

To	Company Announcements Office	Facsimile	1300 135 638
Company	ASX Limited	Date	18 February 2021
From	Helen Hardy	Pages	67
Subject	ORG Half Year Results for the period ended 31 December 2020		

We attach the following documents relating to Origin Energy's Results for the half year ended 31 December 2020:

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

Regards



Authorised by:
Helen Hardy
Company Secretary

02 8345 5000



Rance Chadwick
Multi-Skilled Operator Lead

Appendix 4D



Origin Energy Limited and its Controlled Entities

Results for announcement to the market

31 December 2020

		31 December 2020	31 December 2019
Total Group Revenue (\$m)	down 10% to	6,068	6,728
Profit for the period attributable to members of the parent entity (\$m)	down 98% to	13	599
		31 December 2020	30 June 2020
Net tangible asset backing per ordinary security ¹	down 12% to	\$3.41	\$3.86
Dividends		Amount per security	Franked amount per security at 30 per cent tax
Interim dividend determined subsequent to 31 December 2020		12.5 cents	nil
Previous corresponding period (31 December 2019)		15 cents	15 cents
Record date for determining entitlements to the dividend		4 March 2021	
Dividend payment date		26 March 2021	

¹ The calculation of net tangible assets excludes lease related right-of-use assets of \$448 million (Jun 2020: \$467 million), categorised under Property, Plant & Equipment on balance sheet, as these are not considered tangible in nature.

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 2020.

Refer to the attached Directors' Report and Operating and Financial Review for commentary

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About Origin



ASX TOP
50

Leading integrated energy company

Listed on the Australian Securities Exchange in 2000



4.2 million customer accounts

Electricity, gas and LPG customers across Australia and the Pacific



5,200 employees

Inclusivity in the workplace, leading parental support



Five-pillar approach to decarbonisation

Australia's first science-based emissions targets



Powering Australia

7,500 MW generation portfolio, including 1,400 MW owned and contracted renewables and storage



37.5% interest in Australia Pacific LNG

Exporting to Asia, supplied ~30% of Australian east coast gas demand in CY2020



Supporting Australian communities

Over its 10 years, the Origin Energy Foundation has contributed more than \$27 million



Driving future energy innovation

Investing in new technology, start-ups and future fuels



Exploration and development

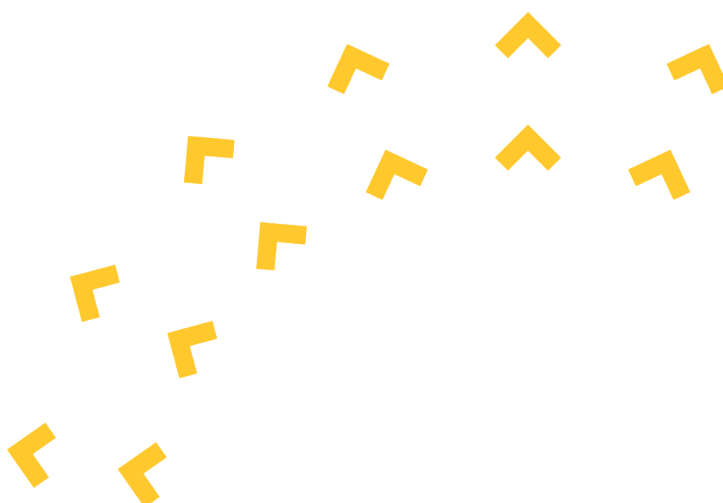
Positions in three large prospective onshore basins - the Beetaloo, Canning and Cooper-Eromanga

Bringing

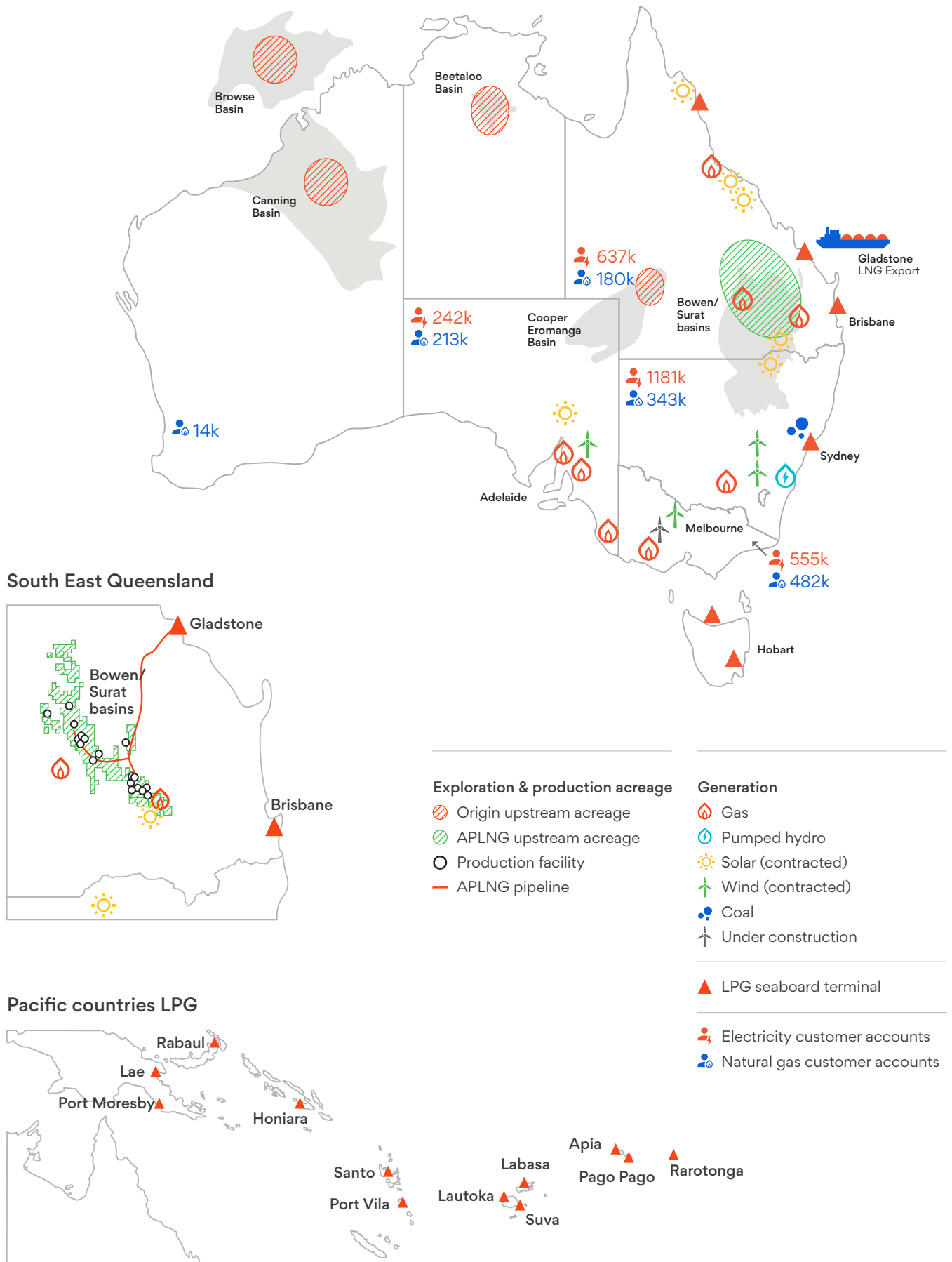
**good
energy**

to everything

we say
and do.



Where We Operate



Operating and Financial Review

For the half year ended 31 December 2020

This report forms part of the Directors' Report.



1 Highlights

Sustainability performance

Getting energy right for our customers

Our customers are at the heart of everything we do. We are committed to providing 'good energy' that is reliable, affordable and sustainable.

- Support during COVID-19 with a commitment to not disconnect or default list retail customers who contact us, until at least 31 March 2021
- Ongoing customer support with payment extensions and flexible payment plans through our Power On hardship program
- Spike (demand response) growing to ~28k customers
- Lower energy prices passed through to our customers, including 11 per cent average reduction in Victorian residential prices from 1 January 2021
- APLNG supplied ~30 per cent of east coast gas demand in CY2020

Getting energy right for our communities

We respect the rights and interests of the communities in which we operate, and consult with them to understand and manage our impact.

- Regional procurement increased to 18 per cent from 17 per cent in HY2020¹
- Continued engagement with Traditional Owners (TOs) in the Beetaloo, including completing sacred site clearance surveys, hosting our TOs on-site during fracture stimulation operations and annual on-country meetings
- \$4.9 million direct and indirect spend with Aboriginal and Torres Strait Islander businesses in HY2021, up from \$2.0 million in HY2020
- Our employees volunteered over 4,800 hours through the Origin Energy Foundation's Give Time Volunteer program during the half year period
- Released our first Modern Slavery Statement in August 2020

Getting energy right for the planet

We unequivocally support the Paris Agreement to limit the world's temperature rise to well below 2°C above pre-industrial levels and pursue efforts to further limit this increase to 1.5°C.

- Solar installations increased by 47 per cent to 38 MW in HY2021
- New short term emissions target linked to executive remuneration
- Commenced plans to update Origin's emissions reduction targets to a 1.5°C pathway
- Green hydrogen and ammonia collaborations and projects underway
- Progressing plans for a battery at Eraring with capacity of up to 700MW over three stages, with expression of interest to supply and install issued
- Joined EV100, a global initiative to accelerate the uptake of electric vehicles

Our people

Our people are one of our greatest strengths. Having a diverse and inclusive workplace is key to creating a culture where people thrive, contributing to the success of our business.

- Continued support for our people and their wellbeing during COVID-19 and now transitioning to hybrid ways of working
- TRIFR of 2.8 at December 2020, compared to 2.6 at June 2020. We are enhancing our focus on HSE learning to prevent serious harm
- 32 per cent of women in senior roles, consistent with June 2020
- Launched the Good Energy Moments internal recognition platform
- Origin named Australia's Best workplace to Give Back in 2021 for the second year in a row, and awarded Silver in 2020 Workplace Giving Excellence Awards^{2,3}
- Origin certified a Great Place to Work by the Great Place to Work Institute



Customers

18,100

customers completed our PowerOn hardship program in HY2021



Communities

18%

regional procurement as a % of total procurement spend, up from 17% in HY2020



Planet

38 MW

residential and business solar installs, up 47% from 26MW in HY2020



People

2.8

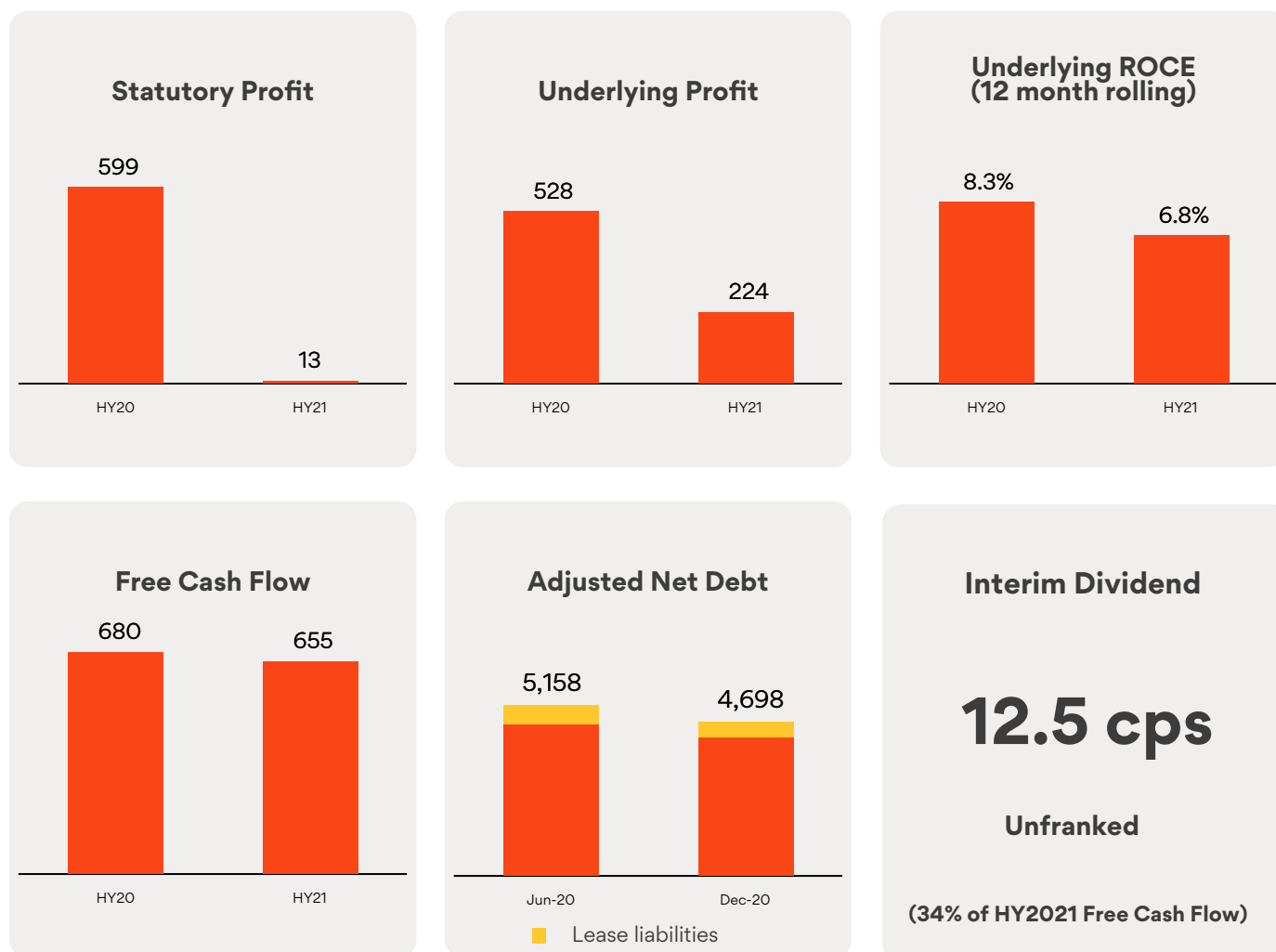
TRIFR (rolling 12 months) compared to 2.6 at June 2020

¹ HY2020 regional procurement spend adjusted from previously reported 14 per cent to reflect inclusion of indirect spend.

² In GoodCompany's list of the Top 40 Best Workplaces to Give Back.

³ Workplace Giving Australia Awards, in the "Best Employer Response to a Crisis" category.

Financial performance



HY2021 was characterised by the ongoing impacts of the COVID-19 pandemic on energy demand and prices across our key commodities: electricity, natural gas and oil. The impact in domestic energy markets has been exacerbated by mild summer weather, continued growth in renewables and regulatory uncertainty.

Underlying Profit was lower at \$224 million with Energy Markets impacted by lower wholesale prices, one-off network costs, roll-off of legacy contracts and increased amortisation expense. Earnings from APLNG were impacted by a lower realised oil price, partially offset by gains in oil hedging and lower interest expense. Statutory Profit of \$13 million reflected non-cash unrealised losses on fair value and FX movements and costs relating to a decision to defer the surrender of large-scale generation certificates (LGCs).

During the period our operations continued to perform reliably and efficiently. Our generation fleet met all demand requirements with minimal unforced outages. APLNG responded swiftly to recovering market demand with record production in the December 2020 quarter. APLNG also delivered record low capital and operating expenditure driven by improved field performance and ongoing operational efficiencies. Oil prices have recovered from lows in April 2020, however because of the pricing lag in APLNG's oil-linked contracts, more recent prices will be realised in the second half of FY2021.

Strong Free Cash Flow of \$655 million was driven by a high cash conversion in Energy Markets due to lower working capital requirements, \$265 million cash distributions from APLNG, lower capital expenditure, and lower interest and tax payments. This enabled Adjusted Net Debt to reduce by \$460 million to \$4.7 billion while allowing for investment in future growth and dividends to shareholders. Adjusted Net Debt/Adjusted Underlying EBITDA (annualised) was 2.0x, the low end of our 2.0-3.0x target range.

Our strategic partnership with Octopus Energy to radically transform our retail operations is progressing with 51,000 customer accounts migrated to the new platform by late 2020. Octopus continues its growth trajectory, announcing a new partnership with Tokyo Gas and entry into the Japanese market, providing Origin with exposure to these growth opportunities through our 20 per cent shareholding in Octopus Energy.

