	703	816	958	950	(123)	(139)	(229)	(124)	1,309	1,503
Investing cash flow ^(b)	(219)	(180)	(276)	(245)	192	(10)	9	(2)	(294)	(437)
Interest paid	-	-	(75)	(98)	-	-	(173)	(199)	(248)	(297)
Proportionate Free Cash Flow	484	636	607	607	69	(149)	(393)	(325)	767	769

^(a) HY2019 has been reclassified to align to statutory financial statement classification.

^(b) Cash flow from investing activities has been adjusted to remove cash flows between Shareholders and APLNG.

Presenting free cash flow on this basis highlights cash generation on an unlevered basis prior to the repayment of APLNG's project finance debt which is serviced by APLNG prior to shareholder distributions.

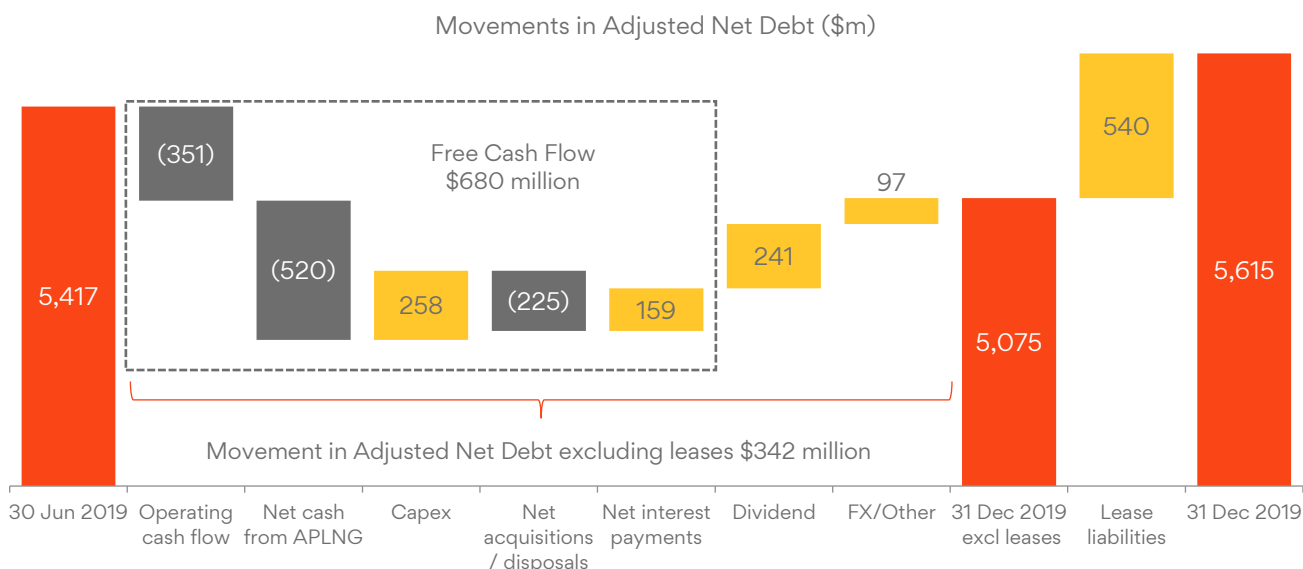
Proportionate free cash flow was \$767 million in HY2020 and \$1,961 million on a rolling 12 months basis representing a yield of 12 per cent as at 18 February 2020⁶.

4.7 Capital management

During HY2020 the following capital management initiatives were completed:

- refinanced debt to lower rates and increase tenor:
 - raised €600 million (A\$973 million) of 10 year debt at 3.2 per cent fixed interest rate;
 - raised A\$300 million of 8 year debt at 2.7 per cent fixed interest rate;
 - repaid €500 million (A\$939 million) debt obligation;
 - repaid €1,000 million (A\$1,391 million) hybrid debt obligation; and
 - renegotiated lower rates on A\$500 million bank guarantee facility.
- cancelled \$718 million in undrawn bank loan facilities that were surplus to requirements.

Adjusted net debt



⁶ Proportionate FCF Yield excludes disposals and is based on 30 day VWAP for Origin of \$8.01 per share at 18 February 2020.

Adjusted net debt decreased \$342 million driven by strong free cash flow, partially offset by dividends and FX/Other impacts. After recognition of \$540 million in lease liabilities under AASB 16 Adjusted Net Debt increased by \$198 million to \$5,615 million. The increase in reported debt due to adoption to AASB 16 is not expected to have any material impact on the company's credit metrics as lease liabilities were previously included in these metrics.

FX/Other relates to payment of lease liabilities (\$35 million), on-market purchase of shares (\$28 million), settlement of foreign currency contracts (\$25 million), and non-cash translation of unhedged USD debt and fees (\$5 million).

Origin's objective is to maintain an Adjusted Net Debt/Adjusted Underlying EBITDA ratio of 2.0-3.0x which translates broadly to a gearing target of 20 per cent-30 per cent.

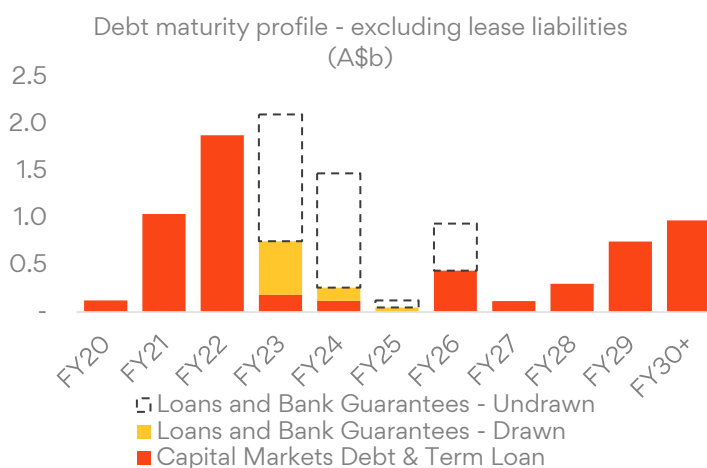
As at 31 December 2019, this ratio was 2.7x and gearing was 29 per cent, up from 2.6x and 29 per cent respectively at 30 June 2019. Excluding the impact of adopting AASB 16, the ratio was 2.5x and gearing was 27 per cent as at 31 December 2019.

Our long-term credit ratings are BBB (stable) from S&P and Baa2 (stable) from Moody's.

Debt portfolio management

Average term to maturity increased from 3.0 years at 30 June 2019 to 4.1 years at 31 December 2019. The rolling 12 month average interest rate on drawn debt decreased from 5.9 per cent in FY2019 to 5.6 per cent in HY2020. We expect the FY2020 average interest rate to be in the low five per cent range.

As at 31 December 2019, Origin held \$0.8 billion of cash and \$3.0 billion in committed undrawn debt facilities. This total liquidity position of \$3.8 billion is held to repay \$1.2 billion of drawn debt maturing by December 2020 and to ensure Origin has a sufficient liquidity buffer for the additional \$1.9 billion in debt maturities in October 2021.



APLNG funding

During construction of APLNG, shareholders contributed capital via ordinary equity and the investment in preference shares (termed MRCPS) issued by APLNG. APLNG distributes funds to shareholders firstly via fixed dividends of 6.37 per cent p.a. on the MRCPS, recognised as interest income by Origin, and secondly via buy-backs of MRCPS, refer to section 4.6 above. The fair value of MRCPS held by Origin at 31 December 2019 was A\$2,662 million.

APLNG also funded construction via US\$8.5 billion in project finance facilities, signed in 2012. These facilities were partially refinanced in FY2019. The outstanding balance at 31 December 2019 was US\$6,709 million (A\$9,581 million), inclusive of unamortised debt fees of US\$89 million (A\$127 million). As at 31 December 2019, gearing⁷ in APLNG was 29 per cent, down from 30 per cent at 30 June 2019.

The table below outlines APLNG's project finance debt amortisation profile following the refinancing activity. APLNG's average interest rate associated with its project finance debt portfolio for FY2020 is estimated to be 3.6 per cent.

Closing balance as at 30 June (US\$bn)	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Bank loan	2.5	2.3	2.0	1.7	1.4	1.2	0.9	0.6	0.3	-	-	-
US Exim	2.4	2.2	2.0	1.8	1.5	1.2	1.0	0.7	0.4	0.2	-	-
USPP	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.8	1.7	1.4	0.9	0.3
Total	6.9	6.5	6.0	5.5	4.9	4.3	3.8	3.1	2.4	1.6	0.9	0.3

⁷ Gearing is defined as project finance debt less cash, divided by project finance debt less cash plus equity.

5. Review of segment operations

5.1 Energy Markets

Overview

Underlying EBITDA

\$723M

Down \$129m or 15% vs HY2019

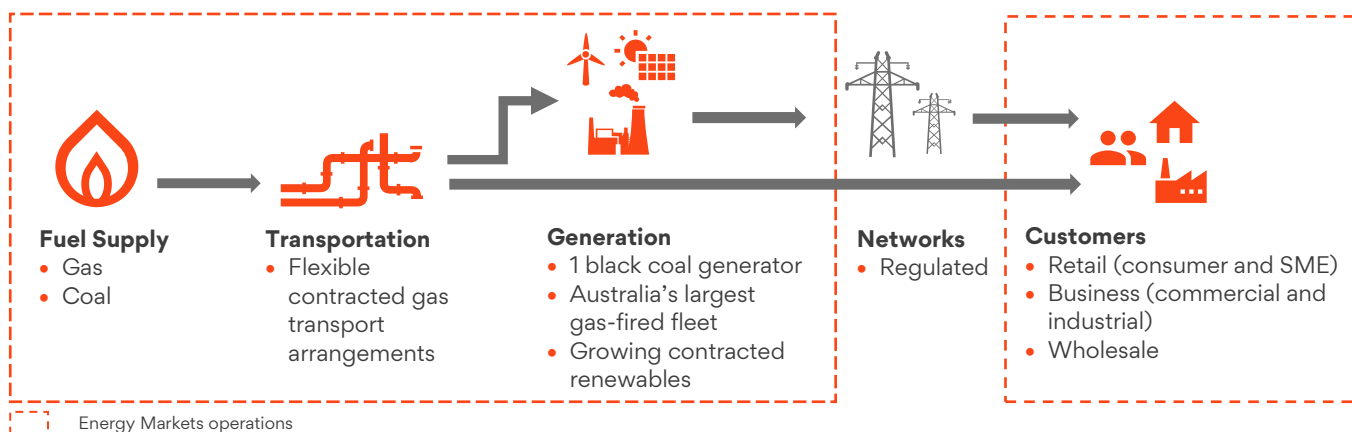
Electricity and Natural Gas
Cost to Serve

\$267M

Improved \$40m or 13% vs HY2019

11.7 TWh

Owned and contracted
generation, in line with
HY2019



Energy Markets comprises Australia's largest energy retail business by customer accounts, Australia's largest fleet of gas-fired peaking power stations supported by a substantial contracted fuel position, a growing supply of contracted renewable energy and Australia's largest power station, the black coal-fired Eraring power station. Energy Markets reports on an integrated portfolio basis. Electricity and Natural Gas gross profit and retail costs to serve are reported separately, as are the EBITDA of the Solar and Energy Services, Future Energy and LPG divisions.

Operations

Wholesale electricity prices remained elevated in Q1 FY2020 with a number of baseload generation outages. Following the return of baseload units, continued increase in renewable generation and lower global and domestic gas prices, wholesale electricity prices fell in Q2 FY2020. East coast gas prices also fell during the half year period following a decline in Asia region LNG pricing and expanded domestic upstream gas supply.

We continue to take a leading role in the reliable supply of electricity from our generation fleet. Importantly, we successfully returned a Mortlake unit to service ahead of the summer peak demand period, following an electrical fault in July 2019. Despite the challenges posed by bushfires, our power stations are operating well and supplying the market as needed, and we continue to support our customers that have been impacted.

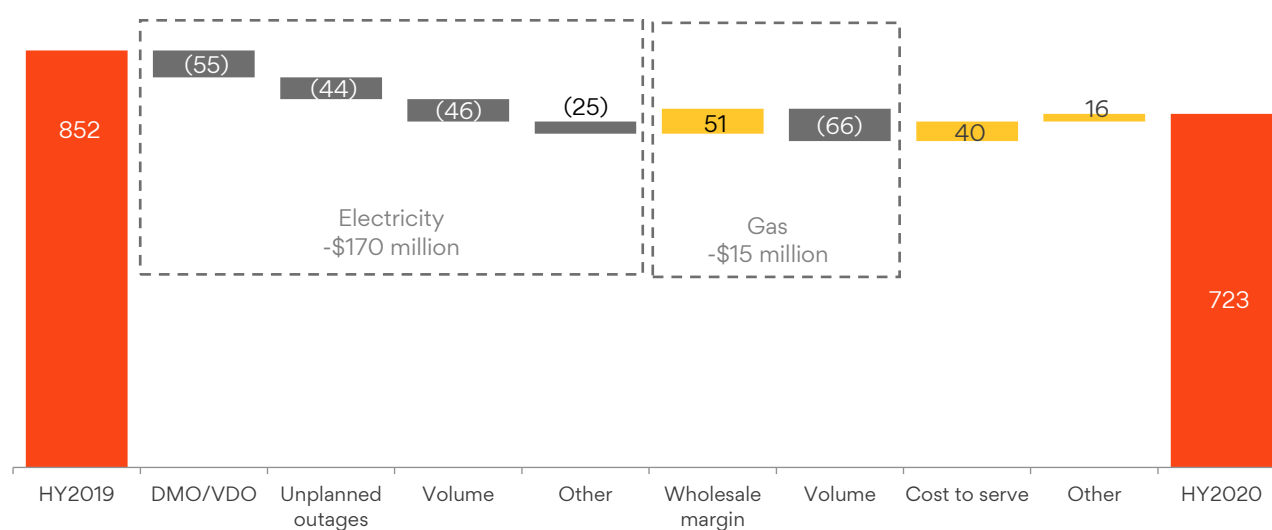
In retail markets, the half year period was characterised by the introduction of regulated default tariffs and ongoing competitive activity. During the period, our customer accounts reduced by 10,000 as we continued to focus on balancing share and customer lifetime value by targeting high-value customer segments with different products, pricing and channels. Market churn continued to reduce in the period, and we maintained a churn rate of 5 per cent better than the market. We continue to support our customers by assisting those in hardship, providing discounts for concession customers, and voluntarily extending the DMO and VDO beyond what was required.

Our retail transformation program is on track. We have reduced costs and grown in solar PV installations, broadband customers and Community Energy Services. Our product suite has simplified with the retirement of ~38 products, and we continue to streamline and digitise the customer journey with 65 per cent of customers on e-billing. Digital interactions increased to 91 per cent, from 83 per cent in FY2019, and service call volumes reduced by 8 per cent. Onshore headcount has reduced by 22 per cent compared to 31 December 2018 with a leaner operating model and expanded offshore capabilities. We remain committed to reducing cost to serve by greater than \$100 million from FY2018 to FY2021.

Financial summary

Underlying EBITDA

	HY20 (\$m)	HY19 (\$m)	Change (\$m)	Change (%)
Electricity gross profit	549	719	(170)	(24)
Natural Gas gross profit	383	398	(15)	(4)
Electricity and Natural Gas cost to serve	(267)	(307)	40	(13)
LPG EBITDA	53	40	13	33
Solar and Energy Services EBITDA	15	11	4	36
Future Energy costs	(10)	(9)	(1)	11
Underlying EBITDA	723	852	(129)	(15)
Underlying EBIT	484	656	(172)	(26)



5.1.1 Electricity

Volume summary

Volumes sold (TWh)	HY20			HY19			Change (TWh)	Change (%)
	Retail	Business	Total	Retail	Business	Total		
NSW ^(a)	4.0	4.4	8.4	4.1	4.8	8.9	(0.5)	(6)
Queensland	2.0	1.8	3.7	2.2	1.8	4.0	(0.3)	(8)
Victoria	1.5	1.8	3.3	1.6	2.2	3.8	(0.5)	(13)
South Australia	0.7	0.9	1.6	0.7	0.9	1.5	0.1	7
Total volumes sold	8.1	8.9	17.0	8.5	9.6	18.2	(1.2)	(7)

^(a) Australian Capital Territory customers are included in New South Wales.

Gross profit summary

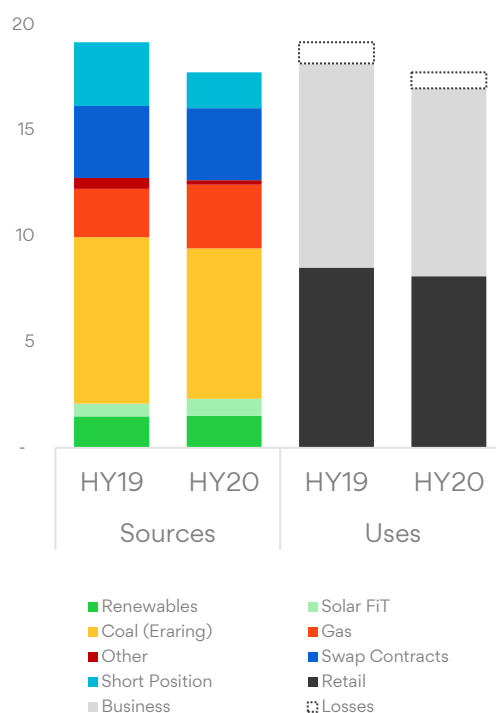
	HY20		HY19		Change (%)	Change (\$/MWh)
	\$m	\$/MWh	\$m	\$/MWh		
Revenue (\$m)	3,780	222.5	4,148	228.3	(9)	(5.8)
Retail (consumer & SME)	2,299	283.7	2,503	293.7	(8)	(10.0)
Business	1,481	166.7	1,645	170.4	(10)	(3.7)
Cost of goods sold (\$m)	(3,230)	(190.1)	(3,428)	(188.7)	(6)	(1.4)
Network costs	(1,549)	(91.2)	(1,631)	(89.8)	(5)	(1.4)
Energy procurement costs	(1,681)	(99.0)	(1,798)	(99.0)	(7)	-
Gross profit (\$m)	549	32.3	719	39.6	(24)	(7.3)
Gross margin %	14.5%		17.3%		(16)	

Electricity gross profit declined by \$170⁸ million driven by:

- \$7.30/MWh reduction in unit margins comprising:
 - -\$55 million reflecting introduction of the DMO and VDO on 1 July 2019;
 - -\$44 million driven by costs associated with unplanned outages at Eraring and Mortlake including a non-cash Mortlake equipment write-off in generation operating costs (-\$19 million). Costs associated with Mortlake are expected to be recovered through insurance; and
 - -\$25 million reflecting higher solar feed-in tariffs and discounts to concession customers (-\$22 million), other generation operating costs (-\$23 million), lower green scheme prices in Business tariffs (-\$10 million), offset by margin improvements (+\$30m) including from lower pool costs and generation fuel costs.
- 1.2 TWh decrease in volumes (-\$46 million) relating to expiration of Business contracts (-\$15 million), lower Retail usage from solar uptake and efficiency (-\$14 million) and changes in customer numbers and mix (-\$17 million).

Owned and contracted generation remained stable at 11.7 TWh, despite the reduction in sales volumes. The 0.8 TWh reduction in Eraring output as a result of planned and unplanned outages was offset by increased production by the gas fleet with more gas available to generation following the roll-off of short-term wholesale gas contracts.

Sources and uses of Electricity (TWh)



⁸ Includes \$2 million benefit relating to AASB 16 Leases.

Energy procurement costs decreased with lower volumes. Unit procurement costs remained flat driven by higher generation operating costs associated with the Mortlake incident and Eraring ash dam costs, and solar feed-in tariff rates, offset by lower pool and contract prices.

Wholesale energy costs

	HY20			HY19		
	\$m	TWh	\$/MWh	\$m	TWh	\$/MWh
Fuel cost ^(a)	517	10.2	50.7	531	10.2	51.9
Generation operating costs	137	10.2	13.4	111	10.2	10.8
Owned generation ^(a)	654	10.2	64.1	641	10.2	62.8
Net pool costs ^(b)	114	1.7	65.7	242	3.0	79.7
Market contracts and bundled PPAs ^(c)	366	5.0	72.7	390	5.2	74.4
Solar feed-in tariff	92	0.8	115.1	61	0.6	96.6
Capacity hedge contracts	174			171		
Green Schemes (excl. PPAs)	254			262		
Other	27			30		
Energy procurement costs	1,681	17.8^(d)	94.6	1,798	19.1^(d)	94.0

^(a) Includes volume from internal generation and contracted from Pelican Point (restated from fuel cost previously presented).

^(b) Net pool costs includes gross pool purchase costs net of pool revenue from generation, gross and net settled PPAs (Refer to Appendix 3), and other contracts.

^(c) Bundled PPAs includes cost of electricity and LRECs. Market contracts include swap and energy hedge contracts.

^(d) Volume differs from sales volume due to energy losses of 0.8 TWh (HY2019: 0.9 TWh).

Electricity supply

	Nameplate capacity (MW)	Type ^(a)	HY20			HY19			Change		
			Output (GWh)	Pool revenue (\$m)	Pool revenue (\$/MWh)	Output (GWh)	Pool revenue (\$m)	Pool revenue (\$/MWh)	Output (GWh)	Pool revenue (\$m)	Pool revenue (\$/MWh)
Eraring	2,922										
Units 1-4	2,880	Black Coal	7,101	561	79	7,869	696	89	(768)	(135)	(10)
GT	42	OCGT	-	-	-	-	-	-	-	-	-
Darling Downs	644	CCGT	830	66	79	410	40	98	420	26	(19)
Osborne ^(b)	180	CCGT	434	40	93	272	31	115	162	9	(22)
Uranquinty	664	OCGT	363	45	125	158	21	134	205	24	(9)
Mortlake	566	OCGT	464	49	106	523	63	120	(59)	(14)	(14)
Mount Stuart	423	OCGT	3	-	103	1	-	85	2	-	18
Quarantine	230	OCGT	125	19	153	121	17	138	5	2	15
Ladbroke Grove	80	OCGT	109	13	123	59	9	146	50	4	(23)
Roma	80	OCGT	8	1	109	13	2	130	(5)	(1)	(21)
Shoalhaven	240	Pump / Hydro	82	11	135	77	10	128	5	1	7
Internal generation	6,029		9,520	807	85	9,503	889	94	17	(82)	(9)
Pelican Point	240	CCGT	677			713			(36)		
Renewable PPAs ^(c)	1,207	Solar / Wind	1,517			1,489			28		
Owned and contracted generation	7,476		11,714			11,705			9		

^(a) OCGT = open cycle gas turbine; CCGT = combined cycle gas turbine.