We progressed upstream exploration and appraisal in the Beetaloo and Cooper-Eromanga Basins and in late 2020 we announced a farm in to seven permits in the prospective Canning Basin.

Energy Markets performance

Underlying EBITDA

\$635M

Down \$88m or 12% vs HY2020

Operating cash flow

\$756M

Up \$53m vs HY2020 with cash to EBITDA conversion of 119%

Underlying ROCE (12 month rolling)

8.7%

Down 1.5% vs HY2020

Cost to serve

\$254M

Down \$13m or 5% vs HY2020

Customer accounts

4,240k

Including electricity, gas, broadband and LPG

Retail X

51k

First wave of customer accounts migrated to the new Kraken platform

The impacts of COVID-19 on energy demand, combined with milder weather and increased renewable penetration, has contributed to a decline in wholesale energy prices. Energy Markets Underlying EBITDA reduced in HY2021 primarily due to these lower prices flowing through to customer tariffs, as well as increased network costs not recovered in regulated tariffs and the roll-off of certain gas transport capacity sales contracts. This was partially offset by lower portfolio cost of energy and continued savings in cost to serve. Operating cash flow increased in the period, achieving an EBITDA to cash conversion rate of 119 per cent. Despite the challenges posed by COVID-19, our operational performance remains strong with minimal unforced generation outages and delivery of our retail cost out program is on track.

Our peaking generation portfolio is well positioned for the energy transition and we continue to explore opportunities that would further improve our flexibility and capacity, including grid-scale storage, pumped hydro and fast-start gas. We are also changing the role of Eraring to better position it for increasing renewables. While current market and policy conditions make investment challenging, our longer-term view remains that as coal generation exits, new firm and flexible generation capacity will be required to complement increasing renewable generation. We will look to partner with governments or other players as opportunities arise.

Our gas portfolio remains a strength with scale to contract from major supply fields and commit to significant transport and storage capacity, providing us flexibility to move gas to where it is needed most. We are actively exploring options to incorporate new gas supply and capacity into our portfolio over the longer term.

Our retail transformation program is on track with a focus on leading in customer experience at the lowest cost, growing new revenue streams and offering simplified, rewarding and flexible products. Our strategic NPS was +5 in the month of December 2020 and we continue to provide support to customers impacted by COVID-19 with payment extensions, our hardship program and a pause on credit default listing. We are on track to deliver cost savings of \$100 million by FY2021 with \$85 million realised since FY2018.

Retail markets remain competitive, however with our disciplined approach we held the number of overall customer accounts relatively stable and maintained a churn rate of 4.4 per cent below the market. We continue to see growth in Community Energy Services (CES), Solar, Storage and Broadband.

Our strategic partnership with Octopus Energy aims to accelerate our strategy to deliver a superior customer experience at low cost, while opening up future growth opportunities. We have established a standalone business (Retail X) to undertake a bottom up build of Octopus' operating model, technology platform (Kraken) and distinctive culture. We migrated 51,000 customer accounts to the Kraken platform in HY2021 and are targeting capital and operating cost savings of \$100 - \$150 million by FY2024.

In December 2020, we announced an additional investment of ~\$65 million in Octopus Energy to maintain our 20 per cent equity share following a partnership between Octopus and Tokyo Gas that will see the launch of an Octopus branded retailer into the Japanese market. Tokyo Gas will also invest US\$200 million for a 9.7 per cent equity stake alongside Origin. The transaction reflects a material value uplift in Octopus Energy since our initial investment, evidencing the company's strong performance and impressive growth trajectory.

Integrated Gas performance

Underlying EBITDA

\$566M

Down \$340m or 38% vs HY2020,
Underlying EBIT down \$124m

Cash distributions from APLNG

\$265M

Down \$255m or 49% vs HY2020

Underlying ROCE (12 months rolling)

5.6%

Down 2.8% vs HY2020

APLNG production (37.5%)

133 PJ

Down 1% vs HY2020

Average realised LNG price

**US\$5.5/
MMBTU**

Down 43% vs HY2020,
down 46% in A\$ terms at \$7.2/GJ

Opex and capex/GJ

\$2.9/GJ

17% improvement vs HY2020

APLNG delivered stable production in HY2021 despite curtailing production in the first quarter in response to lower demand. The ramp up to record production in the second quarter demonstrated APLNG's ability to respond to changes in market demand with strong well recovery post curtailment and continued improvement in utilisation of processing capacity and facility reliability.

Total APLNG capital and operating expenditure was at a record low, decreasing by more than \$500 million compared with HY2020. This was driven by improved field performance enabling lower gas purchases and reduced development activity with fewer drilling rigs, along with lower infrastructure spend, as well as lower royalties and tariffs and exploration spend.

Despite this strong operational performance at APLNG, Integrated Gas Underlying EBITDA reduced due to lower APLNG earnings primarily as a result of lower realised oil prices on contracted LNG, partially offset by oil hedging gains.

APLNG matched its previous operated daily production record of 1,614 TJ/day on two occasions and delivered 64 contract and spot LNG cargoes, with strong demand expected under long term contracts for CY2021.

Other highlights across Integrated Gas during the period included:

- fracture stimulation and initial flowback and production testing undertaken at the Kyalla-117 well in the Beetaloo Basin with encouraging results that met the objective to flow liquid-rich gas. Further work is underway to enable continuous unassisted production before commencing an extended production test during the dry season with results expected in Q4 FY2021;
- drilling the Obelix-2 vertical exploration well to test the maturity of the Toolebuc Formation in the Cooper-Eromanga Basin, with log and core data currently being evaluated;
- announcing a farm-in with Buru Energy for a 40-50 per cent equity share in seven permits in the prospective Canning Basin where Origin will fund an estimated \$35 million work program over two-years;
- undertaking a number of renewable fuel partnerships and projects, including a green hydrogen export project in Townsville, a feasibility study into an export scale green ammonia plant in Tasmania's Bell Bay, and a green hydrogen project with Jemena for the Western Sydney Green Gas Project.

2 FY2021 guidance

Guidance is provided on the basis that market conditions and the regulatory environment do not materially change, adversely impacting on operations. Considerable uncertainty exists relating to potential ongoing impacts of COVID-19 and this guidance is subject to any further material impact on demand and customer affordability.

		FY20	FY21 previous guidance	FY21 updated guidance
Energy Markets Underlying EBITDA	A\$m	1,459	1,150-1,300	1,000-1,140
Integrated Gas - APLNG 100%				
Production	PJ	708	675-705	685-705
Capex and opex, excluding purchases ¹	A\$m	(2,482)	(2,100)-(2,300)	(2,100)-(2,300)
Unit capex + opex, excluding purchases ¹	A\$/GJ	3.5	3.0-3.4	3.0-3.4
Distribution Breakeven ²	US\$/boe	29	US\$25-29	US\$24-28
Cash distribution from APLNG	A\$m	1,275		575-675 ³
Integrated Gas - Other				
Oil/LNG hedging and trading (loss)/gain ⁴	A\$m	(92)	54	53
Corporate				
Net corporate costs	A\$m	(59)	(75)-(85)	(90)-(100)
Capital expenditure (excluding investments)	A\$m	(500)	(420)-(470)	(400)-(440)

¹ Opex excludes purchases and reflects royalties at breakeven oil prices. FY2020 excludes Ironbark acquisition costs

² FY2021 AUD/USD rate 0.74 (previous guidance: 0.69, FY2020 0.67)

³ Assuming an average AUD/USD rate of 0.74 and that all APLNG debt covenants are met

⁴ FY2021 guidance is based on forward market prices as at 15 February 2021

Energy Markets

We estimate Energy Markets Underlying EBITDA to be lower than FY2020 at **\$1,000 - \$1,140 million** driven by:

- Electricity Gross Profit reduction of \$250-\$290 million reflecting lower wholesale prices flowing into retail and business tariffs, a one-off increase in network costs not recovered in regulated tariffs (\$40 million), as well as the impacts of mild summer conditions on demand and volatility;
- Natural Gas Gross Profit reduction of \$200-\$250 million reflecting the roll-off of legacy supply and transport capacity sales contracts (\$70 million), repricing of tariffs, as well as the impact of lower business sales volumes. Higher gas procurement costs are expected in the second half, as a portion of Origin's supply costs are linked to the JKM index. While this was hedged over the northern hemisphere winter peak, Origin has some exposure to JKM prices in the final quarter of FY2021 and these prices have increased substantially; and
- Cost to serve savings of approximately \$70 million offsetting the above impacts, including ~\$40 million related to COVID-19 impacts from FY2020 not repeating, and in line with the target of \$100 million savings from FY2018.

Integrated Gas

We have upgraded APLNG (100 per cent) FY2021 production guidance to **685-705 PJ**.

We estimate total APLNG capex + opex of **\$2,100-\$2,300 million** reflecting reduced development activity with fewer drilling rigs, reduced workovers and lower infrastructure spend due to Talinga Orana Gas Gathering Station being online, and lower exploration and appraisal (E&A) spend.

Targeting FY2021 **APLNG distribution breakeven of US\$24-28/boe** including approximately US\$11/boe in project finance costs.

Origin's FY2021 cash distributions from APLNG are expected to be \$575-\$675 million, at an estimated realised oil price of US\$43/bbl.¹

We estimate a net gain on Origin's oil/LNG hedging and trading positions of \$53 million based on current forward prices. Other Origin only costs are estimated to be similar to FY2020 and include overheads net of recoverables from APLNG, Beetaloo Basin and other costs.

Corporate

FY2021 Corporate costs are estimated to be **\$90-\$100 million**, reflecting declining functional costs more than offset by higher insurance costs, one-off enterprise resource planning (ERP) costs and FY2020 FX gains reversing.

Capital expenditure is estimated to be **\$400-\$440 million** primarily due to lower spending on generation projects, and **includes \$60-\$70 million E&A spend**, primarily relating to Beetaloo appraisal. This excludes \$140-\$150 million relating to the Octopus equity investment.

Depreciation and amortisation is estimated to be **\$50-\$60 million** higher than FY2020 driven by decommissioning retail IT systems and increased generation restoration provisions.

Estimated net interest savings of **\$60-\$70 million**.

Free cash flow yield is estimated to be greater than **10 per cent** for FY2021.²

¹ As at 29 January 2021, ~97 per cent of FY2021 APLNG related JCC oil exposure (~24mmbbl Origin share) priced at ~US\$43/bbl before hedging, based on contract lags.

² Based on Free Cash Flow over last twelve months and 30 day VWAP of \$4.82 per share as at 16 February 2021.

3 Financial update

3.1 Reconciliation from Statutory to Underlying Profit

	HY21 (\$m)	HY20 (\$m)	Change (\$m)	Change (%)
Statutory Profit/(Loss) - total operations	13	599	(586)	(98)
Items Excluded from Underlying Profit (post-tax)				
Increase/(decrease) in fair value and foreign exchange movements	(124)	78	(202)	(259)
<i>Oil and gas</i>	(126)	9	(135)	n/a
<i>Electricity</i>	(12)	23	(35)	(152)
<i>FX and interest rate</i>	1	(42)	43	(102)
<i>Other financial asset/liabilities</i>	(134)	64	(198)	(309)
<i>FX loss on foreign-denominated financing</i>	146	24	122	508
Disposals, business restructuring and other	(87)	(7)	(80)	n/a
Total Items Excluded from Underlying Profit (post-tax)	(211)	71	(282)	(397)
Underlying Profit	224	528	(304)	(58)

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 they relate to.

- 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 4.2.2 for details of Origin's APLNG related oil hedging.
- Electricity derivatives including swaps, options 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 exposures associated with the debt portfolio. A significant portion of debt is Euro-denominated and cross-currency interest rate swaps hedge that debt to AUD.
- Other financial assets/liabilities reflects investments held by Origin, including MRCPS issued by APLNG.
- Foreign exchange on foreign-denominated financing reflects currency fluctuations on unhedged USD debt. Debt is maintained in USD to offset the USD investment in MRCPS, which delivers USD cash distributions.

Disposals, business restructuring and other are either non-cash or non-recurring items and are excluded from Underlying Profit to better reflect the underlying performance of the business. They include:

- \$112 million net cost relating to a decision to defer the surrender of a portion of Origin's 2020 Large-scale generation certificates. This decision results in Origin accruing a non-deductible shortfall charge of \$152 million that is refundable provided the certificates are surrendered within three years. Included in Underlying Profit is a charge of \$40 million reflecting the estimated future surrender cost based on a weighted average of the current forward price and purchases to date. The balance of \$112 million is excluded from Underlying Profit. The refund is currently tax assessable, however legislative change is before Parliament (refer to the Appendix for details);
- \$22 million relating to losses on disposal and restructuring, transformation and transaction costs; and
- \$47 million benefit relating to a revaluation of the Cameron LNG onerous contract provision associated with stronger near term assumptions for LNG prices relative to Henry Hub prices. The realised loss for the period is recognised in Underlying Profit.

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.

3.2 Unrecognised deferred tax liability - investment in APLNG

As previously disclosed, there are a number of items for which deferred tax positions have not been recognised, including a deferred tax liability of \$1,377 million as at 31 December 2020 in respect of our investment in APLNG.

A deferred tax liability arises when the accounting base of an asset is higher than the tax cost base. The accounting base of our investment in APLNG is significantly higher than the tax cost base primarily as a result of our equity accounted share of retained profits to date.

AASB 112 Income Taxes requires a deferred tax liability to be recognised for differences between the asset base and the tax cost base of investments unless two criteria are met:

1. the entity is able to control the timing of the reversal of the temporary difference; and
2. it is probable that the temporary difference will not reverse in the foreseeable future.

To date we have not recognised a deferred tax liability as we are able to control the timing of the reversal of the temporary difference and it has not been probable that the temporary difference will reverse in the foreseeable future, via dividends, capital returns or disposal.

It is possible that the temporary difference could reverse partly or fully, if current year profits or retained earnings are expected to be used to pay dividends or capital returns in a subsequent year that is within the foreseeable future, or if the investment is expected to be disposed of fully or partly.

An assessment of whether the conditions for the recognition of the deferred tax liability, in whole or in part, are met is completed each reporting period. Recognition would result in an upfront statutory non-cash tax expense, however the future economic impact will be driven by the timing and quantum of dividends, capital returns or disposal, including any potential franking credits. However, franking credits expected to be earned by APLNG in the future cannot be considered in the assessment of the quantum of deferred tax liability.

3.3 Underlying Profit

	HY21 (\$m)	HY20 (\$m)	Change (\$m)	Change (%)
Energy Markets	635	723	(88)	(12)
Integrated Gas - Share of APLNG	513	1,033	(520)	(50)
Integrated Gas - Other	53	(127)	180	(142)
Corporate	(47)	(39)	(8)	21
Underlying EBITDA	1,154	1,590	(436)	(27)
Underlying depreciation and amortisation (D&A)	(284)	(253)	(31)	12
Underlying share of ITDA of equity accounted investees	(472)	(672)	200	(30)
Underlying EBIT	398	665	(267)	(40)
Underlying interest income - MRCPS	58	95	(37)	(39)
Underlying interest income - Other	3	11	(8)	(73)
Underlying interest expense	(127)	(176)	49	(28)
Underlying profit before income tax and non-controlling interests	332	595	(263)	(44)
Underlying income tax expense	(108)	(66)	(42)	64
Non-controlling interests' share of Underlying Profit	(1)	(2)	1	(50)
Underlying Profit	224	528	(304)	(58)

Refer to Sections 4.1 and 4.2 respectively for Energy Markets and Integrated Gas analysis.

Corporate costs increased by \$8 million, primarily reflecting unfavourable FX movements (\$8 million) and ERP implementation costs (\$7 million) partly offset by the self-insurance costs from HY2020 not repeating (\$7 million).

Underlying D&A increased by \$31 million driven by decommissioning of retail IT systems and increased generation restoration provisions.

Underlying share of ITDA decreased \$200 million driven by lower ITDA from APLNG (\$218 million), comprising lower tax expense (\$130 million), lower net interest expense (\$46 million), and lower amortisation (\$42 million); partly offset by the inclusion of ITDA from Origin's 20 per cent equity share of Octopus Energy (\$18 million).