^(b) Origin has a 50 per cent interest in the 180 MW plant and contracts 100 per cent of the output.

^(c) Reflects new contracted capacity coming online during the period, offset by legacy PPAs rolling off.

5.1.2 Natural gas

Volume summary

Volumes sold (PJ)	HY20			HY19			Change PJ	Change %
	Retail	Business	Total	Retail	Business	Total		
NSW ^(a)	6.0	9.3	15.3	5.5	10.6	16.1	(0.8)	(5)
Queensland	1.7	33.1	34.8	1.7	55.9	57.7	(22.9)	(40)
Victoria	14.0	31.4	45.5	12.8	29.4	42.3	3.2	8
South Australia ^(b)	3.2	5.8	9.0	3.2	6.2	9.4	(0.4)	(4)
External volumes sold	24.9	79.7	104.6	23.3	102.2	125.5	(20.8)	(17)
Internal sales (generation)			29.7			22.2	7.4	33
Total volumes sold			134.3			147.7	(13.4)	(9)

^(a) Australian Capital Territory customers are included in New South Wales.

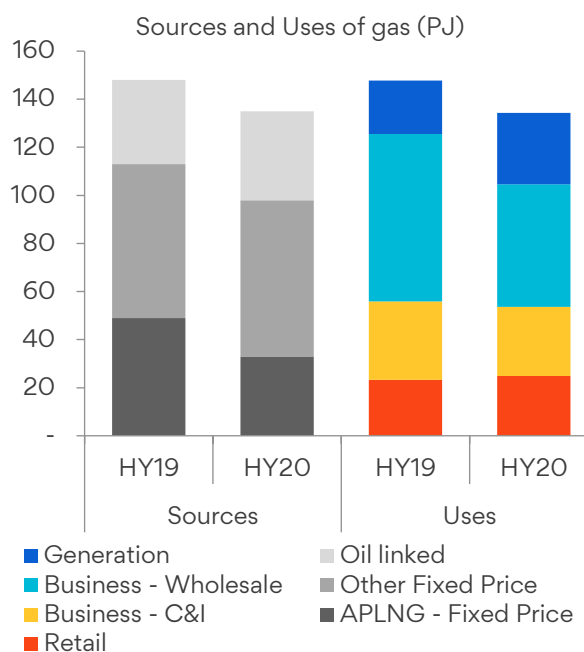
^(b) Northern Territory and Western Australia customers are included in South Australia.

Gross profit summary

	HY20		HY19		Change (%)	Change (\$/GJ)
	\$m	\$/GJ	\$m	\$/GJ		
Revenue (\$m)	1,466	14.0	1,623	12.9	(10)	1.1
Retail (consumer and SME)	615	24.7	584	25.1	5	(0.4)
Business	851	10.7	1,039	10.2	(18)	0.5
Cost of goods sold (\$m)	(1,082)	(10.3)	(1,225)	(9.8)	(12)	(0.5)
Network costs	(400)	(3.8)	(386)	(3.1)	4	(0.7)
Energy procurement costs	(683)	(6.5)	(839)	(6.7)	(19)	0.2
Gross profit (\$m)	383	3.7	398	3.2	(4)	0.5
Gross margin %	26.1%		24.5%		7	

Natural gas gross profit decreased \$15 million driven by:

- \$0.5/GJ increase in unit margins (+\$51 million) due to lower average gas procurement costs driven by shorter term purchases, and repricing of Business customer contracts in late calendar 2018; and
- 20.8 PJ decrease in external sales (-\$66 million) due to the roll-off of short term wholesale trading contracts in Queensland and expiration of other Business contracts, partially offset by higher Retail volumes due to higher customer numbers and cooler weather in Victoria.



5.1.3 Electricity and natural gas cost to serve

	HY20	HY19	Change (\$)	Change (%)
Cost to maintain (\$ per average customer ^(a))	(56)	(63)	7	(11)
Cost to acquire/retain (\$ per average customer ^(a))	(19)	(21)	2	(10)
Electricity & natural gas cost to serve (\$ per average customer^(a))	(75)	(84)	9	(11)
Maintenance Costs (\$m)	(200)	(230)	30	(13)
Acquisition and Retention Costs ^(b) (\$m)	(67)	(77)	10	(13)
Electricity and natural gas cost to serve (\$m)	(267)	(307)	40	(13)

^(a) Represents cost to serve per average customer account, excluding CES accounts.

^(b) Customer wins (HY2020: 252,000; HY2019: 271,000) and retains (HY2020: 735,000; HY2019: 883,000).

	HY20	HY19	Change (\$)	Change (%)
<i>Labour</i>	<i>(79)</i>	<i>(90)</i>	<i>11</i>	<i>(12)</i>
<i>Bad and doubtful debts</i>	<i>(39)</i>	<i>(41)</i>	<i>2</i>	<i>(5)</i>
<i>Other variable costs</i>	<i>(65)</i>	<i>(77)</i>	<i>12</i>	<i>(16)</i>
Retail and Business	(183)	(208)	25	(12)
Wholesale	(26)	(32)	6	(19)
Corporate services and IT	(58)	(66)	8	(12)
Electricity & natural gas cost to serve (\$m)	(267)	(307)	40	(13)

We have built capability to transform customer experience and are on track to deliver the target of >\$100 million cost reduction by FY2021 from a baseline cost position in FY2018. Planning for the next wave of transformation is underway. In HY2020, electricity and natural gas cost to serve reduced by \$40 million of which \$12 million related to the adoption of AASB 16 Leases. The remaining \$28 million in savings reflect ongoing transformation activities, including:

- Increasing digitisation;
- Targeted marketing and optimised channels;
- Transforming customer journeys;
- Leaner operational structure resulting in lower headcount;
- Automated processes and outsourcing; and
- Corporate services and IT recontracting and lower headcount.

Although customer activity reduced during the half, potential cost benefits were offset by the temporary impact of regulatory reforms, increased customer call times and costs associated with these reforms.

Bad debt expense as a percentage of total Electricity and Natural Gas revenue has increased to 0.74 per cent in HY2020 from 0.72 per cent in HY2019.

Customer accounts

As at Customer accounts (^(c) 000)	31 December 2019			30 June 2019			Change
	Electricity	Natural Gas	Total	Electricity	Natural Gas	Total	
NSW ^(a)	1,189	322	1,511	1,193	312	1,505	6
Queensland	646	181	827	660	182	842	(15)
Victoria	550	473	1,023	558	474	1,032	(9)
South Australia ^(b)	235	224	459	229	223	451	8
Total	2,620	1,200	3,820	2,639	1,191	3,830	(10)
Average^(d)	2,624	1,196	3,820	2,636	1,171	3,807	13

^(a) Australian Capital Territory customers are included in New South Wales.

^(b) Northern Territory and Western Australia customers are included in South Australia.

^(c) Includes 241,000 CES customers (FY2019: 233,000).

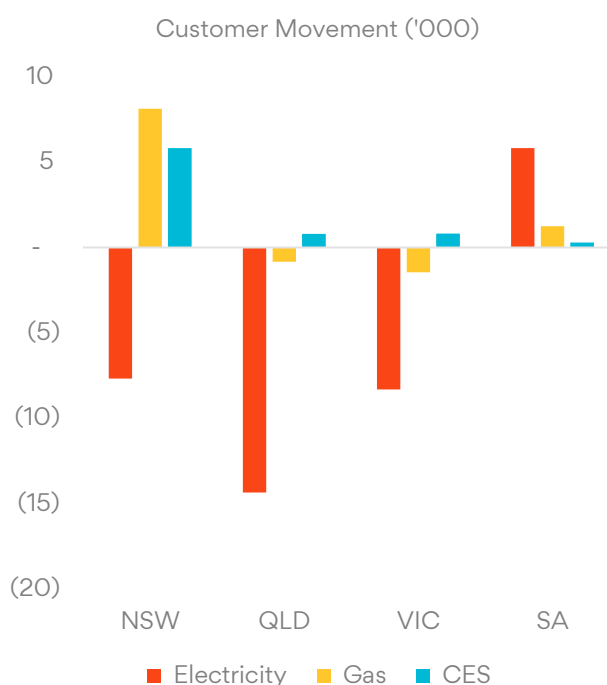
^(d) Reflects average customers for the prevailing 6 month period

Although price dispersion and in situ churn have reduced following introduction of the DMO and VDO, the market remains highly competitive and we continue to take a disciplined approach to customer numbers and customer lifetime value.

Origin churn decreased to 14.4 per cent during the period, compared to market churn of 19.5 per cent.

Period end electricity customers fell by 19,000, reflecting losses of 25,000 primarily due to competition in Queensland, Victoria and New South Wales, partially offset by growth of 6,000 embedded network customers as the CES business continues to grow following the OC Energy acquisition. Natural Gas customers increased by 9,000, driven primarily by gains in New South Wales.

Broadband customer accounts increased by 6,000 during the half year to a total of 14,000 Broadband at 31 December 2019.



5.1.4 LPG

Origin is one of Australia's largest LPG and propane suppliers, procuring and distributing LPG to residential and business locations across Australia and the Pacific. As at 31 December 2019, Origin had 359,000 LPG customer accounts, down from 362,000 customer accounts at 30 June 2019.

	HY20	HY19	Change	Change (%)
Volumes (kT)	227	222	5	2
Revenue (\$m)	322	366	(44)	(12)
Cost of goods sold (\$m)	(214)	(256)	42	(16)
Gross profit (\$m)	108	110	(2)	(2)
Operating costs (\$m)	(55)	(70)	15	(23)
Underlying EBITDA (\$m)	53	40	13	33

Gross profit decreased by \$2 million driven by a competitive market environment and increasing distribution costs. Both revenue and cost of goods sold decreased due to lower international commodity pricing, which is a key component of pricing to customers. Operating costs decreased \$15 million, primarily due to the impact of adopting AASB 16 Leases (\$14 million).

5.1.5 Solar and Energy Services

Origin provides installation of solar PV systems and batteries to residential and business customers, and ongoing support and maintenance services. Community Energy Services supplies both electricity and gas to apartment owners and occupiers, and body corporates through embedded networks and centralised serviced hot water.

	HY20 (\$m)	HY19 (\$m)	Change (\$m)	Change (%)
Revenue	141	90	51	57
CES Gross profit	39	24	15	63
Solar Gross profit	13	15	(2)	(13)
Other Gross profit	2	3	(1)	(33)
Gross Profit	54	42	12	29
Operating Costs	(39)	(31)	(8)	26
Underlying EBITDA	15	11	4	36

Underlying EBITDA increased by \$4 million primarily driven by growth in CES Gross profit (+\$15 million), in particular the acquisition of OC Energy in February 2019, partially offset by increased operating costs (-\$8 million) driven primarily by the OC Energy acquisition, and including a \$2 million benefit due to the impact of adopting AASB 16 Leases.