Underlying MRCPS interest income reduced \$37 million with a lower principal balance following buy-backs by APLNG, and a higher AUD/USD exchange rate.

Underlying net interest expense reduced by \$41 million, reflecting a lower net debt balance and refinancing activities.

3.4 Cash flows

Operating cash flow

	HY21 (\$m)	HY20 (\$m)	Change (\$m)	Change (%)
Underlying EBITDA	1,154	1,590	(436)	(27)
Underlying equity accounted share of EBITDA (non-cash)	(511)	(1,033)	522	(51)
Other non-cash items in Underlying EBITDA	59	59	-	-
Underlying EBITDA adjusted for non cash items	702	616	86	14
Change in working capital	64	(45)	109	(242)
<i>Energy Markets - excluding futures exchange collateral</i>	67	22	45	205
<i>Energy Markets - electricity futures exchange collateral</i>	28	(80)	108	(135)
<i>Integrated Gas - excluding APLNG</i>	(9)	10	(19)	(190)
<i>Corporate</i>	(22)	3	(25)	(833)
Other	(48)	(33)	(15)	45
Tax (paid)/refunded	(49)	(188)	139	(74)
Cash flow from operating activities	669	351	318	91

Operating cash flow increased \$318 million reflecting an increase in Underlying EBITDA adjusted for non-cash items (\$86 million) as well as lower working capital requirements (\$109 million) and lower tax paid (\$139 million).

Underlying equity accounted share of EBITDA (non-cash) reflects share of APLNG (\$513 million) and share of Octopus Energy (-\$2 million). Other non-cash items include bad and doubtful debts (+\$44 million), share based remuneration (+\$14 million) and exploration expense (+\$1 million).

Working capital decreased \$64 million in the period, primarily in Energy Markets reflecting lower net working capital in Retail driven by seasonality and lower tariffs (+\$104 million), the unwind of forward electricity hedge positions (+\$28 million), offset by higher green inventory (-\$52 million) primarily relating to the small scale renewable energy scheme.

Electricity futures collateral relates to cash deposited with the futures exchange associated with forward electricity hedge positions.

Investing cash flow

	HY21 (\$m)	HY20 (\$m)	Change (\$m)	Change (%)
Capital expenditure	(172)	(258)	86	(33)
Distribution from APLNG	265	520	(255)	(49)
Interest received from other parties	3	14	(11)	(79)
Investments/acquisitions	(48)	(8)	(40)	500
Disposals	1	233	(232)	(100)
Cash flow from investing activities	49	501	(452)	(90)

In response to the current economic and policy environment we are tightly managing our capital spend, with HY2021 capital expenditure of \$172 million down 33 per cent and comprising:

- generation sustain (\$33 million), primarily at Eraring (\$20 million) and Mortlake power station (\$4 million);
- other sustain (\$60 million) including spend in preparation for the move to five minute settlement of pool prices (\$18 million), LPG (\$11 million), and Origin ERP system replacement (\$14 million);
- productivity/growth (\$57 million) including licencing payment to Octopus Energy (\$20 million) and implementation of the Kraken system (\$5 million), CES (\$10 million), and other Energy Markets projects; and
- exploration and appraisal spend (\$22 million) primarily related to the appraisal program in the Beetaloo Basin.

Cash distributions from APLNG amounted to \$265 million comprising \$60 million of MRCPS interest (down from \$97 million in HY2020) and \$205 million of MRCPS buy-backs (down from \$423 million in HY2020). Disposals in the prior period relate primarily to sale of Ironbark.

Interest received decreased reflecting a lower cash balance following repayment of maturing debt obligations.

Investments include progress payment for the equity interest in Octopus Energy (\$36 million) and deferred consideration for OC Energy (\$11 million).

Financing cash flow

	HY21 (\$m)	HY20 (\$m)	Change (\$m)	Change (%)
Net proceeds/(repayment) of debt	(1,035)	(1,065)	30	(3)
Operator cash call movements	(30)	1	(31)	n/a
On-market purchase of employee shares	(38)	(28)	(10)	36
Close out of foreign currency contracts	(65)	(25)	(40)	160
Interest paid	(125)	(173)	48	(28)
Payment of lease liabilities	(33)	(35)	2	(6)
Dividends paid	(155)	(241)	86	(36)
Total cash flow from financing activities	(1,481)	(1,566)	85	(5)
Effect of exchange rate changes on cash	(3)	-	(3)	n/a

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

Operator cash call movements represent the movement in funds held and other balances relating to Origin's role as the 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 2020 was \$93 million.

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. This is prepared on the basis of equity accounting for APLNG.

The Octopus Energy investment is considered a major growth project and \$61 million of investing cash outflows has been excluded from HY2021 Free Cash Flow.

(\$m)	Energy Markets		Integrated Gas - Share of APLNG		Integrated Gas - Other		Corporate		Total	
	HY21	HY20	HY21	HY20	HY21	HY20	HY21	HY20	HY21	HY20
Underlying EBITDA	635	723	513	1,033	53	(127)	(47)	(39)	1,154	1,590
Non-cash items	53	46	(513)	(1,033)	5	3	4	10	(452)	(974)
Change in working capital	95	(58)	-	-	(9)	10	(22)	3	64	(45)
Other	(27)	(8)	-	-	(26)	(9)	6	(15)	(48)	(33)
Tax (paid) /refunded	-	-	-	-	-	-	(49)	(188)	(49)	(188)
Operating cash flow	756	703	-	-	21	(123)	(108)	(229)	669	351
Capital expenditure	(135)	(211)	-	-	(29)	(42)	(7)	(5)	(172)	(258)
Cash distribution from APLNG	-	-	-	-	265	520	-	-	265	520
(Acquisitions)/disposals	(48)	(8)	-	-	-	234	1	-	(47)	225
Interest received	-	-	-	-	-	-	3	14	3	14
Investing cash flow	(184)	(219)	-	-	236	712	(3)	9	49	501
Interest paid	-	-	-	-	-	-	(125)	(173)	(125)	(173)
Free Cash Flow including major growth	572	484	-	-	257	589	(236)	(393)	594	680
Major growth spend	61	-	-	-	-	-	-	-	61	-
Free Cash Flow	633	484	-	-	257	589	(236)	(393)	655	680

3.5 Shareholder returns

The Board has determined to pay an unfranked 12.5 cps dividend in respect of the first half of FY2021, which represents 34 per cent of Free Cash Flow.

During the period, \$61 million was incurred in respect of the strategic partnership with Octopus Energy. This has been treated as major growth expenditure and excluded from Free Cash Flow when measuring the dividend pay-out percentage.

The nil franking percentage reflects the current franking credit balance. A low franking balance is expected over FY2021-23 due to higher tax deductions and consequential lower tax payments associated with realised foreign exchange losses on debt maturities and deducting the remaining tax cost base of Browse Basin exploration permits in the FY2020 income tax return.

Origin will seek to deliver sustainable shareholder returns through the business cycle and will target a payout range of 30 per cent to 50 per cent of Free Cash Flow per annum in the form of ordinary dividends and/or on-market share buybacks. Free Cash Flow is defined as cash from operating activities and investing activities (excluding major growth projects), less interest paid. Remaining cash flow will be applied to further debt reduction and other financing activities, 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 share 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.

3.6 Capital management

During HY2021 the following capital management initiatives were completed:

- Repaid and extended the tenor of our debt facilities:
 - repaid €750 million (A\$950 million) 2.8 per cent effective interest rate debt;
 - repaid US\$65 million (A\$86 million) 4.4 per cent fixed interest rate debt;
 - extended the tenor of A\$1.1 billion of bank debt from FY2023 to FY2025; and
 - extended the tenor of a US\$200 million (A\$260 million) bank guarantee facility from FY2023 to FY2025.
- Cancelled \$0.2 billion in undrawn bank loan facilities that were surplus to requirements.

Adjusted Net Debt



Adjusted Net Debt decreased \$460 million, driven by strong operating cash flow and APLNG cash distributions. This was partially offset by capital expenditure, dividends and interest payments.

Foreign exchange/other includes primarily the non-cash translation of unhedged USD debt and fees (\$191 million), partially offset by on-market purchase of shares (\$38 million), operator cash call movements (\$30 million), payment of lease liabilities (\$33 million) and settlement of foreign currency contracts (\$65 million).

Origin's objective is to maintain an Adjusted Net Debt/Adjusted Underlying EBITDA ratio of 2.0-3.0x and a gearing target of 20 per cent to 30 per cent. As at 31 December 2020, these ratios were 2.0x and 28 per cent, compared to 2.1x and 29 per cent, respectively, at 30 June 2020. We expect the capital structure to increase to the top of our 2-3x target range by the end of FY2021, reflecting the reduction in Energy Markets earnings.

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

Debt portfolio management

Average term to maturity remained constant at 3.9 years from 30 June 2020. The rolling 12-month average interest rate on drawn debt decreased from 4.8 per cent in FY2020 to 4.3 per cent in HY2021.

As at 31 December 2020, Origin held \$0.4 billion¹ of cash and \$2.9 billion in committed undrawn debt facilities. This liquidity position of \$3.3 billion is held to meet near-term debt and lease liability payment obligations of \$1.9 billion (net of \$0.1 billion fair value adjustments) and to maintain a sufficient liquidity buffer.

Debt maturity profile
- excluding lease liabilities (A\$b)



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 per annum on the MRCPS balance, recognised as interest income by Origin, and secondly via buy-backs of MRCPS, refer to Section 3.4 above. The fair value of MRCPS held by Origin at 31 December 2020 was A\$1,679 million.

APLNG also funded construction via US\$8.5 billion (100% APLNG) in project finance facilities. These facilities were partially refinanced in FY2019. The outstanding balance at 31 December 2020 was US\$6,154 million (A\$7,987 million), net of unamortised debt fees of US\$72 million (A\$95 million). APLNG's average interest rate associated with its project finance debt portfolio for FY2021 is estimated to be approximately 3.0 per cent.

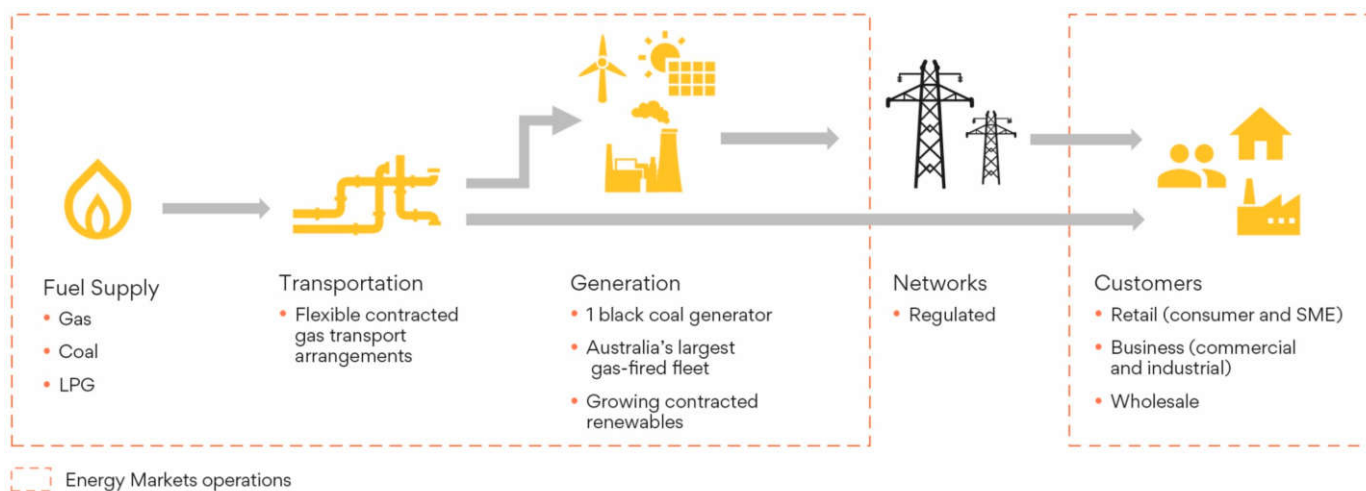
Gearing² in APLNG was constant at 28 per cent from 30 June 2020 to 31 December 2020.

¹ Excludes \$88 million cash held on behalf of APLNG as upstream operator

² Gearing is defined as project finance debt less cash, divided by project finance debt less cash plus equity.

4 Review of segment operations

4.1 Energy Markets



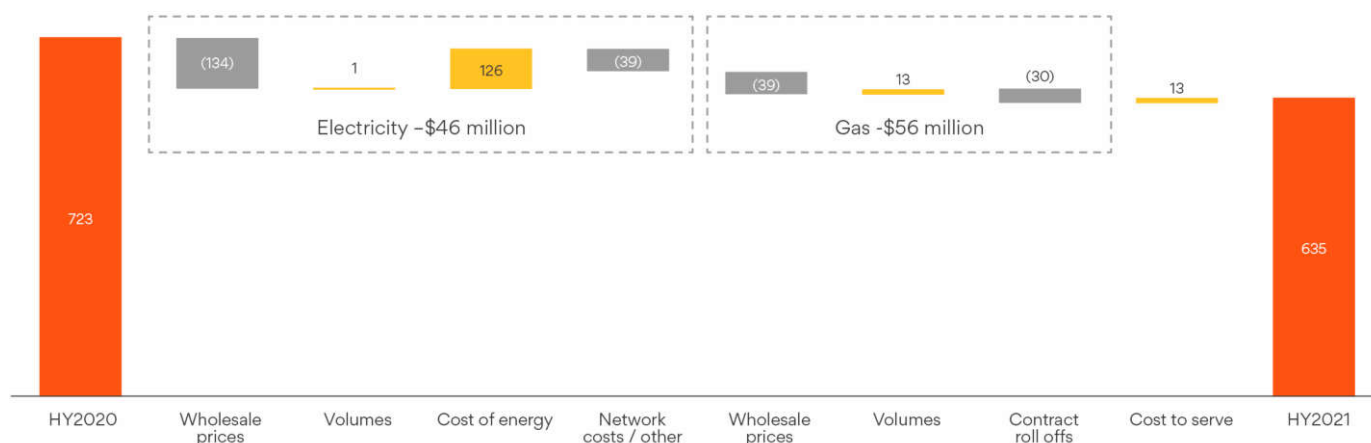
Origin's Energy Markets business comprises one of Australia's largest energy retail businesses by customer accounts, Australia's largest fleet of gas-fired peaking power stations supported by a substantial contracted fuel position, a growing supply of contracted renewable energy and Australia's largest power station, the black coal-fired Eraring Power Station.

Energy Markets reports on an integrated portfolio basis. Electricity and Natural Gas Gross Profit and cost to serve are reported separately, as are the EBITDA of the Solar and Energy Services, Future Energy and LPG divisions, and our share of earnings from the 20 per cent equity holding in Octopus Energy.

4.1.1 Financial summary

	HY21 (\$m)	HY20 (\$m)	Change (\$m)	Change (%)
Electricity Gross Profit	503	549	(46)	(8)
Natural Gas Gross Profit	327	383	(56)	(15)
Electricity and Natural Gas cost to serve	(254)	(267)	13	(5)
LPG EBITDA	48	53	(5)	(10)
Solar and Energy Services EBITDA	25	15	10	73
Future Energy costs	(12)	(10)	(2)	20
Share of EBITDA from Octopus Energy	(2)	-	(2)	N/A
Underlying EBITDA	635	723	(88)	(12)
Underlying EBIT	353	484	(131)	(27)

Movements in Underlying EBITDA (\$m)



4.1.2 Electricity

Volume Summary

Volumes sold (TWh)	HY21			HY20			Change (TWh)	Change (%)
	Retail	Business	Total	Retail	Business	Total		
NSW ¹	4.0	4.2	8.2	4.0	4.4	8.4	(0.3)	(3.6)
Queensland	2.1	1.8	4.0	2.0	1.8	3.7	0.2	5.3
Victoria	1.4	1.6	3.0	1.5	1.8	3.3	(0.2)	(6.1)
South Australia	0.6	0.9	1.5	0.7	0.9	1.6	(0.1)	(6.4)
Total volumes sold	8.2	8.5	16.6	8.1	8.9	17.0	(0.4)	(2.4)

¹ Australian Capital Territory customers are included in New South Wales.