5.1.6 Future Energy

Future Energy is focussed on new business models to connect distributed assets and data to customers through:

- developing a platform to connect millions of distributed assets
- developing leading digital and analytics capability
- investing in technology for new customer solutions both in front of and behind the meter

	HY20 (\$m)	HY19 (\$m)	Change (\$m)	Change (%)
Operating Costs	(10)	(9)	(1)	11
Investments	(6)	(4)	(2)	50

Operating costs remained flat during the period. The business continues to make small investments in trialling new energy solutions.

5.2 Integrated Gas

Financial summary

	HY20 (\$m)	HY19 (\$m)	Change (\$m)	Change (%)
Share of APLNG	1,033	1,042	(9)	(1)
Integrated Gas - Other (see section 5.2.2)	(127)	(142)	15	(11)
Underlying EBITDA	906	900	6	1
Underlying depreciation and amortisation	(14)	(10)	(4)	40
Underlying share of ITDA from APLNG	(672)	(733)	61	(8)
Underlying EBIT	219	157	62	39

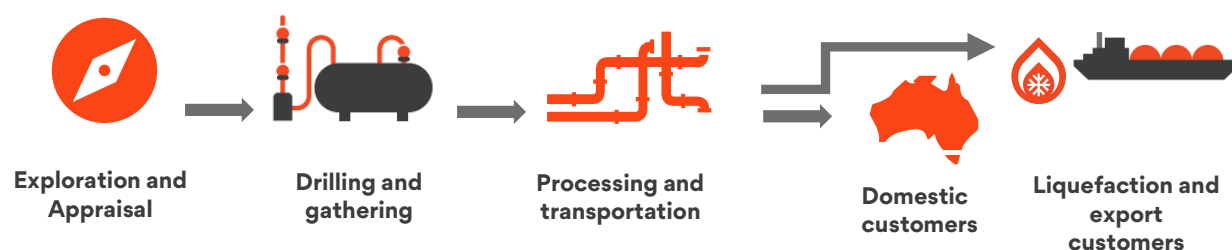
5.2.1 Share of APLNG

Overview

Underlying EBITDA
\$1,033M
 Down \$9m or 1% vs HY2019

Production (37.5%)
134 PJ
 Up 7PJ or 5% vs HY2019

\$520M
 Net cash to Origin,
 up from \$393 million
 in HY2019



Origin has a 37.5 per cent shareholding in APLNG, an equity accounted incorporated joint venture. APLNG operates Australia's largest CSG to LNG export project (by nameplate capacity) with the country's largest 2P CSG reserves⁹. Origin is the operator of the upstream CSG exploration and appraisal, development and production activities. ConocoPhillips is the operator of the 9 mtpa two train LNG liquefaction facility at Gladstone in Queensland.

As APLNG is an incorporated joint venture, Integrated Gas reports its share of APLNG EBITDA. The share of APLNG ITDA is recorded as one line item between EBITDA and EBIT.

⁹ As per EnergyQuest EnergyQuarterly, Dec 2019. Approximately 21 per cent of APLNG's 2P and 3P CSG reserves (as at 30 June 2019), are subject to reversionary rights and an ongoing royalty interest in favour of Tri-Star. Refer to Appendix 6 for further information.

Operations

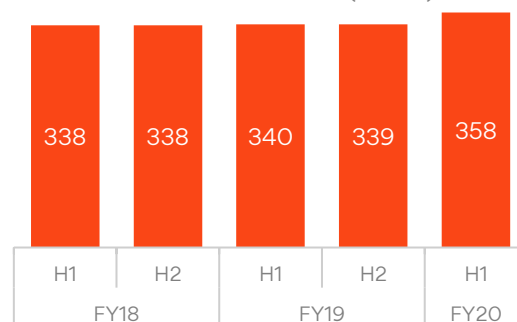
APLNG delivered record production in HY2020, reflecting improved performance across operated and non-operated fields driven by higher well availability and facility reliability. The Eurombah Reedy Creek Interconnect pipeline (ERIC) came online in July 2019 improving utilisation of processing capacity. An operated asset daily production record of 1,612 TJ/day was achieved on 3 December 2019.

APLNG shipped 66 LNG cargoes in HY2020 and remains a large contributor to the Australian east coast domestic gas market, supplying 88 PJ in HY2020 (100 per cent APLNG).

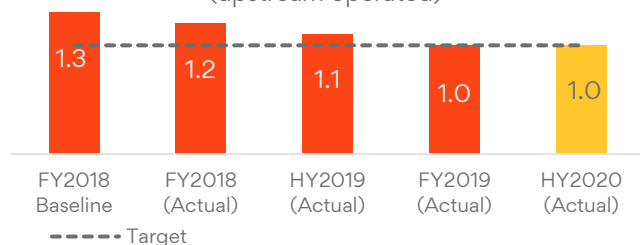
The four yearly maintenance for 15 upstream operated gas processing facility trains completed in the half, marking the end of an 18-month campaign. APLNG has a planned shutdown in May with one LNG Train out for one month.

Origin as upstream operator delivered average operating costs of \$1.0/GJ¹⁰ and average standard unfracked vertical Surat well costs of \$1.2 million from operated areas, in line with run-rate targets achieved in June 2019.

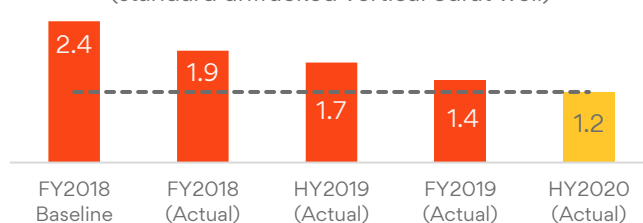
APLNG Production PJ (100%)



Operating cost (A\$/GJ)
(upstream operated)



Cost per well (A\$m/well)
(standard unfracked vertical Surat well)



APLNG continues to focus on connecting fields to available processing capacity with the ERIC pipeline now completed and the Talinga Orana Gas Gathering Station (TOGGS) on track for commissioning in H2 FY2020. TOGGS will compress and transport gas through the existing Talinga to Condabri Interconnect Pipeline (TCIP) and utilise existing gas processing capacity in Condabri.

During the period:

- APLNG contracted new gas sales supporting the domestic market including the sale of 61 PJ of gas to Origin over 2020 and 2021 and the sale of 16 PJ of gas to domestic manufacturers.
- LNG downward quantity tolerance was declared for calendar year 2020 by APLNG's long-term buyers.

As previously disclosed an LNG customer has elected to defer delivery of 30 cargoes over six years (2019 – 2024). The customer will pay for the cargoes and APLNG expects to re-sell the gas during the deferral period, and deliver the deferred cargoes from 2025 to the end of the LNG sale and purchase agreement. Cash flow from calendar year 2019 deferred cargoes was received in January 2020.

As is typical in long term LNG contracts, APLNG's LNG contracts contain periodic price reviews every five to seven years. The first price review under APLNG's LNG contract with Sinopec has recently been triggered. It requires the parties to use reasonable endeavours to agree on any changes required to achieve in market pricing for long term LNG contracts. In the absence of agreement, neither party is permitted to request this first price review to be determined by an independent expert. Subsequent price reviews under APLNG's contract with Sinopec can be referred to expert determination in the absence of agreement between the parties.

APLNG acquired various CSG interests from Tri-Star in 2002 that are subject to reversionary rights and an ongoing royalty interest in favour of Tri-Star. These interests represent approximately 21 per cent of both APLNG's 2P and 3P CSG reserves (as at 30 June 2019), refer to Appendix 6 for disclosure relating to Tri-Star litigation associated with these CSG interests.

¹⁰ Reflects operating costs of operated facilities excluding pipeline and major turnaround costs.

Financial summary

Profit and Loss – APLNG 100%

(\$m)	HY20 100% APLNG	Origin share	HY19 100% APLNG	Origin share
Commodity and other revenue ^(a)	3,778	1,417	3,678	1,379
Operating expenses	(1,024)	(384)	(899)	(337)
Underlying EBITDA	2,754	1,033	2,779	1,042
Depreciation and amortisation	(922)	(346)	(1,019)	(382)
MRCPS interest expense	(253)	(95)	(307)	(115)
Project Finance interest expense	(194)	(73)	(264)	(99)
Other financing expense	(46)	(17)	(41)	(15)
Interest income	24	9	21	8
Income tax expense	(408)	(152)	(350)	(132)
Underlying ITDA^(b)	(1,799)	(674)	(1,960)	(735)
Underlying profit	955	359	819	307

^(a) Includes commodity revenue plus other revenue of \$12 million (Origin share) (HY2019: \$(2) million Origin share) primarily related to a release of the restoration provision from the relinquishment of the Gilbert Gully permit during HY2020.

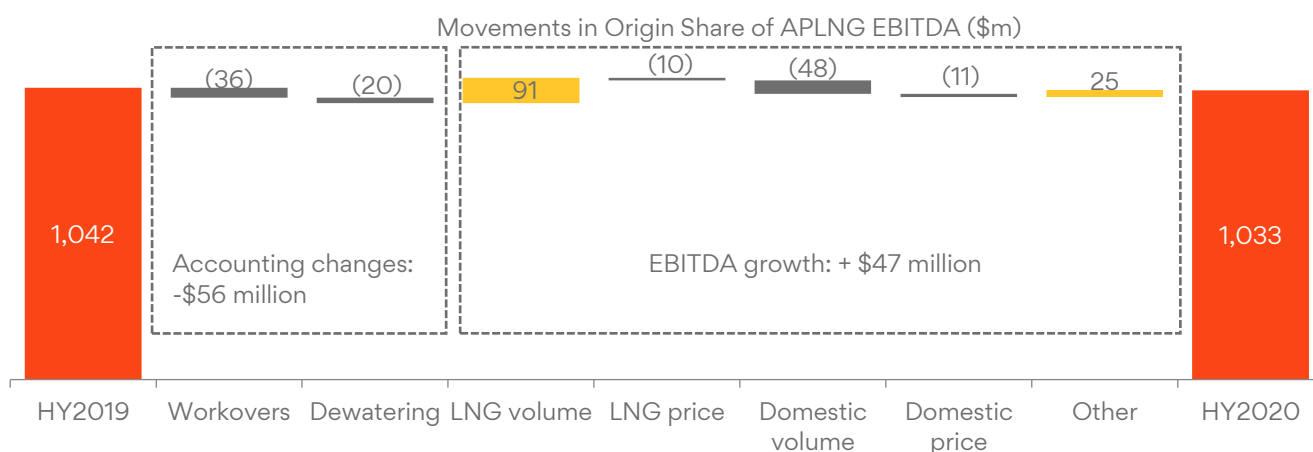
^(b) See Origin Financial Statement note B1 for details relating to \$2 million difference between APLNG ITDA and Origin's reported share.

Following a period of embedding steady state operations, dewatering and workover costs are considered operational in nature going forward. Previously these costs were capitalised, however from 1 July 2019, these costs are directly expensed as incurred. In HY2020, this change results in a \$56 million reduction in Origin share of Underlying EBITDA, more than offset by a \$66 million reduction in Origin share of depreciation and amortisation. See Appendix 2 for more details.

The decrease in Origin share of depreciation and amortisation reflects the removal of amortisation related to workovers and dewatering of \$66 million, partially offset by the impact of a lower AUD/USD exchange rate.

Origin share of MRCPS interest expense decreased \$20 million due to a lower MRCPS balance following buy-backs by APLNG partly offset by the impact of a lower AUD/USD exchange rate. Project finance interest decreased \$26 million due to a lower average interest rate from refinancing activities partly offset by the impact of a lower AUD/USD exchange rate. See section 4.7 for details relating to APLNG funding.

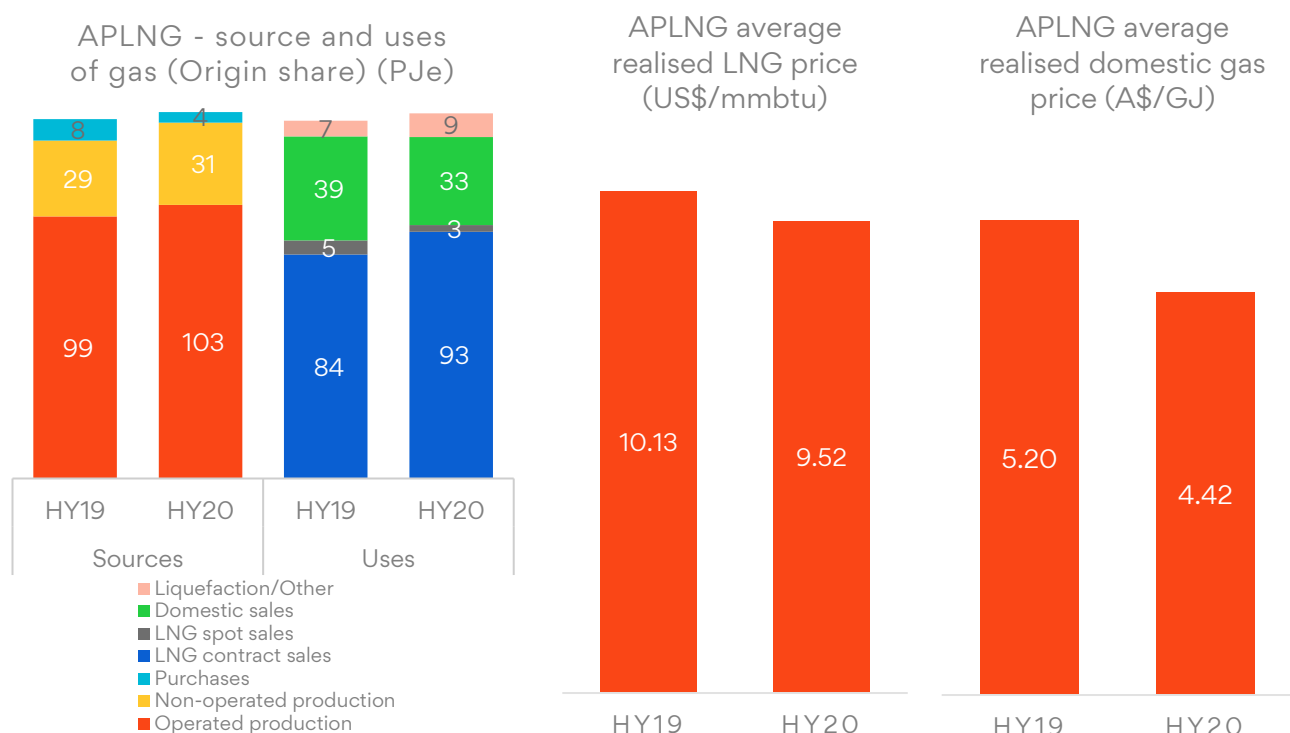
APLNG Underlying EBITDA (Origin share)



Origin's share of APLNG Underlying EBITDA increased by \$47 million, after excluding the \$56 million decrease relating to the change in accounting treatment. This was primarily driven by a higher proportion of LNG sales, partly offset by lower domestic volumes and lower realised prices. Other increased \$25 million primarily related to lower purchases (+\$41 million), and a one off release of a restoration provision relating to the relinquishment of Gilbert Gully (+\$8 million), partly offset by higher royalties and tariffs (-\$26 million) as a result of a higher royalty rate and higher production.

APLNG volume summary

Volumes (PJ)	HY20		HY19	
	100% APLNG	Origin share	100% APLNG	Origin share
Production volumes				
Operated	275	103	263	99
Non-operated	83	31	76	29
Total production	358	134	340	127
Purchases	11	4	21	8
Liquefaction/other	(25)	(9)	(20)	(7)
Sales volumes	343	129	341	128
Natural Gas sales volumes	88	33	104	39
LNG spot sales volumes	7	3	14	5
LNG contract sales volumes	248	93	222	84
Commodity revenue	3,746	1,405	3,684	1,381
Natural Gas sales	390	146	544	204
LNG sales	3,356	1,259	3,140	1,177
Realised price				
Natural Gas (\$/GJ)	4.42		5.20	
LNG (A\$/GJ)	13.18		13.28	
LNG (US\$/mmbtu)	9.52		10.13	



Origin's share of APLNG production increased 7 PJ to 134 PJ in HY2020, with the Eurombah Reedy Creek Interconnect (ERIC) pipeline online from July 2019, higher non-operated facility availability and improved well performance.

The average realised LNG price decreased 6 per cent to US\$9.52/mmbtu reflecting lower oil and spot LNG prices, however after reflecting a lower AUD/USD exchange rate the average A\$ realised price was relatively flat at \$13.18/GJ.

The average realised domestic gas price decreased 15 per cent to \$4.42/GJ driven by a reduction in short term sales volumes and prices, with lower priced legacy sales flat but representing a higher proportion of domestic sales.

Cash flow – APLNG 100%

A\$m	HY20 (\$m)	HY19 ^(a) (\$m)	Change (\$m)	Change (%)
Underlying EBITDA	2,754	2,779	(25)	(1)
Non-cash items in underlying EBITDA	13	(4)	17	(425)
Change in working capital	(180)	(204)	24	(12)
Other	(34)	(37)	3	(8)
Operating Cash flow*	2,554	2,534	20	1
Capital expenditure*	(514)	(622)	108	(17)
Capitalised de-watering costs*	-	(52)	52	(100)
Interest income*	22	21	1	5
Asset purchases (including Ironbark)*	(245)	-	(245)	n/a
Loans paid by other shareholders	6	-	6	n/a
Investing Cash flow	(731)	(653)	(78)	12
Project Finance interest and transaction costs*	(192)	(261)	69	(26)
Repayment of project finance*	(340)	(458)	118	(26)
Other financing activities*	(23)	(50)	27	(54)
Repayment of lease liabilities*	(38)	-	(38)	n/a
Interest on lease liabilities*	(9)	-	(9)	n/a
MRCPS interest	(258)	(313)	55	(18)
MRCPS buy-back	(1,128)	(736)	(392)	53
Financing cash flow	(1,988)	(1,818)	(170)	9
Net increase/(decrease) in cash and cash equivalents	(165)	63	(228)	(362)
Effect of exchange rate changes on cash*	21	80	(59)	(74)
Net increase/(decrease) in cash including FX movement	(144)	143	(287)	(201)
Distributable cash flow*	1,236	1,192	44	4

* Included in distributable cash flow. Distributable cash flow represents net increase in cash including FX movements before MRCPS interest and buy backs and transactions with shareholders.

^(a) HY2019 has been reclassified to align to statutory financial statement classifications, no change to net increase in cash and cash equivalents.

APLNG generated distributable cash flow of \$1,236 million (Origin's 37.5 per cent share: \$464 million) at an effective oil price of US\$69/bbl for HY2020 (HY2019: US\$73/bbl) after servicing project finance interest and principal. Net cash to Origin is slightly higher at \$520 million in HY2020 reflecting cash generated in the period and partial draw down of cash retained at 30 June 2019.

Operating cash costs - APLNG 100%

	HY20 (\$m)	HY19 (\$m)	Change (\$m)	Change (%)
Operated opex ^(a)	(291)	(292)	1	(0)
Purchases	(58)	(167)	109	(65)
Downstream opex	(120)	(121)	1	(1)
Royalties and tariffs ^(b)	(255)	(187)	(68)	36
Non-operated opex	(102)	(98)	(4)	4
APLNG Corporate opex & other	(50)	(34)	(16)	47
Dewatering ^(a)	(52)	-	(52)	n/a
Workovers	(97)	-	(97)	n/a
Total operating costs per Profit and Loss	(1,024)	(899)	(125)	14
Add capitalised de-watering costs	-	(52)	52	(100)
Other cash items	(39)	(34)	(5)	15
Total operating cash costs	(1,063)	(985)	(78)	(8)

^(a) HY2020 unit operating costs of \$1.0/GJ reflects operated opex (\$291 million) less pipeline and major turnaround costs (\$48 million) plus operated dewatering costs (\$38 million) and 275 PJ operated production.

^(b) Reflects actual royalties paid. At break-even prices royalties and tariffs amounted to \$56 million (HY2019: \$80 million).

Total operating cash costs increased \$78 million, of which \$97 million relates to workover costs previously capitalised and now recognised in operating expenses - refer to Appendix 2 for further information.

Lower purchases of \$109 million were primarily driven by higher production and partially offset by higher royalties and tariffs of \$68 million as result of a higher royalty rate combined with higher production.

Capital expenditure - APLNG 100%

	HY20 (\$m)	HY19 (\$m)	Change (\$m)	Change (%)
Operated upstream - Sustain	(259)	(272)	13	(5)
Operated upstream - Infrastructure	(41)	(52)	11	(21)
Exploration & Appraisal (E&A)	(47)	(61)	14	(23)
Operated SIB	(10)	(4)	(6)	150
Downstream	15	(21)	36	(171)
Non-operated	(105)	(133)	28	(21)
Workovers	-	(96)	96	(100)
Total capital expenditure	(446)	(639)	193	(30)
Working capital movement	(103)	17	(120)	n/a
Leases classified as financing cash flow	35	-	35	n/a
Total capital expenditure per cash flow	(514)	(622)	108	(17)

Total capital expenditure decreased by \$193 million, of which \$96 million relates to HY2019 workover costs now directly expensed as incurred. The remaining \$97 million decrease is driven by downstream due to a \$50 million accrued benefit related to settlement of a claim in respect of initial project construction work (cash is expected to be received in Q3 FY2020), and \$28 million lower non-operated spend due to a lower level of development activity.

Operated upstream - Sustain includes expenditure for drilling, completions, fracture stimulation, gathering network, surface connection, land access and development infrastructure which occurs over multiple years and is directly related to sustaining production over the medium-term. In HY2020, 158 operated wells were drilled (vs 125 in HY2019) including 149 Surat vertical wells (vs 125 in HY2019). 20 wells were fracture stimulated (vs 56 in HY2019) and 122 wells were brought online (vs 156 in HY2019).

5.2.2 Integrated Gas – Other

This division comprises Origin Integrated Gas activities separate to APLNG and includes unconventional exploration interests in the Beetaloo Basin, the southwest Queensland Cooper-Eromanga Basin and a potential conventional development resource in the offshore Browse Basin. It also includes overhead costs (net of recoveries) incurred as upstream operator and corporate service provider to APLNG, other costs incurred in managing Origin's investment in APLNG and exposure to LNG pricing risk and impacts of LNG trading positions held by Origin.