Gross Profit summary

	HY21		HY20		Change (%)	Change (\$/MWh)
	\$m	\$/MWh	\$m	\$/MWh		
Revenue	3,601	216.6	3,780	222.5	(5)	(5.9)
Retail (residential/SME)	2,223	272.5	2,299	283.7	(3)	(11.2)
Business	1,379	162.7	1,481	166.6	(7)	(3.9)
Cost of goods sold	(3,098)	(186.3)	(3,230)	(190.1)	(4)	3.8
Network costs	(1,569)	(94.4)	(1,549)	(91.2)	1	(3.2)
Energy procurement costs	(1,529)	(91.9)	(1,681)	(99.0)	(10)	7.0
Gross Profit	503	30.3	549	32.3	(9)	(2.0)
Gross margin %	14.0%		14.5%		(4)	

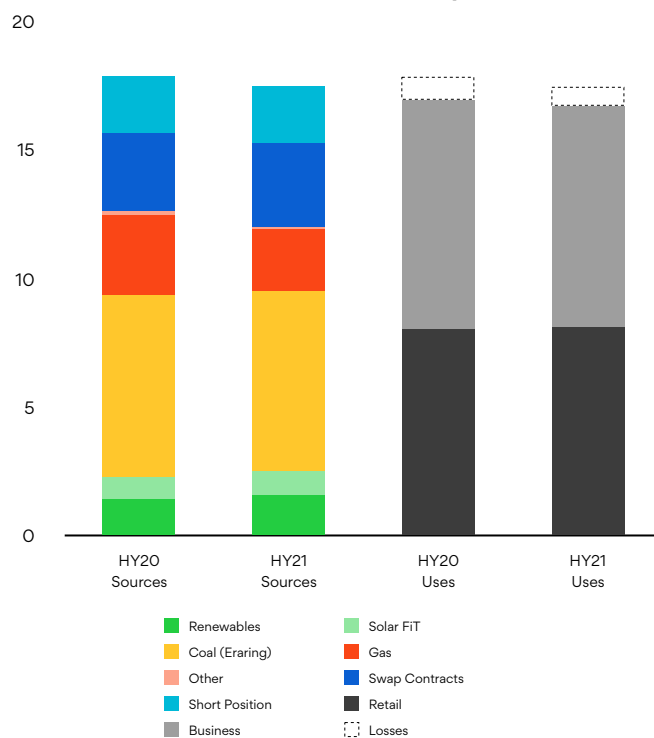
Electricity Gross Profit declined by \$46 million driven by:

- \$2.0/MWh decrease in unit margins (-\$47 million):
 - \$134 million due to lower wholesale electricity and renewable certificate prices flowing into tariffs;
 - \$39 million due to increased network costs (-\$20 million) and metering costs (-\$6 million) not recovered in regulated tariffs and ongoing customer support during COVID (-\$13 million);
 - partially offset by +\$126 million cost improvement relating to lower generation fuel and operating costs (+\$33 million), lower green scheme costs (+\$37 million), net reduction in pool and swap costs (+\$26 million) and other (+\$30 million).
- 0.4 TWh volume decline driven by reductions in lower margin Business and SME customers, and solar uptake and efficiency, offset by increased residential demand due to COVID-19, with a marginal impact to gross profit (+\$1 million).

Owned and contracted generation output of 11 TWh was lower by 0.7 TWh driven primarily by lower gas generation (-0.6 TWh) due to lower pool prices, lower demand and elevated gas generation in HY2020 to cover an outage at Eraring Power Station. Output at Eraring was lower (-0.2 TWh) due to lower demand. Both were partially offset by increased generation from renewable PPAs (+0.1 TWh). Refer to Electricity Supply table on the next page.

~16 TWh per annum (or ~50 per cent) of our electricity supply costs are relatively fixed representing Eraring and the renewable PPAs. Energy procurement costs overall decreased with lower volumes, lower pool costs and lower green scheme costs, the latter due to a decision to defer a portion of our CY2020 large-scale certificate surrender (refer to the Appendix for details). Unit procurement costs reduced due to lower pool prices on our short position, and lower fuel costs offset by higher contract prices due to timing of sale and purchase of swaps and solar feed-in tariff rates.

Sources and uses of Electricity (TWh)



Wholesale energy costs

	HY21			HY20 ¹		
	\$m	TWh	\$/MWh	\$m	TWh	\$/MWh
Fuel cost ²	448	9.4	47.7	517	10.2	50.7
Generation operating costs	124	9.4	13.2	137	10.2	13.4
Owned generation ²	572	9.4	60.9	654	10.2	64.1
Net pool costs ³	91	2.3	40.2	114	1.7	65.7
Bundled renewable PPAs ⁴	146	1.6	92.5	137	1.5	90.9
Market contracts ⁴	230	3.2	72.2	216	3.5	61.5
Solar feed-in tariff	107	1.0	109.2	92	0.8	115.1
Capacity hedge contracts	154			174		
Green schemes (excl. PPAs)	216			253		
Other	14			41		
Energy procurement costs	1,529	17.4⁵	87.9	1,681	17.8⁵	94.6

1 Certain line items have been reallocated to better reflect the nature of expenditure.

2 Includes volume from internal generation and contracted from Pelican Point.

3 Net pool costs includes gross pool purchase costs net of pool revenue from generation, gross and net settled PPAs, and other contracts.

4 Bundled PPAs includes cost of electricity and renewable certificates. Market contracts include swap and energy hedge contracts.

5 Volume differs from sales volume due to energy losses of 0.8 TWh (HY2020: 0.8 TWh).

Electricity supply

	Nameplate capacity (MW)	Type ¹	HY21			HY20			Change		
			Output	Pool revenue		Output	Pool revenue		Output	Pool revenue	
			(GWh)	(\$m)	(\$/MWh)	(GWh)	(\$m)	(\$/MWh)	(GWh)	(\$m)	(\$/MWh)
Eraring	2,922										
Units 1-4	2,880	Black Coal	6,950	423	61	7,101	561	79	(152)	(138)	(18)
GT	42	OCGT	-	-	-	-	-	-	-	-	-
Darling Downs	644	CCGT	889	48	54	830	66	79	60	(18)	(25)
Osborne ²	180	CCGT	295	15	52	434	40	93	(139)	(25)	(41)
Uranquinty	664	OCGT	45	6	124	363	45	125	(318)	(40)	(1)
Mortlake	566	OCGT	365	27	73	464	49	106	(99)	(23)	(33)
Mount Stuart	423	OCGT	4	0	110	3	0	103	1	0	7
Quarantine	230	OCGT	50	4	73	125	19	153	(76)	(16)	(80)
Ladbroke Grove	80	OCGT	51	4	73	109	13	123	(59)	(10)	(50)
Roma	80	OCGT	13	1	81	8	1	109	5	0	(28)
Shoalhaven	240	Pump/Hydro	83	7	90	82	11	135	1	(4)	(45)
Internal Generation	6,029		8,744	535	61	9,520	807	85	(776)	(272)	(24)
Pelican Point	240	CCGT	647			677			(30)		
Renewable PPAs	1,207	Solar / Wind	1,573			1,517			56		
Owned and contracted generation	7,476		10,964			11,714			(750)		

1 OCGT = open cycle gas turbine; CCGT = combined cycle gas turbine.

2 Origin has a 50 per cent interest in the 180 MW plant and contracts 100 per cent of the output.

4.1.3 Natural Gas

Volume summary

Volume sold (PJ)	HY21			HY20			Change (PJ)	Change (%)
	Retail	Business	Total	Retail	Business	Total		
NSW ¹	6.3	13.9	20.2	6.0	9.3	15.3	4.9	32
Queensland	1.8	35.3	37.0	1.7	33.1	34.8	2.2	6
Victoria	13.9	28.9	42.8	14.0	31.4	45.5	(2.6)	(6)
South Australia ²	3.2	4.8	8.0	3.2	5.8	9.0	(1.0)	(11)
External volumes sold	25.2	82.8	108.1	24.9	79.7	104.6	3.5	3
Internal sales (generation)			21.9			29.7	(7.8)	(26)
Total volumes sold			130.0			134.3	(4.3)	(3)

1 Australian Capital Territory customers are included in New South Wales.

2 Northern Territory and Western Australia customers are included in South Australia.

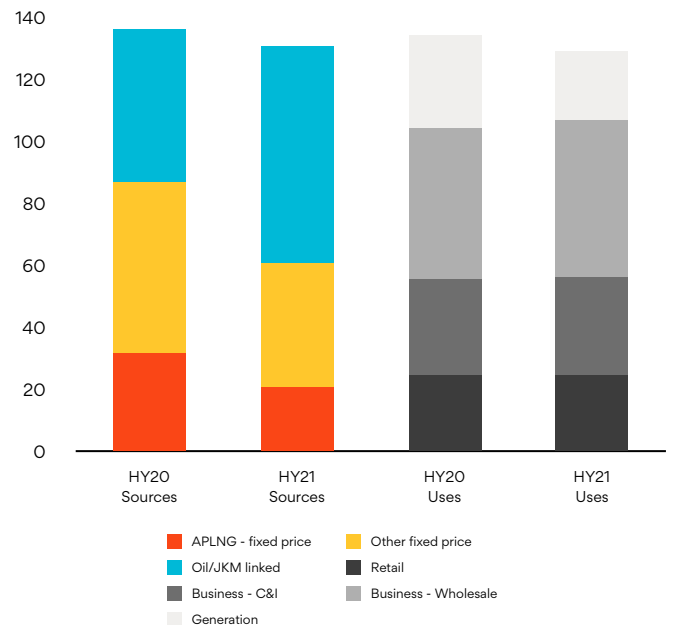
Gross Profit summary

	HY21		HY20		Change (%)	Change (\$/GJ)
	\$m	\$/GJ	\$m	\$/GJ		
Revenue	1,362	12.6	1,466	14.0	(7)	(1.4)
Retail (residential/SME)	617	24.5	615	24.7	0	(0.2)
Business	745	9.0	851	10.7	(12)	(1.7)
Cost of goods sold	(1,035)	(9.6)	(1,082)	(10.3)	(4)	0.8
Network costs	(421)	(3.9)	(400)	(3.8)	5	(0.1)
Energy procurement costs	(614)	(5.7)	(683)	(6.5)	(10)	0.8
Gross profit	327	3.1	383	3.7	(15)	(0.7)
Gross margin %	24.0%		26.1%		(8)	

Natural Gas Gross Profit decreased \$56 million driven by:

- \$0.7/GJ decline in unit margin (-\$39 million) primarily due to lower prices flowing through to customer tariffs, including oil linked sales, partially offset by lower procurement costs driven by lower priced spot and JKM purchases;
- -\$30 million decline due to the roll-off of long-term transport capacity contracts;
- partially offset by a 3.5 PJ increase in external sales volume (+\$13 million) due to higher Retail customer accounts and wholesale contract wins offsetting COVID-19 impacts.

Sources and uses of gas (PJ)



4.1.4 Electricity and Natural Gas cost to serve

	HY21	HY20	Change (\$)	Change (%)
Cost to maintain (\$ per average customer) ¹	(52)	(56)	4	(6)
Cost to acquire/retain (\$ per average customer) ¹	(19)	(19)	(0)	1
Electricity and Natural Gas cost to serve (\$ per average customer)¹	(71)	(75)	4	(5)
Maintenance costs (\$m)	(187)	(200)	13	(7)
Acquisition and retention costs (\$m) ²	(67)	(67)	(0)	1
Electricity and Natural Gas cost to serve (\$m)	(254)	(267)	13	(5)

1 Represents cost to serve per average customer account, excluding CES accounts.

2 Customer wins (HY2021: 232,000; HY2020: 252,000) and retains (HY2021: 642,000; HY2020: 735,000).

	HY21 (\$m)	HY20 (\$m)	Change (\$)	Change (%)
<i>Labour</i>	(73)	(79)	6	(8)
<i>Bad and doubtful debts</i>	(40)	(39)	(1)	3
<i>Other variable costs</i>	(55)	(65)	9	(14)
Retail and Business	(168)	(183)	15	(8)
Wholesale	(30)	(26)	(4)	16
Corporate services and IT	(56)	(58)	2	(4)
Electricity and Natural Gas cost to serve	(254)	(267)	13	(5)

Overall, Electricity and Natural Gas cost to serve reduced by \$13 million primarily driven by further operating cost savings including reductions in labour, IT and property costs. At 30 June 2020, we recognised an increase in our bad and doubtful debt provision of \$38 million related to the risks associated with COVID-19.³ This provision has been held for HY2021 with continued uncertainty relating to potential ongoing impacts of COVID-19, particularly the further roll-off of government assistance from March 2021.

Bad debt expense as a percentage of total Electricity and Natural Gas revenue increased to 0.8 per cent in HY2021, up from 0.7 per cent in HY2020.

We are on track to deliver targeted \$100 million cost savings by FY2021 from a baseline in FY2018, having achieved \$85 million savings to date. The next wave of retail transformation is targeting a further reduction of \$100–\$150 million in operating and capital cost savings by FY2024, following successful implementation of the Octopus Energy's Kraken platform and operating model.

Customer accounts

Customer accounts ('000) as at	31 December 2020	30 June 2020	Change
Electricity	2,614	2,631	(17)
NSW ¹	1,181	1,191	(10)
Queensland	637	645	(8)
Victoria	555	556	(1)
South Australia ²	242	239	3
Natural Gas	1,233	1,220	13
NSW ¹	343	335	8
Queensland	180	181	(0)
Victoria	482	479	3
South Australia ²	227	225	2
Total electricity and natural gas³	3,847	3,851	(4)
<i>Rolling average customer accounts (six months)</i>	<i>3,845</i>	<i>3,834</i>	<i>12</i>
Broadband	26	20	6
LPG ⁴	367	365	2
Total customer accounts	4,240	4,236	4

1 Australian Capital Territory customer accounts are included in New South Wales.

2 Northern Territory and Western Australia customer accounts are included in South Australia.

3 Includes 267,000 CES customer accounts (FY2020: 257,000).

4 June 2020 LPG customer accounts restated to include ~2,500 Asia Pacific customer accounts.

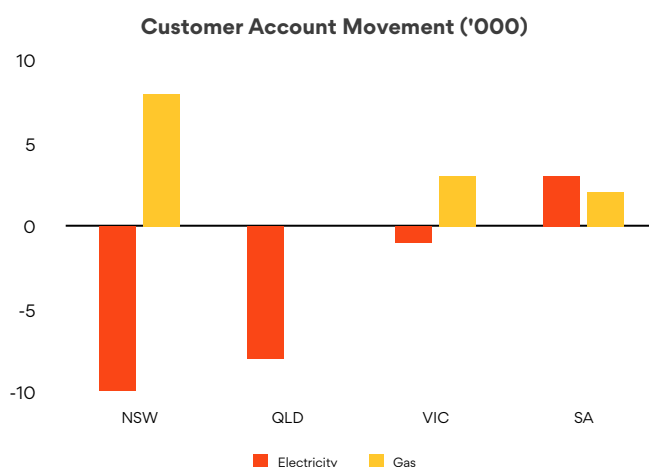
³ The total increase in bad and doubtful debt provision relating to COVID-19 risks was \$40 million, of which \$38 million impacted electricity and gas cost to serve and the remainder impacted the Solar and Energy services division.

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

Origin churn decreased to 12.9 per cent during the period, compared to market churn of 17.3 per cent.

Period end customer accounts rose by 4,000 overall. Electricity customer accounts fell by 17,000, reflecting a reduction in retail of 14,000, and SMEs of 3,000 primarily relating to low margin tenders. Natural Gas customer accounts increased by 13,000, driven primarily by gains in New South Wales. Since December 2020, electricity and gas customer accounts improved by 9,000.

Broadband customer accounts increased by 6,000 during the period to a total of 26,000 and LPG customer accounts increased by 3,000 to 367,000 at 31 December 2020.



4.1.5 LPG

	HY21	HY20	Change	Change (%)
Volumes (kT)	213	227	(14)	(6)
Revenue (\$m)	300	322	(22)	(7)
Cost of goods sold (\$m)	(194)	(214)	20	(10)
Gross Profit (\$m)	106	108	(2)	(1)
Operating costs (\$m)	(58)	(54)	(4)	7
Underlying EBITDA (\$m)	48	53	(5)	(10)

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.