Operations

Beetaloo Basin (Northern Territory)

Origin has a 70 per cent interest in exploration permits over 18,500 km² in the Beetaloo Basin. In February 2017, a 2C contingent resource of 6.6TCF¹¹ (100 per cent) relating to the Velkerri B shale dry gas play was booked following a production test of the Amungee NW-1H well. Interpretation of data obtained from the Amungee well, and other wells drilled in the Beetaloo Basin indicates a promising exploration opportunity with four stacked, unconventional plays.

Stage 2 appraisal is underway, targeting two independent shale liquids-rich gas plays. Two horizontal appraisal wells are planned to be drilled, fracture stimulated and put on extended production testing during calendar year 2020 with the objective of flowing liquids rich gas to the surface. Work continues with the regulators and Native Title holders to ensure operations are conducted safely and with transparency around the necessary approvals and consents.

- **Kyalla liquids-rich gas play** – Drilling of the vertical section was successfully completed in November. Drilling of the horizontal production hole section commenced in December, with a target lateral length of 1,000-2,000 metres. After reaching a lateral length of 700 metres, operational issues were encountered in maintaining adequate hole conditions over portions of the horizontal production hole section. The horizontal section was deemed unsuitable for effective stimulation and testing operations and was plugged in line with regulatory requirements. A new horizontal section was successfully drilled in February 2020, and preparations are underway for the next phase. The well has been drilled to a total measured depth of 3,809 metres, which includes a 1,579 metre lateral section. Results from the production test are expected over Q4 FY2020 and Q1 FY2021. Results obtained to date demonstrate good reservoir continuity, conductive natural fractures and continuous gas shows. Fracture stimulation activity will only occur after the successful completion of drilling and the integrity of the well is tested and verified.
- **Velkerri liquids-rich gas play** - Environmental approval to drill and fracture stimulate the Velkerri Flank well was granted in late December 2019, and construction of the Velkerri 76 well lease pad was completed in early December. The drilling of the Velkerri flank well is planned for Q4 FY2020, coinciding with the expected end of the wet season. Dry conditions are required for access to the Velkerri Flank well site and therefore the ability to construct the access track and start drilling is weather dependent.

Cooper-Eromanga Basin (Queensland)

Origin entered into agreements with Bridgeport Energy to farm into a 75 per cent equity position and operatorship of five permits located in Cooper-Eromanga Basin in southwest Queensland. The staged farm-in work program involves the drilling of up to five exploration wells to be completed by the end of 2024 targeting both unconventional liquids and gas. Origin will carry Bridgeport's cost up to \$12 million. We are currently waiting for Origin to be included on Title.

¹¹ Origin is not aware of any new information or data that materially affects the information included in the announcement to the ASX on 15 February 2017. All material assumptions and technical parameters underpinning these estimates continue to apply and have not materially changed.

Financial Summary

	HY20 (\$m)	HY19 (\$m)	Change (\$m)	Change (%)
Origin only commodity hedging and trading	(86)	(129)	43	(33)
Other Origin only costs	(41)	(13)	(28)	215
Underlying EBITDA	(127)	(142)	15	(11)
Underlying depreciation and amortisation/ITDA	(12)	(8)	(4)	50
Interest income - MRCPS	95	115	(20)	(17)
Underlying Profit/(Loss)	(44)	(35)	(9)	26

Origin only commodity hedging and trading reflects oil hedging costs of \$19 million, inclusive of \$20 million in premiums (HY2019: \$73 million, inclusive of \$17 million premiums); and LNG hedging and trading costs of \$67 million (HY2019: \$56 million). See details below.

Other Origin only costs increased \$28 million driven by costs associated with an agreement to reduce Origin's share of overriding royalty in the Beetaloo Basin (\$15 million) and a higher proportion of non-recoverable costs.

FY2020 hedging and trading summary

Based on closed out positions and the value of open hedge positions at forward market prices¹², we estimate a net loss on oil and LNG hedging and trading in FY2020 of \$102 million.

\$m	HY20 Actual	HY19 Actual	FY20 estimate ^(a)
Hedge premium expense	(20)	(17)	(28)
Gain/(loss) on oil hedging	1	(55)	8
Gain/(loss) on LNG hedging/trading	(67)	(56)	(82)
Total	(86)	(129)	(102)

^(a) Based on forward prices as at 29 January 2020.

Oil hedging

Origin has entered into oil hedging instruments to manage its share of APLNG oil price risk based on the primary principle of protecting the Company's investment grade credit rating.

In FY2020, Origin's share of APLNG related JCC oil price exposure is estimated to be approximately 22 mmbbl. 11.6 mmbbl has been hedged at a floor of US\$48/bbl, 2.5 mmbbl has been capped at US\$85/bbl and 3 mmbbl has been fixed via a swap at A\$97/bbl. These transactions were executed for a premium cost of \$28 million. As at 29 January 2020, 93 per cent or 20.4 mmbbl of the APLNG related JCC oil exposure has been priced at US\$68/bbl.

For FY2021, Origin has fixed 3.1 mmbbl via swaps at A\$90/bbl and 0.4mmbbl via a swap at US\$57/bbl¹³. Based on forward market prices¹², the current value of the hedge contracts in FY2021 is a gain of \$13 million

LNG hedging and trading

Uncontracted gas volumes produced by APLNG are sold to the domestic and spot LNG markets. To manage price risk associated with LNG spot volumes, Origin entered into forward fixed price hedge contracts that settle over the period to the end of FY2020. A previous hedge position for FY2020 has been fully closed out at a cost of \$60 million, weighted to H1 FY2020. There are no LNG hedge positions related to APLNG's uncontracted sales exposure beyond FY2020.

In 2013 Origin established a Henry Hub linked contract to purchase 0.25 mtpa from Cameron LNG for a period of 20 years, which the first cargo is expected to be delivered to Origin in June 2020. In 2016 Origin established a contract with ENN Energy Trading Company Limited to sell 0.28 mtpa on a Brent oil-linked basis commencing in FY2019 and ending in December 2023. These contracts and derivative hedge contracts that manage the price risk associated with the physical LNG contracts form part of a LNG Trading portfolio. The valuation of the combined LNG Trading and derivatives portfolio reflects independent forecast prices and can be volatile reflecting the price volatility in the underlying commodities. The current net present value of the portfolio is not material.

¹² As at 29 January 2020.

¹³ Internal hedge between Integrated Gas and Energy Markets.

6. Important information

Forward looking statements

This Operating and Financial Review (OFR) contains forward looking statements, including statements of current intention, statements of opinion and predictions as to possible future events and future financial prospects. Such statements are not statements of fact and there can be no certainty of outcome in relation to the matters to which the statements relate. Forward looking statements involve known and unknown risks, uncertainties, assumptions and other important factors that could cause the actual outcomes to be materially different from the events or results expressed or implied by such statements, and the outcomes are not all within the control of Origin. Statements about past performance are not necessarily indicative of future performance.

Neither the Company nor any of its subsidiaries, affiliates and associated companies (or any of their respective officers, employees or agents) (the 'Relevant Persons') makes any representation, assurance or guarantee as to the accuracy or likelihood of fulfilment of any forward looking statement or any outcomes expressed or implied in any forward looking statement. The forward looking statements in this OFR reflect views held only at the date of this report and except as required by applicable law or the ASX Listing Rules, the Relevant Persons disclaim any obligation or undertaking to publicly update any forward looking statements, or discussion of future financial prospects, whether as a result of new information or future events.

Non-IFRS financial measures

This OFR and Directors' Report refers to Origin's financial results, including Origin's Statutory Profit and Underlying Profit. Origin's Statutory Profit contains a number of items that when excluded provide a different perspective on the financial and operational performance of the business. Income Statement amounts, presented on an underlying basis such as Underlying Profit, are non-IFRS financial measures, and exclude the impact of these items consistent with the manner in which senior management reviews the financial and operating performance of the business. Each underlying measure disclosed has been adjusted to remove the impact of these items on a consistent basis. A reconciliation and description of the items that contribute to the difference between Statutory Profit and Underlying Profit is provided in section 4.4 of this OFR.

Certain other non-IFRS financial measures are also included in this OFR. These non-IFRS financial measures are used internally by management to assess the performance of Origin's business and make decisions on allocation of resources. Further information regarding the non-IFRS financial measures is included in the Glossary in Appendix 7 of this OFR. Non-IFRS measures have not been subject to audit or review. Certain comparative amounts from the prior corresponding period have been re-presented to conform to the current period's presentation.

Appendices

Appendix 1: HY2020 impact of leasing standard

AASB 16 Leases has been adopted from 1 July 2019. The effect of this standard is to bring Origin's leases, primarily commercial offices, LPG terminals, power generating assets and fleet vehicles, on to the balance sheet.

A lease liability of \$540 million and a right-of-use (ROU) asset of \$496 million have been recognised in the balance sheet at 31 December 2019. In the profit and loss, the ROU asset is depreciated (\$41 million in HY2020) and interest expense is recognised on the lease liability (\$9 million in HY2020). Previously lease payments were expensed within Underlying EBITDA. In the cash flow, lease payments are recognised as financing cash flows, split between principal and interest payments. Previously lease payments were classified as operating cash flows.

Renewable PPA treatment

A net derivative liability of \$512 million associated with Origin's renewable PPAs, previously accounted for as financial instruments and fair valued, meets the lease definition under AASB 16 and so has been declassified as a financial instrument. However, due to the variable nature of the payments, the lease liability and ROU asset are recognised at nil value and payments continue to be recognised as operating costs.

There has been no change to comparative information. Refer to Note E3 of the Origin Energy Financial Statements for further information.

The below table removes the impact of AASB 16 from Origin's HY2020 Profit and Loss for comparative purposes.

	HY20 Reported	Lease adj	HY20 excl lease adj	HY19 Reported	Change	Change
	(\$m)	(\$m)	(\$m)	(\$m)	(\$m)	(%)
Energy Markets ^(a)	723	(30)	693	852	(159)	(19)
Integrated Gas - Share of APLNG	1,033	(2)	1,031	1,042	(11)	(1)
Integrated Gas - Other	(127)	(5)	(132)	(142)	10	(7)
Corporate	(39)	(5)	(44)	(25)	(19)	76
Underlying EBITDA	1,590	(42)	1,548	1,727	(179)	(10)
Underlying depreciation and amortisation	(253)	41	(212)	(206)	(6)	3
Underlying share of ITDA from APLNG	(672)	3	(669)	(733)	64	(9)
Underlying EBIT	665	2	667	788	(121)	(15)
Underlying interest income - MRCPS	95	-	95	115	(20)	(17)
Underlying net financing costs - other	(165)	9	(156)	(192)	36	(19)
Underlying profit before income tax and non-controlling interests	595	11	606	711	(105)	(15)
Underlying income tax expense	(66)	(3)	(69)	(118)	49	(42)
Non-controlling interests' share of Underlying Profit	(2)	-	(2)	(1)	(1)	100
Underlying Profit	528	8	536	592	(56)	(9)
Operating cash flow	351	(42)	309	553	(244)	(44)
Investing cash flow	501	-	501	201	300	149
Financing cash flow	(1,566)	42	(1,524)	(813)	(711)	87

^(a) LPG (\$14 million), Cost to serve (\$12 million), Solar and Energy Services (\$2 million), Electricity (\$2 million).