Gross Profit decreased by \$2 million primarily driven by the impact of COVID-19 on demand, in particular in the Pacific, with both revenue and cost of goods sold decreasing as a result. Operating costs marginally increased to \$58 million driven by additional site remediation costs and port fees.

4.1.6 Solar and Energy Services

	HY21 (\$m)	HY20 (\$m)	Change (\$m)	Change (%)
Revenue	175	141	34	24
CES Gross Profit	42	39	3	8
Solar Gross Profit	19	13	6	46
Other Gross Profit	2	2	0	-
Gross Profit	63	54	9	17
Operating costs	(38)	(39)	1	(3)
Underlying EBITDA	25	15	10	67

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

Underlying EBITDA increased by \$10 million. This was driven by growth in Solar Gross Profit (+\$6 million), with overall growth in residential solar installations, a \$3 million increase in CES Gross Profit due to continued customer account growth in the embedded networks and serviced hot water business, and a \$1 million reduction in operating costs due to reduced labour costs.

4.1.7 Future Energy

	HY21 (\$m)	HY20 (\$m)	Change (\$m)	Change (%)
Operating costs	(12)	(10)	(2)	20
Investments	2	6	(4)	(67)

Future Energy is focused on developing and commercialising new products and technologies to engage customers in an increasingly distributed and data driven energy landscape. We continue to expand the capabilities of our Virtual Power Plant (VPP), which orchestrates an increasing variety of distributed energy assets and IoT devices. With more than 98 MW under orchestration from more than 14,000 customers, the VPP is expected to grow as more devices are able to be connected and the benefits become more evident to customers. We have launched a tool to share the benefits of demand management with customers called Spike through which customers are rewarded for reducing energy consumption. To date, Spike has around 28,000 customers, and has demonstrated a high level of customer engagement with more than 260,000 Spikehour invitations converting to an average participation rate of 70 per cent of events, and a 50 per cent energy reduction compared to a customer's average energy use over the relevant previous 10-day period.

Operating costs increased during the period due to costs relating to the launch of Spike. The business continues to make small investments in trialling new energy solutions.

4.1.8 Octopus Energy - Origin share (20 per cent)

	HY21 (\$m)
Revenue - energy	303
Revenue - licensing	15
Cost of sales	(304)
Gross profit	14
Operating costs	(16)
EBITDA	(2)
Depreciation and amortisation ¹	(18)
Interest expense	(2)
Tax expense	2
NPAT	(20)

¹ Includes \$7.9 million Origin adjustment to amortisation relating to the fair value attributed to intangible assets, including Kraken, on acquisition date.

Octopus customer accounts (100 per cent Octopus)

	HY21 ('000)
Energy customer accounts (closing)	3,379
Energy customer accounts (average)	3,069
Licensed Kraken platform customer accounts migrated to date (closing)	2,016
Licensed Kraken platform customer accounts migrated to date (average)	901

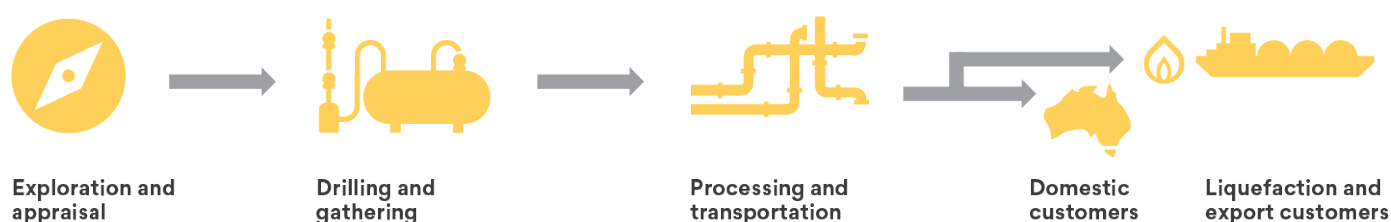
Origin's share of Octopus Energy EBITDA for the period was -\$2 million, reflecting increased investment in growth both in the UK as well as launching in the United States and German markets. Customer account growth in the underlying UK retail business continues to track strongly, growing on average by ~93,000 customer accounts per month since our investment in May 2020, to ~3.53 million customer accounts at the end of January 2021.

Licensing deals with E.On and Origin are progressing well, with ~2 million customer accounts migrated at the end of HY2021. To date, 17 million customer accounts are contracted to be migrated to the Kraken platform with more than £300 million of licensing revenue expected over the next three years. Octopus' partnership with Tokyo Gas, announced in December 2020, will see an Octopus branded retailer launch in the Japanese market as Octopus continues its growth trajectory to target 100 million accounts by 2027.

4.2 Integrated Gas

	HY21 (\$m)	HY20 (\$m)	Change (\$m)	Change (%)
Share of APLNG (see Section 4.2.1)	513	1,033	(520)	(50)
Integrated Gas - Other (see Section 4.2.2)	53	(127)	180	(142)
Underlying EBITDA	566	906	(340)	(38)
Underlying depreciation and amortisation	(17)	(14)	(3)	21
Underlying share of ITDA from APLNG	(454)	(672)	218	(33)
Underlying EBIT	95	219	(124)	(57)

4.2.1 Share of APLNG



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 reserves.¹ 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 equity accounted 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.

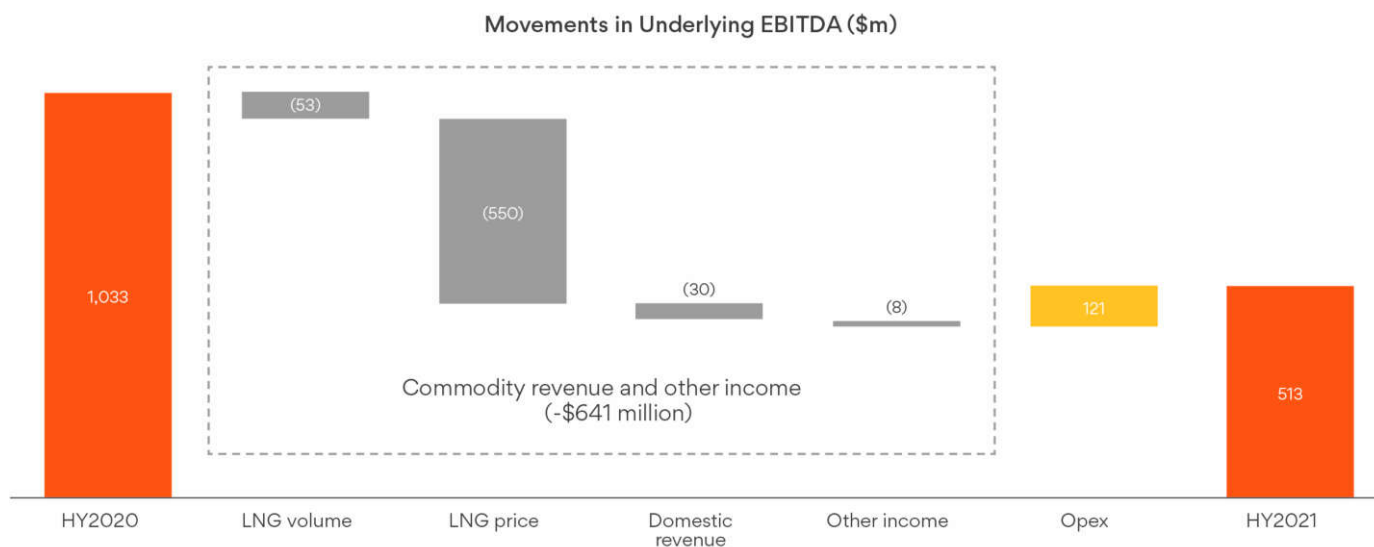
APLNG acquired various CSG interests from Tri-Star in 2002 that are subject to reversionary rights and an ongoing royalty interest in favour of Tri-Star. These interests represent approximately 20 per cent of APLNG's 2P CSG reserves and approximately 19 per cent of 3P (proved plus probable plus possible) CSG reserves (as at 30 June 2020). Refer to Section 5 for disclosure relating to Tri-Star litigation associated with these CSG interests.

Financial summary – APLNG

(\$m)	HY21		HY20	
	APLNG 100%	Origin share	APLNG 100%	Origin share
Commodity revenue and other income ¹	2,073	777	3,778	1,417
Operating expenses	(704)	(264)	(1,024)	(384)
Underlying EBITDA	1,369	513	2,754	1,033
Depreciation and amortisation	(811)	(304)	(922)	(346)
MRCPS interest expense	(154)	(58)	(253)	(95)
Project Finance interest expense	(145)	(54)	(194)	(73)
Other financing expense	(54)	(20)	(46)	(17)
Interest income	4	2	24	9
Income tax expense	(59)	(22)	(408)	(152)
Underlying ITDA²	(1,218)	(456)	(1,799)	(674)
Underlying profit	151	57	955	359

¹ Includes commodity revenue plus other income of \$4 million (Origin share) primarily related to tolling revenue and FX (HY2020: \$12 million Origin share).

² See Origin Financial Statements note B1.1 for details relating to a \$2 million difference between APLNG ITDA and Origin's reported share.



Origin's share of APLNG Underlying EBITDA decreased by \$520 million primarily due to lower realised oil prices. The price lag in the LNG contracts resulted in the April and May 2020 low crude oil prices flowing through into this period:

- Commodity revenue and other income decreased by \$641 million due to lower realised oil prices (US\$38/bbl, A\$53/bbl compared to US\$69/bbl, A\$101/bbl in HY2020), as well as lower demand resulting in less purchased gas and lower volumes lifted from non-operated production.
- Operating expenses reduced by \$121 million driven by lower royalties and tariffs, gas purchases and other operating cost savings. See below for further details.

Origin's share of depreciation and amortisation reduced by \$42 million due to a lower amortisation unit rate. Downhole costs are amortised using a units of production method. With the most recent development plan reflecting lower capital costs, this has translated to a lower amortisation charge.

MRCPS interest expense reduced by \$37 million due to a reduction in MRCPS balance following buy-backs by APLNG and a higher AUD/USD exchange rate. Project finance interest decreased by \$19 million both due to a lower average interest rate and a higher AUD/USD exchange rate. See Section 3.6 for details relating to APLNG funding.

APLNG volume summary

	HY21		HY20	
	APLNG 100%	Origin share	APLNG 100%	Origin share
Volumes (PJ)				
Production volumes				
Operated	271	102	275	103
Non-operated	82	31	83	31
Total production	354	133	358	134
Purchases	2	1	11	4
Changes in upstream gas inventory/other	(14)	(5)	(3)	(1)
Liquefaction/downstream inventory/other	(16)	(6)	(23)	(9)
Sales volumes	325	122	343	129
Natural Gas sales volumes	81	30	88	33
LNG spot sales volumes	36	14	7	3
LNG contract sales volumes	208	78	248	93
Commodity revenue (\$m)	2,058	772	3,746	1,405
Natural Gas sales (\$m)	310	116	390	146
LNG sales (\$m)	1,748	656	3,356	1,259
Realised price				
Natural Gas (A\$/GJ)	3.83		4.42	
LNG (A\$/GJ)	7.17		13.18	
LNG (US\$/mmbtu)	5.47		9.52	

Origin's share of APLNG production was relatively stable, with lower production in the first quarter in response to lower demand and planned maintenance, offset by record production in the second quarter.

Origin's share of APLNG sales volumes decreased 5 per cent as lower demand resulted in less purchased gas and lower gas volumes lifted from non-operated production, partially offset by a higher than usual draw-down on the LNG tanks at Curtis Island due to timing of cargoes. The average realised LNG price decreased 46 per cent to A\$7.17/GJ due to a lower realised oil price, partially offset by a change in sales mix with higher spot volumes and prices. The average realised domestic gas price decreased 13 per cent to \$3.83/GJ with lower realised prices on short term contracts and oil-linked sales to QGC.

Cash flow – APLNG 100%

	HY21 (\$m)	HY20 (\$m)	Change (\$m)	Change (%)
Underlying EBITDA	1,369	2,754	(1,385)	(50)
Non-cash items in underlying EBITDA	32	13	19	146
Change in working capital	2	(180)	182	(101)
Other	(2)	(34)	32	(94)
Operating Cash flow¹	1,401	2,554	(1,152)	(99)
Capital expenditure ¹	(306)	(514)	208	(40)
Interest income ¹	6	22	(16)	(73)
Acquisitions/disposals ¹	-	(245)	245	(100)
Loans (advanced to) / paid by other shareholders	-	6	(6)	(100)
Investing Cash flow	(300)	(731)	431	(59)
Project Finance interest and transaction costs ¹	(145)	(192)	47	(24)
Repayment of project finance ¹	(341)	(340)	(1)	0
Other financing activities ¹	(1)	(23)	22	(96)
Repayment of lease liabilities ¹	(26)	(38)	12	(32)
Interest on lease liabilities ¹	(10)	(9)	(1)	11
MRCPS interest	(160)	(258)	98	(38)
MRCPS buy-back	(547)	(1,128)	581	(52)
Financing cash flow	(1,230)	(1,988)	758	(38)
Net increase in cash and cash equivalents	(129)	(165)	36	(22)
Effect of exchange rate changes on cash ¹	(108)	21	(129)	(614)
Net increase in cash and cash equivalents including FX movement	(236)	(144)	(92)	64
Distributable cash flow¹	471	1,236	(765)	(62)

¹ Included in distributable cash flow. Distributable cash flow represents the net increase in cash including foreign exchange movements before MRCPS interest and buy-backs and transactions with shareholders.

APLNG generated distributable cash flow of \$471 million (\$177 million Origin share) at an effective oil price of US\$38/bbl after servicing project finance interest and principal. Cash distributions to Origin were higher at \$265 million in HY2021 reflecting a draw down of cash during the period. The project finance facility requires APLNG to hold an amount of cash to service near term operational and project finance obligations. As at 31 December 2020, APLNG held \$835 million (\$1,072 million at 30 June 2020).

As well as benefiting from improved field performance, as upstream operator of APLNG we have achieved significant reductions in well costs and unit operating costs in recent years. We continue to target further value accretion by focusing and aligning the business around five key levers.

1. Reduce well costs
2. Reduce operating costs
3. Improve well reliability
4. Optimise production
5. Extend production plateau

Operating expenditure – APLNG 100%

	HY21 (\$m)	HY20 (\$m)	Change (\$m)	Change (%)
Purchases	(8)	(58)	50	(86)
Royalties and tariffs ¹	(48)	(255)	207	(81)
Upstream operated opex	(356)	(403)	47	(12)
Upstream non-operated opex	(124)	(139)	15	(11)
Downstream opex	(111)	(120)	9	(7)
APLNG Corporate / other	(56)	(50)	(6)	12
Total operating expenses per Profit and Loss	(704)	(1,024)	320	(31)
Other cash items	(60)	(39)	(21)	54
Total operating cash costs	(764)	(1,063)	299	(28)

¹ Reflects actual royalties paid, net of \$12 million prior period credits. At break-even prices royalties and tariffs would have amounted to \$39 million inclusive of \$12 million prior period credits (HY2020: \$56 million).

Operating expenses reduced \$320 million primarily driven by lower royalties and pipeline tariffs (\$207 million), lower purchases (\$50 million), and lower upstream operated opex (\$47 million) as a result of reduced maintenance turnarounds, pipelines and power costs. Downstream opex reduced \$9 million due to lower shipping costs reflecting no cargoes sold as Delivered at Terminal in HY2021.

Capital expenditure – APLNG 100%

	HY21 (\$m)	HY20 (\$m)	Change (\$m)	Change (%)
Operated upstream - Sustain	(161)	(269)	108	(40)
Operated upstream - Infrastructure	(10)	(41)	31	(76)
Exploration & Appraisal (E&A)	(20)	(47)	27	(57)
Downstream	(8)	15	(23)	(153)
Non-operated	(64)	(105)	41	(39)
Total capital expenditure	(263)	(446)	183	(41)
Working capital movement	(53)	(103)	50	(49)
Leases classified as financing cash flow	11	35	(24)	(69)
Total capital expenditure per cash flow	(306)	(514)	208	(40)

Capital expenditure decreased by \$183 million driven by a \$139 million decrease in operated sustain costs, reflecting reduced development activity enabled by improved field performance as well as lower infrastructure spend due to the completion of the Talinga Orana Gas Gathering Station in the prior period. Exploration and appraisal spend declined by \$27 million and non-operated spend reduced by \$41 million due to reduced activity including the decision by APLNG to not participate in less economic fields. These savings were partially offset by higher net downstream spend relating to a \$50 million benefit in the prior period for settlement of a project construction claim.

Operated upstream - Sustain includes expenditure for drilling, completions, fracture stimulation, the gathering network, surface connection, capital improvements, and land access which occurs over multiple years and is directly related to sustaining production over the medium-term. In HY2021, 43 operated wells were drilled (versus 158 in HY2020), seven wells were fracture stimulated (versus 20 in HY2020) and 103 operated wells were brought online (versus 122 in HY2020).

Working capital increased by \$53 million primarily due to a decrease in capex creditors as a result of reduced development activity.

4.2.2 Integrated Gas – Other

This segment comprises Origin Integrated Gas activities that are separate from APLNG, and includes exploration interests in the Beetaloo, Cooper-Eromanga and Canning basins 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, costs associated with growth initiatives such as hydrogen, and costs incurred in managing Origin's exposure to LNG pricing risk and impacts of LNG trading positions held by Origin.

Beetaloo Basin (Northern Territory)

Origin has a 77.5 per cent interest in three exploration permits over 18,500 km² in the Beetaloo Basin. Stage 2 appraisal under the farm-in arrangement is underway, targeting two independent shale liquids-rich gas plays 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** – The Kyalla 117 well was drilled to a total measured depth of 3,809 metres, which includes a 1,579 metre lateral section.

During the period, Origin undertook fracture stimulation and initial flowback and production testing activities with nitrogen lift operations enabling sustained production for up to ~17 hours without assistance to measure initial flow rates. The Kyalla-117 well successfully met its primary objective to flow liquids-rich gas from the Kyalla Formation to surface. Preliminary production test data and petrophysical data included:

- unassisted gas flow rates ranging from 0.4 - 0.6 mmscf/d (0.6 – 0.9 TJ/d);
- highly saline stimulation flowback rates constraining production (water to gas ratios > 1,000 bbl/mmscf);
- liquids-rich gas (65 per cent methane, 19 per cent ethane, 11 per cent propane and butane, 3 per cent C5+); and
- minimal CO₂ < 1%.

Production is currently constrained by hydraulic fracture stimulation fluid. A longer-term nitrogen lift solution is planned to flow back sufficient hydraulic fracture stimulation water to enable production testing to commence during the dry season with results expected in Q4 FY2021.

- **Velkerri liquids-rich gas play** – Construction of the Velkerri 76 well lease pad was completed in early December 2019 and environmental approval to drill and fracture stimulate the Velkerri Flank well was granted in late December 2019.

Cooper-Eromanga Basin (Queensland)

Origin has a 75 per cent interest and operatorship of five permits located in the Cooper-Eromanga Basin in southwest Queensland. In December 2020, the first vertical exploration well, Obelix-2, was drilled to test the maturity of the Toolebuc Formation. Log and core data from the well are currently being evaluated and if positive, a horizontal well to further evaluate the potential of the liquids play is planned to follow. 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.

Canning Basin (Western Australia)

Under a recently announced farm-in agreement, Origin will carry \$12.3 million of Buru's and Rey's share of work program costs and will earn a 50 per cent interest in five permits, and a 40 per cent interest in two permits. The total estimated spend by Origin over a two-year period is expected to be approximately \$35 million. Origin has contingent options to carry an additional \$10.6 million over a four-year period and also has the option to assume operatorship for any significant gas development.

Financial summary

	HY21 (\$m)	HY20 (\$m)	Change (\$m)	Change (%)
Origin only commodity hedging and trading	79	(86)	165	(192)
Other Origin only costs	(26)	(41)	15	(37)
Underlying EBITDA	53	(127)	180	(142)
Underlying depreciation and amortisation /ITDA	(15)	(12)	(3)	26
Interest income - MRCPS	58	95	(37)	(39)
Underlying profit/(loss)	96	(44)	140	(318)

Refer to the table below for a breakdown of Origin only commodity hedging and trading costs.

Other Origin only costs reduced \$15 million primarily reflecting costs in the prior period associated with an agreement to reduce Origin's share of overriding royalty in the Beetaloo Basin.

Commodity hedging and trading summary

HY2021 positions realised a \$79 million net gain compared to a \$86 million loss in HY2020. Based on open positions at current forward market prices,² we estimate a net gain on oil hedging and LNG trading in FY2021 of \$53 million.

(\$m)	HY21 actual	HY20 actual	FY21 estimate ¹
Oil hedging premium expense	(3)	(20)	(9)
Gain/(loss) on oil hedging	99	1	102
Gain/(loss) on LNG hedging/trading	(17)	(67)	(40)
Total	79	(86)	53

¹ Based on forward prices as at 15 Feb 2021

Oil hedging - FY2021

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 and cash flows during volatile market periods.

For FY2021, Origin's share of APLNG related Japan Customs-cleared Crude (JCC) oil price exposure is estimated to be approximately 24 mmbbl. As at 29 January 2021, we estimate that approximately 97 per cent has been priced at approximately US\$43/bbl before any hedging, based on the contract price lags.

Origin has separately hedged 6.4 mmbbl primarily using swaps, producer collars and put options of which 5.8 mmbbl has been realised as at 29 January 2021 at an average price of approximately US\$57/bbl (see table below).

Hedge instruments	Realised as at 29 Jan 2021		Remaining unrealised	
	Volume (mmbbl)	Average price	Volume (mmbbl)	Average price
Brent AUD swaps	4.2	A\$82/bbl	0.2	A\$61/bbl
Brent USD swaps	0.4	US\$57/bbl	-	-
Brent producer collars	0.6	US\$35-\$90/bbl	0.2	US\$35-\$90/bbl
Brent puts	0.6	US\$35/bbl	0.2	US\$35/bbl
Total hedged	5.8		0.6	

Oil hedging - FY2022-23

The FY2022 hedge position consists of:

- 5.7 million barrels hedged at a fixed price (1.1 million barrels fixed at A\$62/bbl and 4.6 million barrels fixed at US\$46/bbl) with 4.2 million barrels participating in market prices above US\$53/bbl; and
- 2.4 million barrels hedged at a floor price of US\$39/bbl with 0.7 million barrels participating in market prices up to US\$90/bbl.

The total premium spend for this hedge position was A\$20 million to be incurred in FY2022.

The FY2023 hedge position consists of:

- 2.7 million barrels hedged at a fixed price of US\$46/bbl with all of this hedged amount participating in market prices above US\$55/bbl and capped at US\$72/bbl; and
- 1.6 million barrels hedged at a floor price of US\$35/bbl with all of this hedged amount participating in market prices up to US\$90/bbl.

The total premium spend for this hedge position was A\$13 million to be incurred in FY2023.

LNG hedging and trading

In 2013, Origin established a Henry Hub linked contract to purchase 0.25 mtpa from Cameron LNG for a period of 20 years, with the first cargo delivered to Origin in June 2020.

In FY2020, a non-cash onerous provision of \$641 million was recognised, which has been revalued at \$505 million as at 31 December 2020 reflecting stronger near term assumptions for LNG prices relative to Henry Hub prices, the realised loss for the period and favourable movements in the AUD/USD rate.

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 an LNG trading portfolio.

² As at 15 Feb 2021

5 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 19 per cent of APLNG's 3P CSG reserves (as at 30 June 2020), and approximately 20 per cent of APLNG's 2P CSG reserves (as at 30 June 2020).

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. APLNG filed its amended defence and counter-claim (responding to Tri-Star's September 2019 amended statement of claim) in May 2020.

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 \$4.56 billion (as at 31 December 2019) if reversion occurred on 1 November 2008;
- 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 and gas to domestic customers,

to be approximately \$3.37 billion (as at 31 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; and

- 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 APLNG's 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 occurred:
 - the extent of the reversionary interests principally with respect to Tri-Star's ownership and/or rights to use or access certain project infrastructure; and
 - the repayment by Tri-Star of the ongoing royalty which has been paid by APLNG since reversion, as a result of its mistake as to the occurrence of the reversion trigger.

If APLNG is successful in defending Tri-Star's past reversion 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, amongst 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 filed its defence and counter-claim in the markets proceedings (responding to Tri-Star's September 2019 amended statement of claim) in April 2020.

Tri-Star filed its:

- amended reply and answer in the reversion proceeding on 2 December 2020; and
- reply and answer in the markets proceeding on 18 December 2020.

In response to each reply and answer by Tri-Star, any rejoinder by APLNG will be filed by 26 February 2021 (in the reversion proceeding) and by 30 April 2021 (in the markets proceeding). It is expected that the filing of any rejoinders will conclude the exchange of the pleadings in both proceedings.

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.

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 3.1 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 of this OFR. Non-IFRS financial 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.

Appendix

2020 Large-scale generation certificate shortfall

Supply and demand for Large-scale Generation Certificates (LGCs) is driven by the rate of new renewable projects coming online as well as the compliance obligations under the Large-scale Renewable Energy Target (LRET).

Renewable project delays and generation curtailments have led to a near term tightening of the LGC market, however it is expected that the 33 TWh legislated target will be exceeded and longer term the market will be oversupplied.

The Clean Energy Regulator has acknowledged the option for parties to shift demand from periods of tight supply by deferring the surrender of certificates to later years. Under the scheme, parties can defer up to 10 per cent of their obligation at no additional cost and can defer more than 10 per cent by incurring a shortfall charge of \$65 per certificate that is refundable provided the LGCs are surrendered within three years.

With the forward curve in backwardation, Origin has elected to defer surrender of approximately 2.35 million certificates, accruing an estimated shortfall charge of \$152 million. A cost of \$40 million has been recognised in Underlying Profit, reflecting the estimated future surrender cost of \$17 per certificate based on a weighted average of the current forward price and purchases to date. The balance of \$112 million is excluded from Underlying Profit.

The shortfall charge is non-deductible for tax purposes. The refund is currently tax assessable, however legislative change is before Parliament which would make refunds non-assessable (such that it is aligned to treatment of the shortfall charge).

	Statutory Profit (\$m)	Adjustment (\$m)	Underlying Profit (\$m)
<i>CY2020 (incurred in FY2021)</i>			
Shortfall charge accrued (~2.35 million certificates x \$65)	(152)	152	-
Expected surrender cost (~2.35 million certificates x \$17)	-	(40)	(40)
Total FY2021 impact	(152)	112	(40)
<i>CY2023 (incurred in FY2024)</i>			
Surrender (~2.35 million certificates x \$17)	(40)	40	-
Shortfall refund (~2.35 million certificates x \$65)	152	(152)	-
Total FY2024 impact	112	(112)	-
Total cost of ~2.35 million certificates	(40)	-	(40)

Directors' Report

For the six months ended 31 December 2020



In accordance with the *Corporations Act 2001* (Cth), 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 2020 ('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 2020 and up to the date of this Report are as follows:

Gordon Cairns (Chairman, until retirement on 20 October 2020)

Scott Perkins (Chairman, from 20 October 2020)

Frank Calabria (Managing Director & Chief Executive Officer)

John Akehurst

Maxine Brenner

Teresa Englehard (resigned 20 October 2020)

Greg Lalicker

Mick McCormack (appointed 17 December 2020)

Bruce Morgan

Steven Sargent

Joan Withers (appointed 21 October 2020)

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 the Directors' report.

Dividend

The Directors have determined to pay an interim unfranked dividend of 12.5 cents per share which will be paid on 26 March 2021 to shareholders on record on 4 March 2021.

Lead Auditor's Independence Declaration

The lead auditor's independence declaration made under section 307C of the *Corporations Act 2001* (Cth) is attached to and forms part of the Directors' Report for the half year ended 31 December 2020.

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 Scott Perkins
Chairman

Sydney, 18 February 2021

Lead Auditor's Independence Declaration



Ernst & Young
200 George Street
Sydney NSW 2000 Australia
GPO Box 2646 Sydney NSW 2001

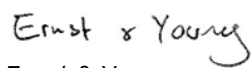
Tel: +61 2 9248 5555
Fax: +61 2 9248 5959
ey.com/au

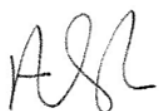
Auditor's Independence Declaration to the Directors of Origin Energy Limited

As lead auditor for the review of the half-year financial report of Origin Energy Limited for the half-year ended 31 December 2020, 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
18 February 2021

Interim Financial Statements

For the half year ended 31 December 2020



Interim primary statements

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

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C Funding, financial instruments and contributed equity

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E Other information

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Directors' declaration

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Interim income statement

For the half year ended 31 December

	Note	2020 \$m	2019 \$m
Revenue	A2	6,068	6,728
Other income	A3	14	22
Expenses	A4	(5,970)	(6,344)
Results of equity accounted investees	A6	39	361
Interest income	A3	61	106
Interest expense	A4	(127)	(176)
Profit before income tax		85	697
Income tax expense	A5	(71)	(96)
Profit for the period		14	601
Profit for the period attributable to:			
Members of the parent entity		13	599
Non-controlling interests		1	2
Profit for the period		14	601
Earnings per share			
Basic earnings per share	A7	0.7 cents	34.0 cents
Diluted earnings per share	A7	0.7 cents	34.0 cents

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

Interim statement of comprehensive income

For the half year ended 31 December

	2020 \$m	2019 \$m
Profit for the period	14	601
Other comprehensive income		
<i>Items that will not be reclassified to profit or loss, net of tax</i>		
Investment valuation changes	(5)	-
<i>Items that can be reclassified to profit or loss, net of tax</i>		
Translation of foreign operations	(824)	(2)
Cash flow hedges:		
Reclassified to income statement	93	(174)
Effective portion of change in fair value	26	56
Total other comprehensive income, net of tax	(710)	(120)
Total comprehensive income for the period	(696)	481
Total comprehensive income attributable to:		
Members of the parent entity	(695)	479
Non-controlling interests	(1)	2
Total comprehensive income for the period	(696)	481

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

Interim statement of financial position

as at	Note	31 December 2020 \$m	30 June 2020 \$m
Current assets			
Cash and cash equivalents		474	1,240
Trade and other receivables		1,706	1,959
Inventories		175	164
Derivatives		265	630
Other financial assets	C2	637	479
Income tax receivable		104	89
Other assets		170	105
Total current assets		3,531	4,666
Non-current assets			
Trade and other receivables		18	18
Derivatives		206	528
Other financial assets	C2	1,779	2,225
Investments accounted for using the equity method	A6	6,545	7,360
Property, plant and equipment (PP&E)		4,228	4,331
Exploration and evaluation assets		227	190
Intangible assets		5,366	5,420
Deferred tax assets		211	315
Other assets		41	40
Total non-current assets		18,621	20,427
Total assets		22,152	25,093
Current liabilities			
Trade and other payables		2,020	1,934
Payables to joint ventures		182	202
Interest-bearing liabilities	C1	2,027	1,401
Derivatives		358	466
Other financial liabilities	C2	453	237
Employee benefits		171	234
Provisions		136	163
Total current liabilities		5,347	4,637
Non-current liabilities			
Trade and other payables		-	193
Interest-bearing liabilities	C1	3,228	5,451
Derivatives		471	749
Other financial liabilities	C2	19	16
Employee benefits		38	33
Provisions		1,219	1,313
Total non-current liabilities		4,975	7,755
Total liabilities		10,322	12,392
Net assets		11,830	12,701
Equity			
Contributed Equity	C4	7,161	7,145
Reserves		(6)	716
Retained earnings		4,656	4,819
Total parent entity interest		11,811	12,680
Non-controlling interests		19	21
Total equity		11,830	12,701

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

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 2020	7,145	223	860	(375)	8	4,819	21	12,701
Profit	-	-	-	-	-	13	1	14
Translation of foreign operations	-	-	(822)	-	-	-	(2)	(824)
Cash flow hedges	-	-	-	119	-	-	-	119
Investment valuation changes	-	-	-	-	(5)	-	-	(5)
Total other comprehensive income	-	-	(822)	119	(5)	-	(2)	(710)
Total comprehensive income for the period	-	-	(822)	119	(5)	13	(1)	(696)
Dividends provided for or paid	-	-	-	-	-	(176)	(1)	(177)
Movement in contributed equity (refer to note C4)	16	-	-	-	-	-	-	16
Share-based payments	-	(14)	-	-	-	-	-	(14)
Total transactions with owners recorded directly in equity	16	(14)	-	-	-	(176)	(1)	(175)
Balance as at 31 December 2020	7,161	209	38	(256)	3	4,656	19	11,830
Balance as at 30 June 2019	7,125	234	736	114	5	4,915	20	13,149
Adoption of AASB16 Leases	-	-	-	-	-	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

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

Interim statement of cash flows

For the half year ended 31 December

	2020 \$m	2019 \$m
Cash flows from operating activities		
Receipts from customers	6,932	7,725
Payments to suppliers and employees	(6,214)	(7,186)
Cash generated from operations	718	539
Income taxes paid, net of refunds received	(49)	(188)
Net cash from operating activities	669	351
Cash flows from investing activities		
Acquisition of PP&E	(64)	(169)
Acquisition of exploration and development assets	(22)	(35)
Acquisition of other assets	(86)	(54)
Acquisition of other investments	(48)	(8)
Interest received from other parties	3	14
Net proceeds from sale of non-current assets	1	233
<i>Australia Pacific LNG (APLNG) investing cash flows</i>		
Receipt of Mandatorily Redeemable Cumulative Preference Shares (MRCPS) interest	60	97
Proceeds from APLNG buy-back of MRCPS	205	423
Net cash from investing activities	49	501
Cash flows from financing activities		
Proceeds from borrowings	-	1,273
Repayment of borrowings	(1,035)	(2,338)
Joint venture operator cash call movements	(30)	1
Settlement of foreign currency contracts	(65)	(25)
Interest paid ¹	(125)	(173)
Repayment of lease principal	(33)	(35)
Dividends paid to shareholders of Origin Energy Ltd, net of Dividend Reinvestment Plan	(154)	(240)
Dividends paid to non-controlling interests	(1)	(1)
Purchase of shares on-market (treasury shares)	(38)	(28)
Net cash used in financing activities	(1,481)	(1,566)
Net decrease in cash and cash equivalents	(763)	(714)
Cash and cash equivalents at the beginning of the period	1,240	1,546
Effect of exchange rate changes on cash	(3)	-
Cash and cash equivalents at the end of the period	474	832

¹ Includes \$8 million (2019: \$7 million) of interest payments on leases.