Appendix 2: HY2020 impact of dewatering and workover treatment – APLNG 100%

From 1 July 2019, APLNG dewatering and workover costs have been expensed rather than capitalised and amortised. Following a period of embedding steady state operations, these costs are considered ongoing and operational in nature going forward, the change in application of accounting practice reflects this. During commissioning of the project and in the lead up to steady state operations, these amounts were capitalised as they represented costs incurred to bring the assets into their intended state of use.

From 1 July 2019, dewatering and workover costs are recognised in the Income Statement as operating expenses within Underlying EBITDA. Previously, future downhole costs for dewatering and workovers were estimated and amortised on a units of production basis. In the cash flow, dewatering and workover costs are recognised within operating cash flow, previously recognised as capital expenditure within investing cash flows.

There has been no change to comparative information. The below table shows HY2019 profit and loss with the treatment change for comparative purposes only.

	HY20 Reported	HY19 Reported	Dewatering & workover adjustment	HY19 Adjusted	Change	Change
	(\$m)	(\$m)	(\$m)	(\$m)	(\$m)	(%)
Commodity and other revenue	3,778	3,678	-	3,678	100	3
Operating expenses ^(a)	(1,024)	(899)	(148)	(1,047)	23	(2)
Underlying EBITDA	2,754	2,779	(148)	2,631	123	5
Depreciation and amortisation	(922)	(1,019)	175	(844)	(78)	9
Net financing costs	(469)	(591)	-	(591)	122	(21)
Income tax expense	(408)	(350)	(8)	(358)	(50)	14
Underlying ITDA from APLNG	(1,799)	(1,960)	167	(1,793)	(6)	0
Underlying Profit	955	819	19	838	117	14
Operating cash flow	2,554	2,534	(148)	2,386	168	7
Investing cash flow	(731)	(653)	148	(505)	(226)	45
Financing cash flow	(1,988)	(1,818)	-	(1,818)	(170)	9

^(a) Adjustment comprises workover costs of \$96 million and dewatering costs of \$52 million in HY2019.

Appendix 3: Energy Markets segment revenue reconciliation

The table below reconciles the difference between segment revenue and customer revenue disclosed in the Electricity, Natural Gas, LPG and Solar & Energy Services tables.

	HY20 (\$m)	HY19 (\$m)	Change (\$m)	Change (%)
Energy Markets segment revenue	6,590	7,314	(724)	(10)
<i>Less pool and other revenue:</i>				
Internal generation	(807)	(889)	82	(9)
Renewable PPAs ^(a)	(10)	(114)	104	(91)
Other PPAs ^(a)	(10)	(38)	28	(74)
Pool revenue	(827)	(1,041)	214	(21)
Other ^(b)	(55)	(47)	(8)	17
Total customer revenue	5,708	6,226	(518)	(8)

^{a)} HY2020 includes only gross settled PPAs, following a change in the revenue recognition policy from 1 July 2019. HY2019 included both net settled and gross settled PPAs. Net settled Renewable PPAs for HY2020 amount to \$77 million and are presented in cost of sales on a net basis. There were no net settled Other PPAs.

^(b) Other includes ancillary services, transmission use of system and other items which are partially offset in cost of energy.

Appendix 4: Reconciliation to HY2019 cash flow

Prior period items have been reclassified within operating cash flow to align with statutory cash flow classifications.

	HY19 Pre-reclass	Share based remuneration	Bad debt expense	HY19 Post-reclass
(\$m)				
Underlying EBITDA	1,727	-	-	1,727
APLNG Underlying EBITDA (non-cash)	(1,042)	-	-	(1,042)
Non-cash items in Underlying EBITDA	2	9	43	54
Change in working capital	(3)	-	(43)	(46)
Other	(58)	(9)	-	(67)
Tax paid	(73)	-	-	(73)
Cash flow from operating activities	553	-	-	553

Appendix 5: Financial instruments and fair value adjustments

(\$m)	Financial asset/(liability)		Balance Sheet Impact			Income Statement Impact		
	31 Dec 2019	30 Jun 2019	Inc/(dec) in financial instrument	Inc/(dec) in other net assets	Total inc/(dec) in net assets	Gain/(loss) included in Underlying Profit	Pre-tax Gain/(loss) excluded from Underlying Profit	Post-tax Gain/(loss) excluded from Underlying Profit
Oil and gas derivatives								
Oil and gas hedges - Integrated Gas	(59)	(60)	1	(113)	(112)	(116)	4	3
Oil and gas hedges - Energy Markets	17	21	(4)	30	26	18	8	6
Other commodity hedges	(5)	(8)	3	(6)	(3)	(3)	-	-
	(47)	(47)	-	(89)	(89)	(101)	12	9
Electricity derivatives								
Electricity swaps and options	50	172	(122)	101	(21)	(12)	(9)	(6)
Power purchase agreements ^(a)	2	(512)	514	(512)	2	-	2	1
Environmental derivatives	(87)	(127)	40	(0)	40	-	40	28
	(35)	(467)	432	(412)	21	(12)	33	23
FX and interest rate derivatives								
Foreign exchange contracts	(181)	(195)	14	(24)	(10)	-	(10)	(7)
Foreign currency debt hedges	421	658	(237)	186	(51)	-	(51)	(36)
Interest rate swaps	(16)	(18)	2	-	2	-	2	1
	224	445	(221)	162	(59)	-	(59)	(42)
Decrease in fair value of derivatives (financial statements Note A1(a))							(14)	(10)
Other financial assets/liabilities								
MRCPS issued by APLNG ^(b)	2,662	3,045	(383)	518	135	95	40	28
Environmental certificates and surrender obligation	(12)	3	(15)	(270)	(285)	(316)	31	22
Settlement Residue Distribution Agreement units	71	54	17	5	22	3	19	13
Other investments	170	60	110	(108)	2	-	2	1
Increase in fair value of other financial assets/liabilities (financial statements Note A1(a))							92	64
Foreign exchange loss on LNG-related financing (financial statements Note A1(a))							35	24
Total Fair value and foreign exchange movements (financial statements Note A1(a))							113	78

Reconciliation of net derivative liability to financial statements

Derivative assets	920	1,434
Derivative liabilities	(778)	(1,503)
Net derivative liability	142	(69)

^(a) The majority of Origin's renewable power purchase agreements meet the definition of a lease under AASB 16. As such, effective 1 July 2019, a net derivative liability of \$512 million was derecognised via an adjustment to opening retained earnings.

^(b) Under AASB 9, from 1 July 2018, Origin Energy holds MRCPS at fair value, rather than at cost.

Appendix 6: APLNG reversion

In 2002, APLNG acquired various CSG interests from Tri-Star that are subject to reversionary rights and an ongoing royalty in favour of Tri-Star. If triggered, the reversionary rights require APLNG to transfer back to Tri-Star a 45 per cent interest in those CSG interests for no additional consideration. The reversion trigger will occur when the revenue from the sale of petroleum from those CSG interests, plus any other revenue derived from or in connection with those CSG interests, exceeds the aggregate of all expenditure relating to those CSG interests plus interest on that expenditure, royalty payments and the original acquisition price.

The affected CSG interests represent approximately 21 per cent of APLNG's 3P CSG reserves (as at 30 June 2019), and approximately 21 per cent of APLNG's 2P CSG reserves (as at 30 June 2019).

Tri-Star served proceedings on APLNG in 2015 ('reversion proceeding') claiming that reversion occurred as early as 1 November 2008 following ConocoPhillips' investment in APLNG, on the assertion that the equity subscription monies paid by ConocoPhillips, or a portion of them, was revenue for purposes of the reversion trigger. Tri-Star has also claimed in the alternative that reversion occurred in 2011 or 2012 following Sinopec's investment in APLNG. These claims are referred to in this document as Tri-Star's 'past reversion' claims.

Tri-Star has made other claims in the reversion proceeding against APLNG including by a further amended statement of claim filed by Tri-Star with the leave of the court in September 2019. These relate to other aspects of the reversion trigger (including as to the calculation of interest, calculation of revenue and the nature and quantum of APLNG's expenditures that can be included), the calculation of the royalty payable by APLNG to Tri-Star, rights in respect of infrastructure, and claims relating to gas sold by APLNG following the alleged reversion dates.

APLNG denies these claims and filed its initial defence and counter-claim in April 2016. Tri-Star responded with its reply and answer to APLNG's defence and counter-claim in March 2018. The timetable for the provision of APLNG's defences and counterclaims in response to the recently amended pleadings by Tri-Star is set out further below.

If Tri-Star's past reversion claims are successful, then Tri-Star may be entitled to an order that reversion occurred as early as 1 November 2008. If the court determines that reversion has occurred, then APLNG may no longer have access to the reserves and resources that are subject to Tri-Star's reversionary interests and may need to source alternative supplies of gas (including from third parties) to meet its contracted commitments. There are also likely to be a number of further complex issues that would need to be resolved as a consequence of any such finding in favour of Tri-Star. These matters will need to be determined by the court (either in the current or in separate proceedings) or by agreement between the parties, and they include:

- the terms under which some of the affected CSG interests will be operated where currently there are no joint operating agreements in place;
- the amount of Tri-Star's contribution to the costs incurred by APLNG in exploring and developing the affected CSG interests between the date of reversion and the date of judgment, which APLNG has stated in its defence and counter-claim are in the order of \$3.1 billion (as at 31 December 2015);
- the consequences of APLNG having dealt with Tri-Star's reversionary interests between the date of reversion and the date of judgment, including the gas produced from them. Tri-Star has:
 - estimated the value of such gas which it has been unable to take since the alleged reversion, calculated by reference to the sale of gas as LNG, to be approximately \$3.37 billion (as at March 2019) and approximately \$1.3 billion per annum thereafter. In the alternative, Tri-Star claims that the value of such gas should be assessed by reference to the revenue derived by APLNG or its affiliates from LNG sales since the alleged reversion, being approximately \$2.5 billion (as at March 2019), or \$2.4 billion (as at March 2019) if the proceeds from sale of LNG is determined to be calculated net of liquefaction costs;
 - alleged that it should be paid the value of such gas or is otherwise entitled to set-off the value of such gas from any amount owing to APLNG arising from its counter-claim for contribution to the costs incurred by APLNG in exploring and developing the affected CSG interests between the date of reversion and the date of judgment; and
- if reversion occurs, the extent of the reversionary interests principally with respect to Tri-Star's ownership and/or rights to use or access certain project infrastructure.

If APLNG is successful in defending Tri-Star's claims in the reversion proceeding, the potential for reversion to otherwise occur in the future in accordance with the reversion trigger will remain.

Tri-Star has also commenced proceedings against APLNG ('markets proceeding') which allege that APLNG breached three CSG joint operating agreements by failing to offer Tri-Star (and the other minority participants in those agreements) an opportunity to participate in the "markets" alleged to be constituted by certain of its LNG and domestic gas sales agreements, including the Sinopec and Kansai LNG sale agreements entered into by APLNG in 2011 and 2012. Tri-Star has alleged that it should have been offered participation in those sales agreements for its share of production from those three CSG joint ventures referable to both its small participating interests and its reversionary interests in those joint ventures. Tri-Star is seeking, among other things, damages and/or an order that APLNG offer Tri-Star (and the other minority participants in those CSG joint operating agreements) the opportunity to participate in those sales agreements for their proportionate share of production from those three CSG joint ventures.

In September 2019, Tri-Star, with the leave of the court, filed a further amended statement of claim in the markets proceeding. Tri-Star has, in its amended statement of claim, sought additional relief in respect of:

- the nature and scope of the obligations of APLNG as operator pursuant to the CSG joint operating agreements;
- Tri-Star's ownership and/or rights to use or access certain project infrastructure; and
- APLNG's entitlement as operator to charge (both historically and in the future) certain categories of costs under the relevant CSG joint operating agreements.

APLNG intends to defend the claims in both proceedings. APLNG is required to file and serve:

- its amended defence and counterclaim in the reversion proceeding by 30 April 2020; and
- its defence (and any counter-claim) in the markets proceeding by 31 March 2020.

A number of further filings will follow to close the pleadings. Once the pleadings have closed, the usual court process would involve a period of document disclosure, potentially court-ordered mediation and then finally a hearing. The timing for each of these steps is difficult to predict at this stage. APLNG expects that the two proceedings will be managed in parallel.

If APLNG is not successful in defending all or some of the claims being made in the proceedings by Tri-Star, APLNG's financial performance may be materially adversely impacted and the amount and timing of cash flows from APLNG to its shareholders, including Origin, may be significantly affected.

Appendix 7: Glossary and interpretation

Financial measures

Statutory Financial Measures

Statutory Financial Measures are measures included in the Financial Statements for the Origin Consolidated Group, which are measured and disclosed in accordance with applicable Australian Accounting Standards. Statutory Financial Measures also include measures that have been directly calculated from, or disaggregated directly from financial information included in the Financial Statements for the Origin Consolidated Group.

Term	Meaning
Cash flows from investing activities	Statutory cash flows from investing activities as disclosed in the Statement of Cash Flows in the Origin Consolidated Financial Statements.
Cash flows from operating activities	Statutory cash flows from operating activities as disclosed in the Statement of Cash Flows in the Origin Consolidated Financial Statements.
Cash flows used in financing activities	Statutory cash flows used in financing activities as disclosed in the Statement of Cash Flows in the Origin Consolidated Financial Statements.
Net Debt	Total current and non-current interest-bearing liabilities only, less cash and cash equivalents excluding cash to fund APLNG day-to-day operations.
Non-controlling interest	Economic interest in a controlled entity of the consolidated entity that is not held by the Parent entity or a controlled entity of the consolidated entity.
Statutory Profit/Loss	Net profit/loss after tax and non-controlling interests as disclosed in the Income Statement in the Origin Consolidated Financial Statements.
Statutory earnings per share	Statutory Profit/Loss divided by weighted average number of shares as disclosed in the Income Statement in the Origin Consolidated Financial Statements.

Non-IFRS Financial Measures

This document includes certain Non-IFRS Financial Measures. Non-IFRS Financial Measures are defined as financial measures that are presented other than in accordance with all relevant Accounting Standards. Non-IFRS Financial Measures are used internally by management to assess the performance of Origin's business, and to make decisions on allocation of resources. The Non-IFRS Financial Measures have been derived from Statutory Financial Measures included in the Origin Consolidated Financial Statements, and are provided in this report, along with the Statutory Financial Measures to enable further insight and a different perspective into the financial performance, including profit and loss and cash flow outcomes, of the Origin business.

The principal non-IFRS profit and loss measure of Underlying Profit has been reconciled to Statutory Profit in section 4.3. The key Non-IFRS Financial Measures included in this report are defined below.

Term	Meaning
AASB	Australian Accounting Standards Board
Adjusted Net Debt	Net Debt adjusted to remove fair value adjustments on hedged borrowings
Adjusted Net Debt/ Adjusted Underlying EBITDA	Calculated as Adjusted Net Debt / (Origin Underlying EBITDA – Share of APLNG Underlying EBITDA + net cash from APLNG) over the relevant 12 month period.
Average interest rate	Interest expense divided by Origin's average drawn debt during the period.
Free Cash Flow	Net cash from operating and investing activities (excluding major growth projects), less interest paid.

Term	Meaning
Gearing	Adjusted Net Debt / (Adjusted Net Debt + Total equity)
Gross Profit	Revenue less cost of goods sold.
HY20 (Current period)	Half year ended 31 December 2019.
HY19 (Prior period)	Half year ended 31 December 2018.
Items excluded from Underlying Profit (IEUP)	Items that do not align with the manner in which the Chief Executive Officer reviews the financial and operating performance of the business which are excluded from Underlying Profit. See section 4.4 for details.
MRCPS	Mandatorily redeemable cumulative preference shares.
Non-cash fair value uplift	Reflects the impact of the accounting uplift in the asset base of APLNG which was recorded on creation of APLNG and subsequent share issues to Sinopec. This balance will be depreciated in APLNG's income statement on an ongoing basis and, therefore, a dilution adjustment is made to remove this depreciation.
Proportionate Free Cash Flow	Origin's plus share of APLNG Free Cash Flow, excluding transactions between Origin and APLNG shareholders.
Share of ITDA	Origin's share of equity accounted interest, tax, depreciation and amortisation.
Total Segment Revenue	Total revenue for the Energy Markets, Integrated Gas and Corporate segments, as disclosed in note A1 of the Origin Consolidated Financial Statements.
Underlying EPS	Underlying Profit/Loss divided by weighted average number of shares.
Underlying EBITDA	Underlying earnings before underlying interest, underlying tax, underlying depreciation and amortisation (EBITDA) as disclosed in note A1 of the Origin Consolidated Financial Statements.
Underlying share of ITDA	Share of interest, tax, depreciation and amortisation of equity accounted investees adjusted for items excluded from Underlying Profit.
Underlying Profit/Loss	Underlying net profit/loss after tax and non-controlling interests as disclosed in note A1 of the Origin Consolidated Financial Statements.
Underlying ROCE (Return on Capital Employed)	<p>Calculated as Adjusted EBIT / Average Capital Employed.</p> <p>Average Capital Employed = Shareholders Equity + Origin Debt + Origin's Share of APLNG project finance - Non-cash fair value uplift + net derivative liabilities. The average is a simple average of opening and closing in any 12 month period.</p> <p>Adjusted EBIT = Origin Underlying EBIT and Origin's share of APLNG Underlying EBIT + Dilution Adjustment = Statutory Origin EBIT adjusted to remove the following items: a) Items excluded from underlying earnings; b) Origin's share of APLNG underlying interest and tax; and c) the depreciation of the Non-cash fair value uplift adjustment. In contrast, for remuneration purposes Origin's statutory EBIT is adjusted to remove Origin's share of APLNG statutory interest and tax (which is included in Origin's reported EBIT) and certain items excluded from underlying earnings. Gains and losses on disposals and impairments will only be excluded subject to Board discretion.</p>

Non-Financial Terms

Term	Meaning
1P reserves	Proved Reserves are those reserves which analysis of geological and engineering data can be estimated with reasonable certainty to be commercially recoverable. There should be at least a 90 per cent probability that the quantities actually recovered will equal or exceed the estimate.
2P reserves	The sum of Proved plus Probable Reserves. Probable Reserves are those additional reserves which analysis of geological and engineering data indicate are less likely to be recovered than Proved Reserves but more certain than Possible Reserves. There should be at least a 50 per cent possibility that the quantities actually recovered will equal or exceed the best estimate of Proved plus Probable Reserves (2P).
3P reserves	Proved plus Probable plus Possible Reserves. Possible Reserves are those additional Reserves which analysis of geological and engineering data suggest are less likely to be recoverable than Probable Reserves. The total quantities ultimately recovered from the project have at least a 10 per cent probability of exceeding the sum of Proved plus Probable plus Possible (3P), which is equivalent to the high estimate scenario.
2C resources	The best estimate quantity of petroleum estimated to be potentially recoverable from known accumulations by application of development oil and gas projects, but which are not currently considered to be commercially recoverable due to one or more contingencies. The total quantities ultimately recovered from the project have at least a 50 per cent probability to equal or exceed the best estimate for 2C contingent resources.
AEMO	Australian Energy Market Operator
APLNG	A reference to APLNG or Australia Pacific LNG is a reference to Australia Pacific LNG Pty Limited in which Origin holds a 37.5 per cent shareholding.
Boe	Barrel of oil equivalent
C&I	Commercial and Industrial
CY	Calendar year
Discounting	For Energy Markets, discounting refers to offers made to customers at a reduced price to the regulated price cap (if applicable) or Origin's published tariffs.
DMO	Default Market Offer
ERP	Enterprise resource planning
GJ	Gigajoule = 10^9 joules
JCC	Japan Customs-cleared Crude (JCC) is the average price of crude oil imported to Japan. A JCC slope is one of the most common way to price LNG contracts in Japan and other first-generation buyers in Korea and Taiwan. By extension, most of the historical term contracts out of Malaysia, Australia and Indonesia were based on JCC. APLNG's long term LNG sales contracts are priced based on the JCC index.
Joule	Primary measure of energy in the metric system.
Kansai	When referring to the off-taker under the LNG Sale and Purchase Agreement (SPA) with APLNG, means Kansai Electric Power Co. Inc.

Term	Meaning
kT	kilo tonnes = 1,000 tonnes
Mtpa	Million tonnes per annum
MW	Megawatt = 10^6 watts
MWh	Megawatt hour = 10^3 kilowatt hours
NEM	National Electricity Market
NPS	Net Promoter Score (NPS) is a measure of customers' propensity to recommend Origin to friends and family
PJ	Petajoule = 10^{15} joules
PJe	Petajoules equivalent = an energy measurement used to represent the equivalent energy in different products so the amount of energy contained in these products can be compared.
PPA	Power Purchase Agreement
Sinopec	When referring to the off-taker under the LNG Sale and Purchase Agreement (SPA) with APLNG, means China Petroleum & Chemical Corporation which has appointed its subsidiary Unipac Asia Co. Ltd. to act on its behalf under the LNG SPA.
SME	Small Medium Enterprise
TRIFR	Total Recordable Incident Frequency Rate
TW	Terawatt = 10^{12} watts
TWh	Terawatt hour = 10^9 kilowatt hours
VDO	Victorian Default Offer
VWAP	Volume Weighted Average Price
Watt	A measure of power when a one ampere of current flows under one volt of pressure.

Interpretation

All comparable results reflect a comparison between the current period and the prior period ended 31 December 2018, unless specifically stated otherwise.

A reference to APLNG or Australia Pacific LNG is a reference to Australia Pacific LNG Pty Limited in which Origin holds a 37.5 per cent shareholding. Origin's shareholding in APLNG is equity accounted.

A reference to \$ is a reference to Australian dollars unless specifically marked otherwise.

All references to debt are a reference to interest bearing debt only.

Individual items and totals are rounded to the nearest appropriate number or decimal. Some totals may not add due to rounding of individual components.

When calculating a percentage change, a positive or negative percentage change denotes the mathematical movement in the underlying metric, rather than a positive or a detrimental impact. Percentage changes on measures for which the numbers change from negative to positive, or vice versa, are labelled as not applicable.