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

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 18 February 2021, the Directors resolved to authorise the issue of these interim financial statements for the half year ended 31 December 2020.

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 2020, 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 2020, the consolidated statement of financial position shows a net current liability position of \$1.8 billion. 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 \$3.3 billion.

The interim 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; and
- 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 2020.

Key judgements and estimates – Renewable Power Purchase Agreements (PPAs)

Management judgement has been applied on the adoption of AASB 16 *Leases* to the Group's PPAs. If the renewable PPAs had not been deemed leases, net electricity derivative liabilities of \$736 million would have been recognised in the statement of financial position at 31 December 2020. Additionally, a \$287 million loss would have been treated as an item excluded from underlying profit, consistent with other fair value movements.

Regardless of whether the Group's renewable PPAs are classified as leases, recognition and measurement of the realised component, being the amount incurred for electricity purchased during the period, is the same. Consistent with prior periods, the realised component is recognised in expenses (refer to note A4) within the income statement. To determine the value of the electricity derivatives that would be recognised were the Group's renewable PPAs not classified as leases, significant management judgement is required to estimate future generation profiles and forward electricity spot prices relative to the terms of the individual contract for periods up to 15 years.

Payments under the Group's leases of renewable power plants are entirely variable as they depend on the amount of energy produced in each period. Accordingly, such leases have nil lease liability balances and thus nil right-of-use asset balances. All payments made under these leases are recognised within operating expenses as incurred.

A Results for the half year ended 31 December 2020

This section highlights the performance of the Group for the half year, including results by operating segment, income and expenses, results of equity accounted investees, 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. Also includes Origin's investment in Octopus Energy Holdings Limited (Octopus Energy).
- **Integrated Gas:** Origin's investment in APLNG, growth assets business and management of LNG price risk through hedging and trading activities. For greater transparency, the investment in APLNG is presented separately from the residual component of the segment in the following disclosures.
- **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 the 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 that distort 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;
- Significant onerous contracts; and
- Other significant non-recurring items.

A1 Segments (continued)

Segment result for the half year ended 31 December

\$m	Ref.	Integrated Gas									
		Energy Markets		Share of APLNG		Other		Corporate		Consolidated	
		2020	2019	2020	2019	2020	2019	2020	2019	2020	2019
External revenue		6,007	6,590	-	-	61	138	-	-	6,068	6,728
EBITDA		479	806	513	1,033	(255)	(106)	170	(41)	907	1,692
Depreciation and amortisation		(264)	(239)	-	-	(17)	(14)	(3)	-	(284)	(253)
Share of ITDA of equity accounted investees		(18)	-	(456)	(674)	2	2	-	-	(472)	(672)
EBIT		197	567	57	359	(270)	(118)	167	(41)	151	767
Interest income ¹						58	95	3	11	61	106
Interest expense ²								(127)	(176)	(127)	(176)
Income tax expense ³								(71)	(96)	(71)	(96)
Non-controlling interests (NCI)								(1)	(2)	(1)	(2)
Statutory profit/(loss) attributable to members of the parent entity		197	567	57	359	(212)	(23)	(29)	(304)	13	599
Reconciliation of statutory profit/(loss) to segment result and underlying profit/(loss)											
Fair value and foreign exchange movements	(a)	(18)	94	-	-	(375)	20	216	(1)	(177)	113
Disposals, business restructuring and other	(b)	(138)	(11)	-	-	67	-	-	(1)	(71)	(12)
Tax and NCI on items excluded from underlying profit								37	(30)	37	(30)
Total significant items		(156)	83	-	-	(308)	20	253	(32)	(211)	71
Segment result and underlying profit/(loss) ^{4,5}		353	484	57	359	96	(43)	(282)	(272)	224	528
Underlying EBITDA ^{4,5}		635	723	513	1,033	53	(127)	(47)	(39)	1,154	1,590

1 Interest income earned on MRCPS has been allocated to the Integrated Gas - Other segment.

2 Interest expense related to general financing is allocated to the Corporate segment.

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

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

5 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.

A1 Segments (continued)

Segment result for the half year ended 31 December

\$m	2020		2019	
	Gross	Tax and NCI	Gross	Tax and NCI
(a) Fair value and foreign exchange movements				
Decrease in fair value of derivatives	(195)	59	(14)	4
Net (loss)/gain from financial instruments measured at fair value	(191)	57	92	(28)
Exchange gain on foreign-denominated debt	209	(63)	35	(11)
Fair value and foreign exchange movements	(177)	53	113	(35)
(b) Disposals, business restructuring and other				
Loss on sale - Horan & Bird Energy Pty Ltd	(13)	-	-	-
Disposals	(13)	-	-	-
Restructuring costs	(3)	1	(5)	2
Transaction costs	(2)	1	(7)	3
Transformation costs	(8)	2	-	-
Business restructuring	(13)	4	(12)	5
LGC net shortfall charge	(112)	-	-	-
Onerous contracts - Cameron	67	(20)	-	-
Other	(45)	(20)	-	-
Total disposals, business restructuring and other	(71)	(16)	(12)	5

A1 Segments (continued)

Segment assets and liabilities as at

\$m	Integrated Gas									
	Energy Markets		Share of APLNG		Other		Corporate		Consolidated	
	31 Dec 2020	30 Jun 2020	31 Dec 2020	30 Jun 2020	31 Dec 2020	30 Jun 2020	31 Dec 2020	30 Jun 2020	31 Dec 2020	30 Jun 2020
Assets										
Segment assets	12,268	12,567	-	-	516	687	170	214	12,954	13,468
Investments accounted for using the equity method (refer to note A6) ¹	360	381	6,970	7,766	(785)	(788)	-	1	6,545	7,360
Cash, funding-related derivatives and tax assets					1,679	2,109	974	2,156	2,653	4,265
Total assets	12,628	12,948	6,970	7,766	1,410	2,008	1,144	2,371	22,152	25,093
Liabilities										
Segment liabilities	(3,267)	(3,414)	-	-	(911)	(1,155)	(676)	(726)	(4,854)	(5,295)
Financial liabilities, interest-bearing liabilities, funding-related derivatives and tax liabilities							(5,468)	(7,097)	(5,468)	(7,097)
Total liabilities	(3,267)	(3,414)	-	-	(911)	(1,155)	(6,144)	(7,823)	(10,322)	(12,392)
Net assets	9,361	9,534	6,970	7,766	499	853	(5,000)	(5,452)	11,830	12,701
Additions of non-current assets	167	519	-	-	33	95	4	12	204	626

¹ \$96 million has been reclassified in the 30 June 2020 comparatives between Share of APLNG and Other to reflect the Group's share of a post-tax impairment expense recorded by APLNG subsequent to the release of the Group's 30 June 2020 results. Refer to note B1.2.

A2 Revenue

for the half year ended 31 December						
2020 \$m	Retail	Business and Wholesale	LPG	Solar and Energy Services	Integrated Gas	Total
Sale of electricity	2,223	1,379	-	47	-	3,649
Sale of gas	617	745	300	55	61	1,778
Pool revenue	-	540	-	-	-	540
Other revenue	23	5	-	73	-	101
	2,863	2,669	300	175	61	6,068
2019 \$m						
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

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

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, Origin considers this to be variable consideration, which is estimated as part of the unbilled process.

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.

A3 Other income

for the half year ended 31 December	2020 \$m	2019 \$m
Net gain on sale of assets	-	1
Fees and services, and other income	14	21
Other income	14	22
Interest earned from other parties ¹	3	11
Interest earned on APLNG MRCPS (refer to note B2)	58	95
Interest income	61	106

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

A4 Expenses

for the half year ended 31 December	2020 \$m	2019 \$m
Expenses		
Cost of sales	4,941	5,543
Employee expenses	330	331
Depreciation and amortisation	284	253
Impairment of non-current assets ¹	-	18
Impairment of trade receivables (net of bad debts recovered)	44	42
Decrease in fair value of derivatives	195	14
Net loss/(gain) from financial instruments measured at fair value	191	(92)
Net loss on sale of assets ²	12	-
Onerous contracts provision	(67)	-
Net foreign exchange gain	(202)	(38)
Other ³	242	273
Expenses	5,970	6,344
Interest on borrowings	115	166
Interest on lease liabilities	8	9
Unwind of discounting on long-term provisions	4	1
Interest expense	127	176

1 2020: Nil (2019: 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).

2 The current period includes a \$13 million loss relating to the sale of Horan & Bird Energy Pty Ltd.

3 Includes \$43 million of cost recoveries in the comparative period, that were previously netted against the cost of sales line.

A5 Income tax expense

for the half year ended 31 December	2020 per cent	2019 per cent
Effective statutory tax rate	84	14

The 31 December 2020 effective statutory tax rate of 84 per cent is primarily due to a \$46 million tax expense on a non-deductible shortfall charge of \$152 million in respect of large scale generation certificates. In comparison, the effective statutory tax rate of 14 per cent in the prior period was primarily due to a non-assessable 37.5 per cent share of APLNG's net profit after tax.

A6 Results of equity accounted investees

for the half year ended 31 December 2020			
\$m	Share of EBITDA	Share of ITDA	Share of net (loss)/profit
Octopus Energy ¹	(2)	(18)	(20)
Gasbot Pty Limited ²	-	-	-
Gaschem Sydney ³	-	-	-
Total associates	(2)	(18)	(20)
APLNG ^{4,5}	513	(454)	59
PNG Energy Developments Limited	-	-	-
Total joint ventures	513	(454)	59
Total	511	(472)	39
2019			
\$m			
APLNG ^{4,5}	1,033	(672)	361
PNG Energy Developments Limited	-	-	-
Total joint ventures	1,033	(672)	361
Total	1,033	(672)	361
Equity accounted investment carrying amount			
as at	31 December	30 June	
\$m	2020	2020	
Octopus Energy	356	380	
APLNG ⁴	6,185	6,978	
PNG Energy Developments Limited	-	1	
Gasbot Pty Limited ²	1	1	
Gaschem Sydney ³	3	-	
Total	6,545	7,360	

1 The Group acquired a 20 per cent interest in Octopus Energy effective 1 May 2020. Included in the Group's share of net profit is \$8 million of depreciation, relating to the fair value attributed to assets at the acquisition date.

2 The Group holds a 35 per cent interest in Gasbot Pty Limited and has significant influence over the entity.

3 During the period the Group acquired a 25 per cent interest in Gaschem Sydney and has significant influence over the entity.

4 APLNG's summary financial information is separately disclosed in note B1.

5 Included in the Group's share of net profit is \$2 million (December 2019: \$2 million) of MRCPS interest income, in line with the depreciation of the capitalised interest in APLNG's result. MRCPS interest was capitalised by APLNG during the construction period, and therefore eliminated by the Group against its equity accounted investment at that time. Refer to note B1.1.

A7 Earnings per share

for the half year ended 31 December	2020	2019
Weighted average number of shares on issue-basic ¹	1,759,919,623	1,759,387,244
Weighted average number of shares on issue-diluted ²	1,763,948,682	1,763,506,460
Statutory profit		
Earnings per share based on statutory consolidated profit		
Statutory profit \$m	13	599
Basic earnings per share	0.7 cents	34.0 cents
Diluted earnings per share	0.7 cents	34.0 cents
Underlying profit		
Earnings per share based on underlying consolidated profit		
Underlying profit \$m ³	224	528
Underlying basic earnings per share	12.7 cents	30.0 cents
Underlying diluted earnings per share	12.7 cents	29.9 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 that would be issued if outstanding Options, Performance Share Rights, Deferred Shares Rights, Restricted Shares and Matching Share Rights were to be exercised (2020: 4,029,059; 2019: 4,119,216).

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

A8 Dividends

The Directors have determined to pay an unfranked interim dividend of 12.5 cents per share, payable on 26 March 2021. Dividends paid during the period ended 31 December are detailed below.

	2020 \$m	2019 \$m
Final unfranked dividend of 10 cents per share, in respect of FY2020, paid 2 October 2020 (2019: 15 cents per share, in respect of FY2019, fully franked at 30%, paid 27 September 2019)	176	264

B Investment in equity accounted joint ventures and associates

This section provides information on the Group's equity accounted investments including financial information relating to APLNG and Octopus Energy.

B1 Investment in APLNG

This section provides information on financial information related to the Group's investment in the equity accounted joint venture APLNG.

B1.1 Summary APLNG income statement

for the half year ended 31 December	2020		2019	
\$m	Total APLNG	Origin interest	Total APLNG	Origin interest
Operating revenue	2,073		3,778	
Operating expenses	(704)		(1,024)	
EBITDA	1,369	513	2,754	1,033
Depreciation and amortisation expense	(811)	(304)	(922)	(346)
Interest income	4	2	24	9
Interest expense - MRCPS	(154)	(58)	(253)	(95)
Other interest expense	(198)	(74)	(240)	(90)
Income tax expense	(59)	(22)	(408)	(152)
ITDA	(1,218)	(456)	(1,799)	(674)
Statutory result for the period	151	57	955	359
Other comprehensive income	-	-	-	-
Statutory total comprehensive income¹	151	57	955	359
Items excluded from segment result (net of tax)	-	-	-	-
Underlying profit for the period²	151	57	955	359
Underlying EBITDA for the period²	1,369	513	2,754	1,033

1 Excluded from the above is \$2 million (2019: \$2 million) (Origin share) of MRCPS interest income that has been recognised by Origin in line with the depreciation of the capitalised interest in APLNG's result above. MRCPS interest was capitalised by APLNG during the construction period, and therefore eliminated by Origin against its equity accounted investment at that time. This adjustment is disclosed under the 'Integrated Gas - Other' segment on the 'share of ITDA of equity accounted investees' line in note A1.

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.

B1.2 Summary APLNG statement of financial position

100 per cent APLNG as at \$m	31 December 2020	30 June 2020
Cash and cash equivalents	835	1,072
Assets classified as held for sale	16	5
Other assets	577	775
Current assets	1,428	1,852
Receivables from shareholders	330	370
PP&E	31,328	35,351
Exploration, evaluation and development assets	471	519
Other assets	943	1,108
Non-current assets	33,072	37,348
Total assets	34,500	39,200
Bank loans - secured	658	720
Payable to shareholders (MRCPS)	135	117
Liabilities classified as held for sale	1	-
Other liabilities	475	689
Current liabilities	1,269	1,526
Bank loans - secured	7,329	8,587
Payable to shareholders (MRCPS)	4,257	5,398
Other liabilities	3,060	2,981
Non-current liabilities	14,646	16,966
Total liabilities	15,915	18,492
Net assets	18,585	20,708
Group's interest of 37.5 per cent of APLNG net assets	6,970	7,766
Group's impairment expense ¹	(650)	(650)
Group's own costs	25	25
MRCPS elimination ²	(160)	(163)
Investment in APLNG³	6,185	6,978

1 At the date of signing the 30 June 2020 Group consolidated financial statements, the APLNG financial statements had not yet been finalised. The Group recorded an impairment of \$746 million in relation to its APLNG equity accounted investment based on the Group's carrying value of its investment and its assessment of recoverable amount. This was recorded as an impairment charge in the Group's income statement. Subsequently, the APLNG 30 June 2020 financial statements have been finalised, including a US\$251 million (A\$366m) (100 per cent APLNG) impairment charge within the Joint Venture. Accordingly, the 30 June 2020 comparatives of the Group have been updated for this timing difference to reclassify \$96 million of the impairment charge to loss from equity accounted investments. The total net impairment charge recorded by the Group has not changed.

2 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 that 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.

3 Includes a movement of \$(852) million in foreign exchange that has been recognised in the foreign currency translation reserve.

Reporting date balances are converted from USD to AUD using an end-of-period exchange rate of 0.7705 (30 June 2020: 0.6862).

B1.3 Summary APLNG statement of cash flows

100 per cent APLNG for the half year ended 31 December \$m		
	2020	2019
Cash flow from operating activities		
Receipts from customers	2,210	3,682
Payments to suppliers and employees	(809)	(1,128)
Net cash from operating activities	1,401	2,554
Cash flows from investing activities		
Loans repaid by other shareholders	-	6
Acquisition of non-current assets	-	(245)
Acquisition of PP&E	(284)	(493)
Acquisition of exploration and development assets	(22)	(21)
Other investing activities	6	22
Net cash used in investing activities	(300)	(731)
Cash flows from financing activities		
Payments relating to other financing activities	(1)	(23)
Repayment of lease principal	(26)	(38)
Payment of interest on lease liabilities	(10)	(9)
Repayment of borrowings	(341)	(340)
Payments of transaction and interest costs relating to borrowings	(145)	(192)
Payments for buy-back of MRCPS	(547)	(1,128)
Payments of interest on MRCPS	(160)	(258)
Net cash used in financing activities	(1,230)	(1,988)
Net decrease in cash and cash equivalents	(129)	(165)
Cash and cash equivalents at the beginning of the period	1,072	1,610
Effect of exchange rate changes on cash	(108)	21
Cash and cash equivalents at the end of the period	835	1,466

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.

B2 Transactions between the Group and equity accounted investees

APLNG

The Group has invested in USD MRCPS issued by APLNG. The MRCPS are the mechanism by which the funding for the CSG to LNG Project has been provided by the shareholders of APLNG in proportion to their ordinary equity interests. The MRCPS have a 6.37 per cent fixed-rate dividend obligation based on the relevant observable market interest rates and estimated credit margin at the date of issue. Dividends are paid twice per year and recognised as interest income as they accrue (refer note A3). During the year Origin's share of the MRCPS balance reduced to US\$1,269 million following APLNG share buy-backs of US\$150 million. The mandatory redemption date for the MRCPS is 30 June 2026.

The MRCPS are measured at fair value through profit and loss in the Group's financial statements as disclosed in note C2. The carrying value of the Group's 37.5 per cent share was \$1,679 million as at 31 Dec 2020 (30 Jun 2020: \$2,109 million) reflecting the Group's view that APLNG will utilise cash flows generated from operations to redeem the MRCPS for their full issue price prior to their mandatory redemption date. In APLNG's financial statements the related liability is carried at amortised cost.

Octopus Energy

On 1 May 2020, the Group announced the acquisition of a 20 per cent equity stake in Octopus Energy for a total cash consideration of £215 million (\$412 million), of which £65 million was paid prior to 30 June 2020 and £150 million was deferred over two financial years. During the period, the Group paid £20 million (\$36 million) to Octopus Energy in respect of the deferred consideration payable under the agreement. A further £10 million (\$18 million) was also paid to Octopus Energy during the period representing deferred consideration payable under the licencing agreement entered into with Octopus Energy in the prior year.

During the period, Octopus Energy utilised the remaining available tranche of a working capital facility, for which the Group has provided a financial guarantee to Octopus Energy's financiers, in accordance with the agreement entered into with Octopus Energy in the prior year. During the period, \$4 million has been recognised within other income in respect of the financial guarantee income.

On 20 December 2020, the Group executed an agreement with Octopus Energy to commit an additional investment of £36 million (~A\$65 million) and maintain its 20 per cent equity interest following the announcement of an agreed partnership between Octopus Energy and Tokyo Gas. The agreement with Octopus Energy only became binding on the Group upon formal execution of the transaction between Octopus Energy and Tokyo Gas which was executed on 7 January 2021.

C Funding, financial instruments and contributed equity

C1 Capital management

The Group's objective when managing capital is to make disciplined capital allocation decisions between debt reduction, investment in growth and distributions to shareholders, and to maintain an optimal capital structure while maintaining access to capital. Management believes that 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 Standard & Poor's, 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, the maturity profile of existing debt facilities, the 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 to 30 per cent) and an adjusted net debt to adjusted underlying EBITDA ratio (target range of 2.0x to 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 (Origin's 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 2020 \$m	30 June 2020 \$m
Borrowings	4,757	6,338
Lease liabilities	498	514
Total interest-bearing liabilities	5,255	6,852
Less: Cash and cash equivalents excluding APLNG related cash ¹	(386)	(1,164)
Net debt	4,869	5,688
Fair value adjustments on FX hedging transactions	(171)	(530)
Adjusted net debt	4,698	5,158
Total equity	11,830	12,701
Total capital	16,528	17,859
Gearing ratio	28%	29%
Ratio of adjusted net debt to adjusted underlying EBITDA	2.0x	2.1x

¹ This balance excludes \$88 million (June 2020: \$76 million) of cash held by Origin, as Upstream Operator, to fund APLNG related operations.

The Group has undertaken a bank debt extension during the half year ended 31 December 2020. This activity has been aimed at strengthening the capital profile by extending the weighted average tenor of the Group's debt portfolio.

A summary of key transactions is shown below.

Bank debt facility extension

2 July 2020 - extended \$1.1 billion of bank debt facilities from a FY2023 maturity date to a new maturity date in FY2025. A further \$0.2 billion of surplus liquidity was cancelled as part of this transaction.

31 August 2020 - extended US\$200 million of a bank guarantee facility from a FY2023 maturity date to a new maturity date in FY2025.

Debt maturity

23 October 2020 - repaid the €750 million seven-year note under the Euro Medium Term Note (EMTN) program. The notes had been swapped to A\$950 million.

19 December 2020 - repaid the US\$65 million seven-year US Private Placement note.

C2 Other financial assets and liabilities

as at \$m	31 December 2020		30 June 2020	
	Current	Non-current	Current	Non-current
Other financial assets				
<i>Measured at fair value through profit or loss</i>				
MRCPS issued by APLNG	51	1,628	44	2,065
Settlement Residue Distribution Agreement units	37	31	34	26
Environmental scheme certificates	287	-	103	-
Investment fund units	-	54	-	55
Debt securities	5	10	-	17
<i>Measured at fair value through other comprehensive income</i>				
Equity securities	-	56	-	62
Futures collateral	257	-	298	-
	637	1,779	479	2,225
Other financial liabilities				
<i>Measured at fair value through profit or loss</i>				
Environmental scheme surrender obligations	453	-	234	-
<i>Measured at amortised cost</i>				
Futures collateral	-	-	3	-
Financial guarantees	-	19	-	16
	453	19	237	16

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 (REC)) 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 that 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 2020				
Derivative financial assets	22	374	75	471
Other financial assets at fair value	355	69	1,735	2,159
Financial assets carried at fair value	377	443	1,810	2,630
Derivative financial liabilities	(165)	(604)	(60)	(829)
Other financial liabilities at fair value	(453)	-	-	(453)
Financial liabilities carried at fair value	(618)	(604)	(60)	(1,282)
as at 30 June 2020				
Derivative financial assets	20	1,004	134	1,158
Other financial assets at fair value	163	72	2,171	2,406
Financial assets carried at fair value	183	1,076	2,305	3,564
Derivative financial liabilities	(202)	(944)	(69)	(1,215)
Other financial liabilities at fair value	(234)	-	-	(234)
Financial liabilities carried at fair value	(436)	(944)	(69)	(1,449)

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 2020	2,236
New instruments recognised in the period	1
Net cash settlements paid/(received)	(185)
Gains/(losses) recognised in other comprehensive income	(7)
Gains/(losses) recognised in profit or loss:	-
Change in fair value	(281)
Cost of sales	(72)
Interest income	58
Balance as at 31 December 2020	1,750

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 that are supported by independent and observable market data. For instruments that settle more than 12 months from the 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 REC prices Contract volumes Generation operating costs 	A 10 per cent increase/decrease in the unobservable inputs would increase/decrease fair value by \$65 million (June 2020: \$68 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 \$5 million (June 2020: \$2 million).
MRCPS issued by APLNG	<ul style="list-style-type: none"> Forecast APLNG free cash flows 	A 10 per cent improvement/ deterioration in the level of APLNG forecast cash flows would impact fair value by \$1 million (June 2020: \$1 million).

¹ Excludes \$58 million (June 2020: \$63 million) of unlisted equity securities, and associated share warrants, for which management has assessed the investment cost to be a reasonable reflection of fair value at reporting date.

Day 1 fair value adjustments

For certain complex financial instruments, such as the structured electricity products, 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.

	\$m
Reconciliation of net deferred gain	
Balance as at 1 July 2020	102
Value recognised in the interim income statement	(5)
Value derecognised in the period	1
Balance as at 31 December 2020	98
Classification of net deferred gain	
Derivative assets	8
Derivative liabilities	90
Balance as at 31 December 2020	98

C3 Fair value of financial assets and liabilities (continued)

Financial instruments measured at amortised cost

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

The table below reflects debt instruments reported within interest-bearing liabilities on the balance sheet. Lease liabilities, which are also reported within interest-bearing liabilities are excluded. 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.

	Fair value hierarchy level	Carrying value		Fair value	
		31 Dec 2020 \$m	30 Jun 2020 \$m	31 Dec 2020 \$m	30 Jun 2020 \$m
Liabilities					
Bank loans - unsecured	2	532	535	574	557
Capital markets borrowings - unsecured	2	2,279	4,475	2,507	4,678
Total		2,811	5,010	3,081	5,235

C4 Contributed equity

for the half year ended 31 December	2020	2019	2020	2019
	Number of shares		\$m	
Ordinary share capital				
Opening balance ¹	1,761,211,071	1,761,211,071	7,163	7,163
Less Treasury shares:				
Opening balance ¹	(3,212,930)	(4,809,617)	(18)	(38)
Shares purchased on market	(7,872,054)	(3,642,834)	(38)	(28)
Utilisation of treasury shares on vesting of employee share schemes and DRP	10,795,029	8,369,771	54	66
	(289,955)	(82,680)	(2)	-
Closing balance	1,760,921,116	1,761,128,391	7,161	7,163

¹ The sum of the opening balances of share capital and treasury shares is \$7,145 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 and the DRP. Shares are accounted for at a weighted average cost.

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, associates and changes made to the Group structure during the half year.

D1 Joint arrangements

Joint arrangements are entities over whose activities the Group has joint control, established by contractual agreement and requiring the 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.

Associates are entities, other than partnerships, for which the Group exercises significant influence, but no control, over the financial and operating policies, and which are not intended for sale in the near future.

Of the Group's interests in joint arrangements and associates, only APLNG and Octopus Energy have a material impact to the Group at 31 December 2020. Refer to Section B.

D2 Changes in controlled entities

Business combinations

There were no significant business combinations during the period.

Changes in controlled entities

On 16 July 2020, Origin Energy CSG 2 Pty Limited changed its name to Origin Energy C6 Pty Limited.

On 5 August 2020, Amadeus United States Pty Limited was deregistered.

On 5 August 2020, Origin Energy Amadeus Pty Limited was deregistered.

On 5 August 2020, Sagasco Amadeus Pty Ltd was deregistered.

On 5 August 2020, Sagasco NT Pty Ltd was deregistered.

On 19 August 2020, Origin Renewable Energy Investments No 2 Pty Ltd was deregistered.

On 19 August 2020, BESP Pty Ltd was deregistered.

On 19 August 2020, Crystal Brook Wind Farm Pty Limited was deregistered.

On 19 August 2020, Origin Energy Mortlake Terminal Station No. 2 Pty Limited was deregistered.

On 19 August 2020, Origin Energy Pipelines (SESA) Pty Limited was deregistered.

On 1 September 2020, Origin Future Energy Pty Ltd transferred its shares in Origin Energy Rewards Pty Ltd to Origin Energy Upstream Holdings Pty Ltd.

On 3 September 2020, Origin Energy Rewards Pty Ltd changed its name to Origin Energy Future Fuels Pty Ltd.

On 15 December 2020, Origin Energy West Pty Ltd was incorporated.

On 17 December 2020, Horan & Bird Energy Pty Ltd was sold.

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 2020.

E2 Commitments

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

as at	31 December 2020 \$m	30 June 2020 \$m
Capital expenditure commitments	125	109
Joint venture commitments ¹	254	340

¹ Includes \$173 million (June 2020: \$269 million) in relation to the Group's share of APLNG's capital and joint venture commitments.

E3 Subsequent events

Other than the matters described below, no item, transaction or event of a material nature has arisen since 31 December 2020 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 December 2020, the Group executed an agreement with Octopus Energy to commit an additional investment of £36 million (~A\$65 million) and maintain its 20 per cent equity interest following the announcement of an agreed partnership between Octopus Energy and Tokyo Gas. The agreement with Octopus Energy only became binding on the Group upon formal execution of the transaction between Octopus Energy and Tokyo Gas which was executed on 7 January 2021.

On 18 February 2021 the directors declared an unfranked interim dividend of 12.5 cents per share on ordinary shares. The dividend will be paid on 26 March 2021.

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 2020 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:



Scott Perkins

Chairman Director

Sydney, 18 February

2021

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 2020, 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 2020 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 2020 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

A handwritten signature in black ink, appearing to read 'APR', is positioned above the printed name of the signatory.

Andrew Price
Partner
Sydney
18 February 2021

Glossary and Interpretation

Glossary

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

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 3.1. 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 Underlying EBITDA	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.
cps	Cents per share.
Free Cash Flow	Net cash from operating and investing activities (excluding major growth projects), less interest paid.
HY21 (Current period)	Six months ended 31 December 2020.
HY20 (Prior period)	Six months ended 31 December 2019.
Gearing	Adjusted Net Debt / (Adjusted Net Debt + Total equity)
Gross Profit	Revenue less cost of goods sold.
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 3.1 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.
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.

Term	Meaning
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
Boe	Barrel of oil equivalent
CES	Community Energy Services
C&I	Commercial and Industrial
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. 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.
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
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, unless otherwise stated.

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. A reference to Octopus Energy or Octopus is a reference to Octopus Energy Group Limited in which Origin holds a 20% shareholding. Origin's shareholding in APLNG and Octopus Energy 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.

Directory

Registered Office

Level 32, Tower 1
100 Barangaroo Avenue
Barangaroo, NSW 2000

GPO Box 5376
Sydney NSW 2001

T (02) 8345 5000
F (02) 9252 9244

originenergy.com.au
enquiry@originenergy.com.au

Secretary

Helen Hardy

Share Registry

Boardroom Pty Limited
Level 12, 225 George Street
Sydney NSW 2000

GPO Box 3993
Sydney NSW 2001

T Australia 1300 664 446
T International (+61 2) 8016 2896
F (02) 9279 0664

boardroomlimited.com.au
origin@boardroomlimited.com.au

Auditor

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Further information about Origin's
performance can be found on our website:

originenergy.com.au